Evaluation of the Texas Healthcare Transformation Quality Improvement Program 1115(a) Demonstration Waiver

Interim Evaluation Report

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EXECUTIVE SUMMARY

The overarching goal of the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") is to support the development and maintenance of a coordinated healthcare delivery system, thereby maintaining or improving health outcomes while containing cost growth. This goal is consistent with the Centers for Medicare and Medicaid Services' (CMS) "triple aim" approach to improve the experience of care, to improve the health of populations, and to reduce the cost of healthcare without compromising quality (Berwick, Nolan, & Whittington, 2008).

Specifically, the Program used two integrated interventions aimed to improve access to healthcare, increase quality of care, and reduce costs of care: expand Medicaid managed care (MMC), and revise the upper payment limit (UPL) supplemental payment program by creating two new pools to fund healthcare system improvement.

1. **MMC Expansion** – Texas leveraged the existing MMC delivery system to operationalize reforms by expanding MMC throughout the state. Specifically, the Program expanded the existing MMC programs, State of Texas Access Reform (STAR) and STAR+PLUS, statewide, carved in prescription drug benefits and non-behavioral health inpatient hospitalizations, and transformed the children's dental program from fee-for-service to a managed care model.

2. **Healthcare Delivery System Transformation** – Given federal limitations related to the carve-in of non-behavioral health inpatient hospitalizations under the MMC expansion, Texas established two new funding pools to preserve UPL supplemental payments to hospitals: the uncompensated care (UC) pool to assist providers with UC costs and the Delivery System Reform Incentive Payment (DSRIP) pool to promote health system transformation.

The first four years of the Program have laid the framework for future success, but more time is needed to assess the effect of the MMC expansion and the implementation of the DSRIP program. System transformation requires a sustained investment of both time and resources to bring positive change to Texas' health system. This summary provides an overview of the evaluation goals and presents preliminary findings during these first years of the Program.

MEDICAID MANAGED CARE EXPANSION

The evaluation goals examining the impact of managed care expansion relate to access to care, coordination of care, quality of care, efficiency of care, and cost of care. The evaluation has four primary goals.

- **Evaluation Goal 1:** Evaluate the extent to which *access to care* improved through managed care expansion to new STAR and STAR+PLUS service delivery areas (SDAs), dental services, and pharmacy services.

  - Waiver focus goals include access to prescription drugs, dental care for children, non-behavioral inpatient care, and adult access to preventative/ambulatory health service.
- **Evaluation Goal 2:** Evaluate the extent to which *coordination of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs.
  - Waiver focus goals include coordination of care among providers and service coordination.
- **Evaluation Goal 3:** Evaluate the extent to which *quality of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs, dental services, and pharmacy services.
  - Waiver focus goals include quality of dental care for children and quality of adult preventive and emergent care.
- **Evaluation Goal 4:** Evaluate the extent to which *efficiency improved and cost decreased* through managed care expansion to new STAR and STAR+PLUS SDAs, and dental services.
  - Waiver focus goals include reduction of member costs, increased utilization rates, and an analysis of the Experience Rebate provision.

Preliminary Findings

MMC expansion supports Program goals by building a foundation for an integrated healthcare delivery system that incentivizes quality and efficiency and improves healthcare quality and outcomes for the Texas Medicaid population. Although MMC expansion statewide has been successful, the benefits offered continue to change, suggesting that further evaluation, especially for clients utilizing long-term services and supports, is warranted.

Key Achievements

- Texas completed statewide expansion of MMC delivery system for STAR and dental services for children in March 2012 and STAR+PLUS in September 2014.
- Considerable policy changes have been made to consolidate 1915(c) and 1915(b) waivers into the Program. These changes have reduced multiple layers of regulation and reporting requirements, thereby reducing administrative burden and streamlining processes.
- Texas added behavioral health benefits to MMC's existing behavioral health service array in September 2014, and nursing facility benefits in March 2015.
- Through changes in policy there has been a shift toward home- and community-based care for the MMC population.

Preliminary Results

- An increased focus on coordinated care across physical and behavioral health services, and long-term care. Additionally, there is potential to improve quality and value within the delivery system, but sufficient data are not yet available to adequately evaluate. [Evaluation Goal 2]
- A decrease in costly restorative and orthodontic dental services under managed care compared to fee-for-service. [Evaluation Goals 3 and 4]

- More money was returned to Texas under the Experience Rebate provision of the Program compared to the money that would have been returned under the Medical Loss Ratio regulations. [Evaluation Goal 4]

Ongoing Challenges

Results from the Program stakeholder surveys indicate room for improvement:

- Stakeholders expressed dissatisfaction with Managed Care Organization (MCO) administration/staff levels, inefficient MCO credentialing process, and processing time for claims and payment (especially for clients needing urgent behavioral health services or primary care).
- Recommendations include streamlining Medicaid:
  - Provider regulations,
  - Enrollment procedures,
  - Prior authorization policies,
  - Credentialing, and
  - Claims processing rules.
- Providers recommended standardizing policies and processes across MCOs.
- Stakeholders recommended creating a formal system to increase communication across all stakeholders.
- An unintended consequence of the policy allowing clients to change MCOs every 30 days has led to provider frustration related to increased administrative burden for service payment.

HEALTHCARE DELIVERY SYSTEM TRANSFORMATION

The evaluation goals for the new UC and DSRIP pools relate to the Program's ability to show quantifiable improvements in the quality of care, lowering cost, and health of the population; the amount of funds disbursed through the UC pool; and stakeholder perceptions of MMC expansion, the Regional Healthcare Partnerships (RHPs), and the UC and DSRIP pools. The evaluation has seven goals.

- **Evaluation Goal 5:** Evaluate whether uncompensated costs, based on service type, remain stable or decrease over time for hospitals participating in the Program.
- **Evaluation Goal 6, 7, and 8:**
  - Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the *quality of care*.
  - Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the *health of the population served*.
  - Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the *cost of care*.
- **Evaluation Goal 9:** Evaluate the extent to which the establishment of RHPs increased collaboration among healthcare organizations and stakeholders in each region.

- **Evaluation Goals 10 and 11:**
  - Assess stakeholder-perceived *strengths and weaknesses,* and *successes and challenges* of the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.
  - Assess stakeholder-recommended *changes* to the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.

Preliminary Findings

The UC and DSRIP programs support waiver goals by building a foundation for an integrated healthcare delivery system that incentivizes quality and efficiency through a pay-for-performance or pay-for-reporting model. However, while DSRIP implementation has been successful, more time is necessary to evaluate which projects demonstrate impact in terms of outcomes and whether it is feasible to replicate any of the innovative models at a statewide level or in a MMC environment. Finally, more time is necessary to better examine the impact of the DSRIP projects and expanded MMC on rates of UC.

Key Achievements

- Texas successfully developed the UC and DSRIP pools and created the 20 RHPs.
- The Texas DSRIP program is the largest implementation of DSRIP projects in the nation with 1,458 active projects administered by 298 participating providers (as of May 2015).
- While comprehensive DSRIP evaluations are not feasible for each of the 1,458 active projects, projects are required to report on several metrics that demonstrate quality improvements. Unfortunately, not all improvements are captured by DSRIP metrics.
- Through the DSRIP projects, Texas Medicaid providers report their ability to provide services that are not currently reimbursable by Texas' Medicaid program. Many providers have noticed further improvements in care.

Preliminary Results

- The formation of the 20 RHPs led to a:
  - Twenty-five (25) percent increase in the number of collaborative inter-organizational relationships,
  - Twenty-four (24) percent increase in the centralization of collaborations (a measurement of the restructuring of collaborations in favor of a central organization acting as a hub for resources and information dissemination), and
  - On average, each organization in the RHP increased the number of relationships by 22 percent with a 6 percent increase in relationships strength. [Evaluation Goal 9]
- Across all RHPs, results show an increased collaboration since the start of the Program, as evidenced by the presence of new relationships, increased joint programming, increased resource sharing, and increased data sharing. [Evaluation Goal 9]
- Stakeholders report that DSRIP waiver activities are benefitting many residents of the community due to the increased collaboration among organizations and are subsequently increasing access to health services. [Evaluation Goal 10]

- Stakeholders are satisfied with the RHPs' progress toward addressing community needs and with Texas Health and Human Services Commission (HHSC) administration of the DSRIP program. [Evaluation Goal 10]
- Stakeholders are confident that DSRIP projects are benefiting their communities and giving them opportunities to offer services they would not otherwise be able to offer. [Evaluation Goal 10]
- Analysis of the available UC cost data suggested that the distribution of pre-Program UC cost across hospitals was consistent with expected patterns for different subgroup analysis. [Evaluation Goal 5]
- Due to incomparability between projects, select project area options were chosen for detailed evaluation analyses. [Evaluation Goals 6-8]
    - A comparative case study analysis of project area option 2.9.1 projects is ongoing. The purpose of this project area option is to establish/expand patient navigation related to inappropriate emergency department use.
    - Preliminary results show that, in general, large urban sites had the resources necessary to implement a more comprehensive patient care navigation program compared to small rural facilities.
    - Based on the limited data available, the dosage (measured in time) of patient care navigation services provided to participants may have been as short as one month. Furthermore, the duration of services also sometimes varied from one-time referrals to a number of months for people with more complex needs.
    - Patient care navigation projects are sometimes reaching a wider range of patients than initially intended, and projects continue to modify services to provide more education and additional outreach to better serve clients.
    - Overall, clients surveyed who reported having patient care navigation services were satisfied with their care navigators.

Ongoing Challenges

- The administrative resources required for implementation were intensive at the State and local levels and continue to be an ongoing concern.
- The DSRIP program was intended to offer providers flexibility to redesign and pilot test delivery system transformation within the context of state/local needs and goals. While project diversity is a major characteristic of Texas DSRIP, the growing national trend toward standardization is reflected in the abbreviated three-year DSRIP project menu and revised Category 3 outcome menu. This trend toward standardization may ultimately limit the ability to address unique local needs.
- There is an on-going challenge to balance standardized reporting metrics while providing flexibility to sufficiently capture overall project benefits and lessons learned. Stakeholders recognize areas for improvement: DSRIP implementation process; the need for more clarification regarding outcome expectations; and sensitivity to contextual differences among organizations, communities, and regions, e.g., urban-rural/hospital differences.
- Stakeholders report that political and administrative issues were a challenge for RHP formation and administration. These issues included:
    - Differing opinions among RHP members on which organization would function as the anchor institution,

- Adhering to unclear and evolving guidance from state and federal government entities,
- Selecting from limited menu of project options and outcomes, and
- Providing proper project monitoring, given that standardized reporting measures were frequently modified.

SUMMARY

Preliminary evaluation results of the Program highlight challenges related to its implementation and offer recommendations to address those issues. While it is premature to report on Program health outcomes, the increased organizational collaboration and coordination of services suggest the initiation of active system transformation efforts. Overall, additional time is necessary to further examine the impact of Program interventions (DSRIP projects or MMC) on client health outcomes and UC.

CHAPTER 1
INTRODUCTION TO THE TEXAS HEALTHCARE TRANSFORMATION QUALITY IMPROVEMENT PROGRAM 1115(a) WAIVER DEMONSTRATION

Medicaid is a jointly funded state-federal program that finances health insurance for low-income, pregnant women, children, disabled, and elderly Americans.[1] Through the traditional payment system, known as fee-for-service (FFS), each state directly pays health care providers a fee for each unit of service provided. FFS can result in overutilization and lack of care coordination that may be harmful to the beneficiary and incur unnecessary costs (Chernew, 2010; Emanuel & Fuchs, 2008).

In a managed care model, a managed care organization (MCO) is paid a capped (or capitated) rate per month for each member enrolled. Therefore, the MCO has an incentive to have quality healthcare delivered in the most efficient way (Bindman, Chattopadhyay, Osmond, Huen, & Bacchetti, 2005). In 1993, Texas began reforming the Medicaid payment structure through the State of Texas Access Reform (STAR) managed care program in select urban areas of the state. By State Fiscal Year (SFY) 2014, approximately 80 percent of the state's Medicaid population was enrolled in some form of managed care (Texas Health and Human Services Commission, 2015a).

There are a variety of risk-based Medicaid managed care (MMC) programs in Texas, each designed to meet the health care needs of specific populations:

- **STAR:** provides primary, acute care, and pharmacy services to newborns, children, families, and pregnant women.
- **STAR+PLUS:** provides all acute and long-term services and supports (LTSS) to clients with chronic and complex medical conditions who need more than acute care services.
- **Children's Medicaid Dental program:** provides dental services to Medicaid eligible members under age 22.
- **NorthSTAR:** provides behavioral health services to STAR clients and non-Medicaid eligible community members who reside in the Dallas service delivery area (SDA).
- **STAR Health:** provides medical, dental, vision, and behavioral health services to clients in foster care, kinship care, or in conservatorship, and some young adults formerly in foster care ages 18-22.

The 2012-2013 General Appropriations Act, House Bill (H.B.) 1, 82nd Legislature, Regular Session, 2011 (Article II, Health and Human Services Commission, Rider 51) and Senate Bill (S.B.) 7, 82nd Legislature, First Called Session, 2011 required the Texas Health and Human Services Commission (HHSC) to expand MMC to include additional Medicaid clients to improve budget efficiency. At the same time, the provision of uncompensated care (UC) in Texas was increasing, prompting the state to commission a large-scale system transformation (Texas Health and Human Services Commission, 2012b).

[1] Title XIX of the Social Security Act of 1965.

To fulfill this directive, HHSC submitted a proposal to the Centers for Medicare and Medicaid Services (CMS) for a five-year Section 1115(a) demonstration waiver.[2] Research and demonstration 1115 waivers allow states to waive a variety of program requirements, such as comparability or statewideness, to test new ideas for operating their respective Medicaid programs. States may use these waivers to structure statewide health system reforms and to test the value of new services or service delivery mechanisms in terms of cost-effectiveness and efficacy.

Possible interventions allowed in a Section 1115 demonstration waiver include:

- The expansion of eligibility to individuals who are not otherwise enrolled in Medicaid or the Children's Health Insurance Program (CHIP),
- The provision of services not typically covered by Medicaid, and
- The implementation of programs that encourage innovative service delivery systems with the goals of improving care, increasing efficiency, and reducing health care costs.[3]

Waivers are required to be budget neutral to the federal government for the duration of the demonstration and are usually for five years, subject to renewal or extension. CMS also requires states to conduct comprehensive evaluations on the efficacy of their 1115 waivers.

CMS approved the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") on December 12, 2011. The Program is ongoing and, unless Texas is granted a waiver extension or renewal, will end on September 30, 2016.

EVALUATION OVERVIEW

This section provides a general description, including evaluation goals, for the two Program interventions. A detailed description of the Program can be found in the 1115 Waiver protocol.[4]

The overarching goal of the Program is to support the development and maintenance of a coordinated care delivery system, thereby maintaining or improving health outcomes while containing cost growth. This goal is consistent with the CMS "triple aim" approach to improve the experience of care, improve the health of populations, and to reduce the cost of healthcare without compromising quality (Berwick, Nolan, & Whittington, 2008).

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[2] http://www.medicaid.gov/medicaid-chip-program-information/by-topics/waivers/1115/section-1115-demonstrations.html. Last accessed July 11, 2015.

[3] Federal Register (Vol.77, No.38) February 27, 2012 Medicaid Program; Review and Approval Process for Section 1115 Demonstrations: Application, Review, and Reporting Process for Waivers for State Innovation: Final rules http://www.gpo.gov/fdsys/pkg/FR-2012-02-27/html/2012-4354.htm

[4] http://www.hhsc.state.tx.us/1115-docs/DSRIP-Protocols.pdf. Last accessed April 8, 2015.

The Program strategy uses **two types of interventions** to achieve the overarching goal:

- **Intervention I:** Expand the existing MMC programs, STAR and STAR+PLUS, statewide; carve in prescription drug benefits and non-behavioral health inpatient hospitalizations; and transform the Children's Medicaid Dental program from FFS to a managed care model.
- **Intervention II:** Establish two new funding pools that will assist providers with UC costs and promote health system transformation through the Delivery System Reform Incentive Payment (DSRIP) program.

Intervention I: Expansion of Medicaid Managed Care Program Statewide

Intervention I relates to the expansion of the MMC program statewide. The newly created STAR and STAR+PLUS SDAs are the primary focus of the interim evaluation report (see Figures 1.1 and 1.2). As members and healthcare benefits shift from primary care case management (PCCM) or FFS to a managed care system, a pre-/post- study design examines the impact of managed care expansion on four aspects of health care: access, coordination, quality, and cost. Because MMC has existed in some Texas SDAs since 1993, only new STAR and STAR+PLUS SDAs were examined. It is unlikely that the Program would have any measurable impact on existing SDAs. However, the impact of carving in pharmacy benefits and the transformed Children's Medicaid Dental program was examined statewide. Figures 1.1 through 1.5 show the expansion to the STAR and STAR+PLUS programs during the duration of the Program.

Figure 1.1. Service Delivery Areas for Texas STAR Medicaid Managed Care before Expansion (3/1/2012)

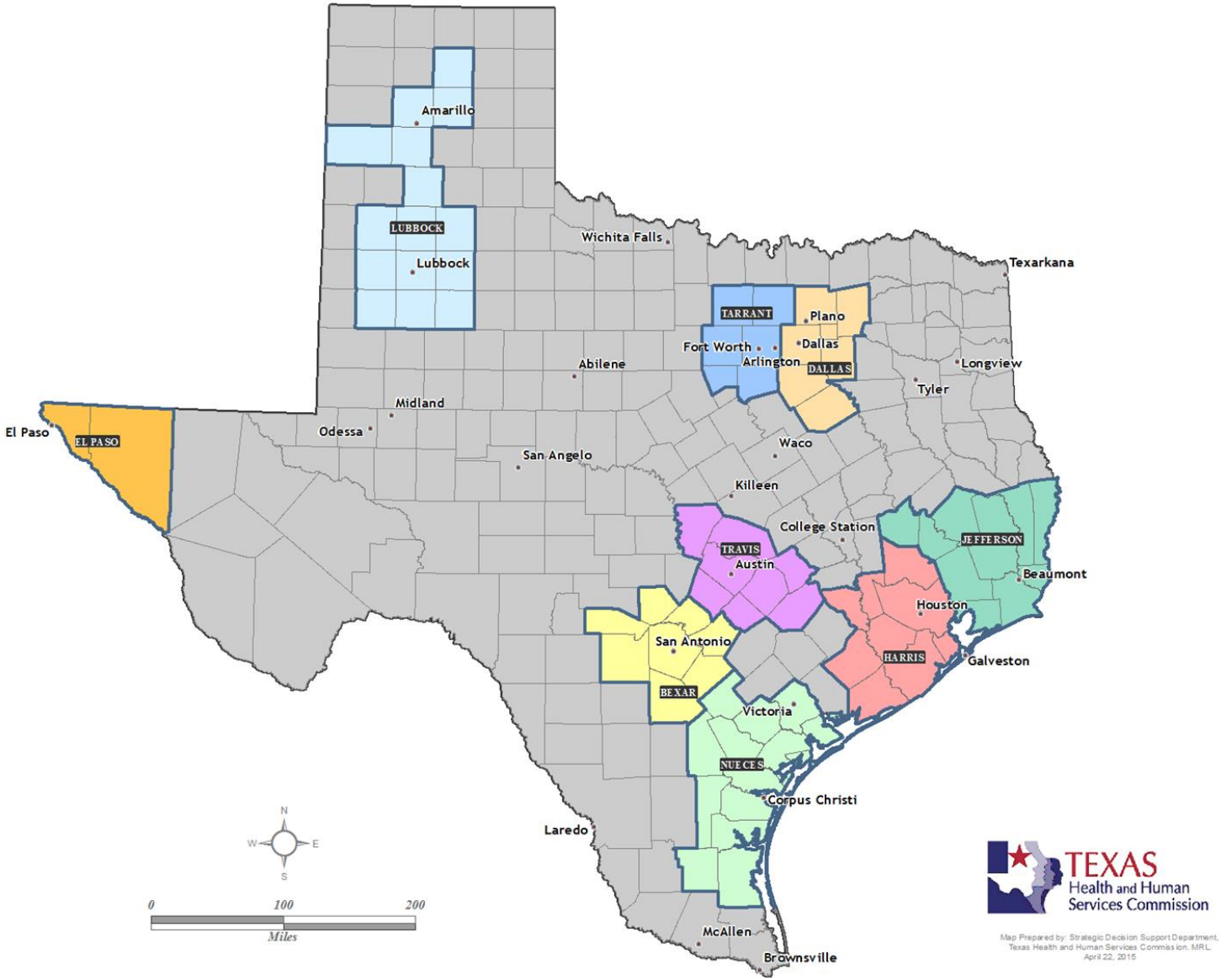


Figure 1.2. New Service Delivery Areas for Texas STAR Medicaid Managed Care after Expansion (3/1/2012)

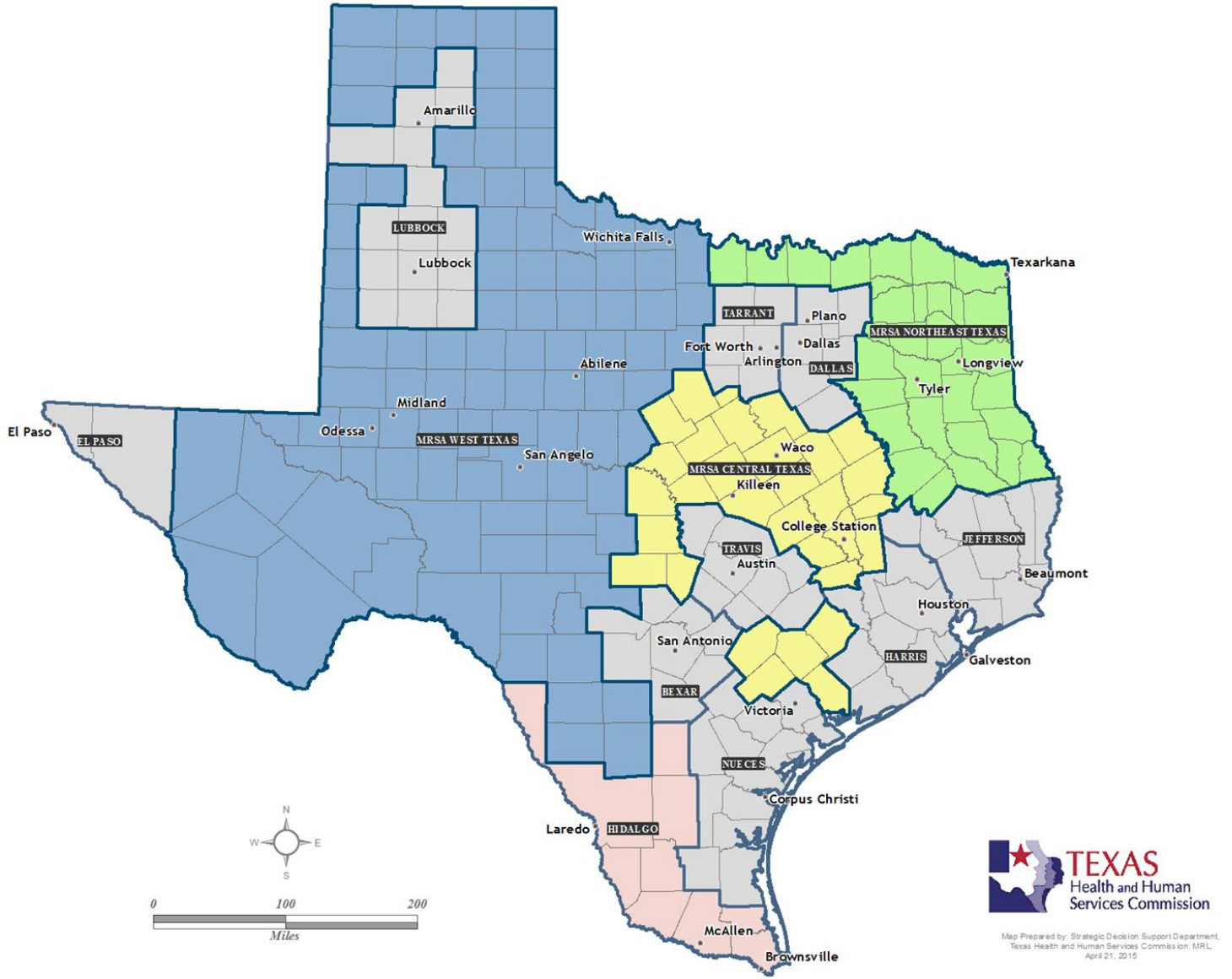


Figure 1.3. Service Delivery Areas for Texas STAR+PLUS Medicaid Managed Care before Expansion (3/1/2012)

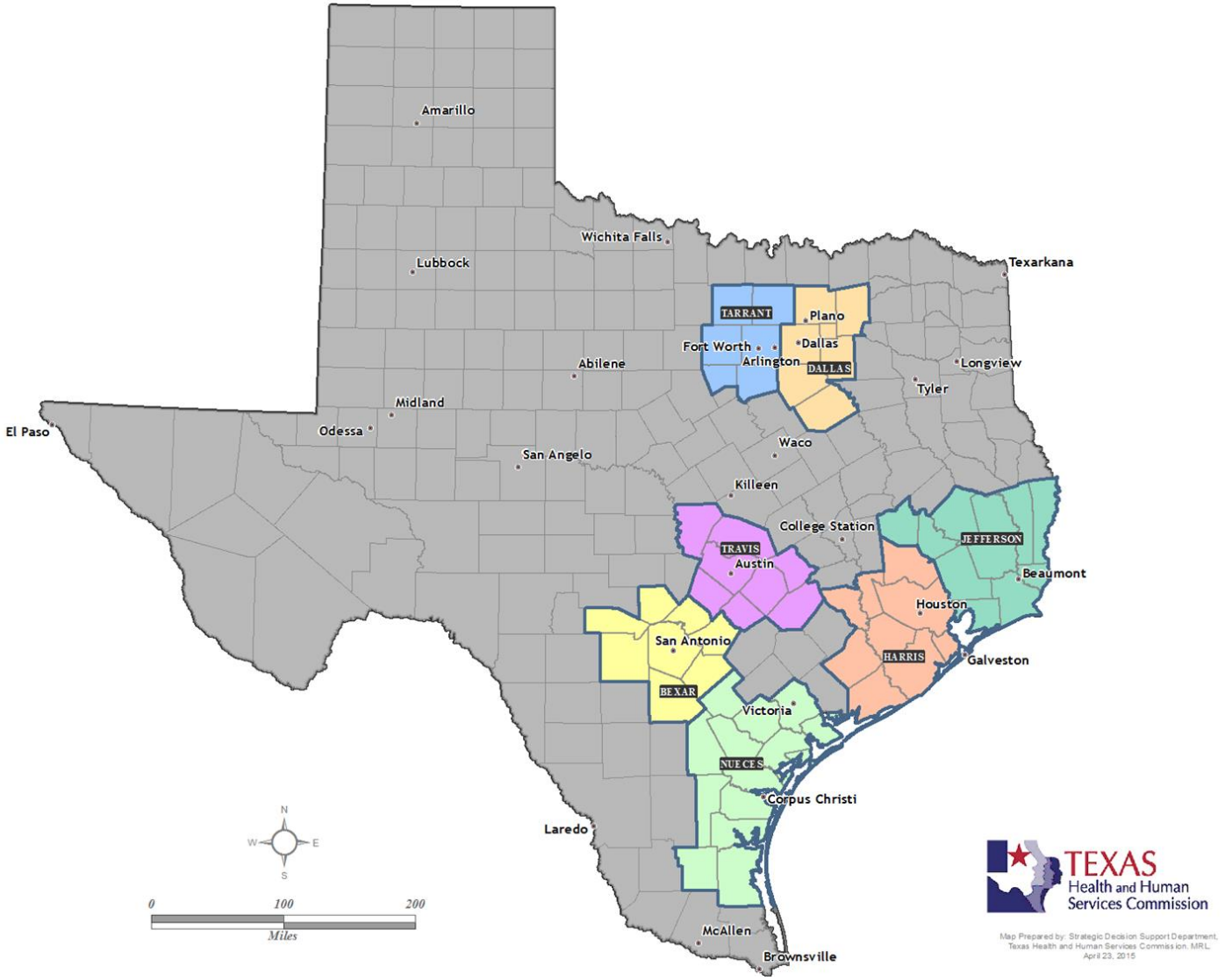


Figure 1.4. New Service Delivery Areas for Texas STAR+PLUS Medicaid Managed Care after Expansion (3/1/2012)

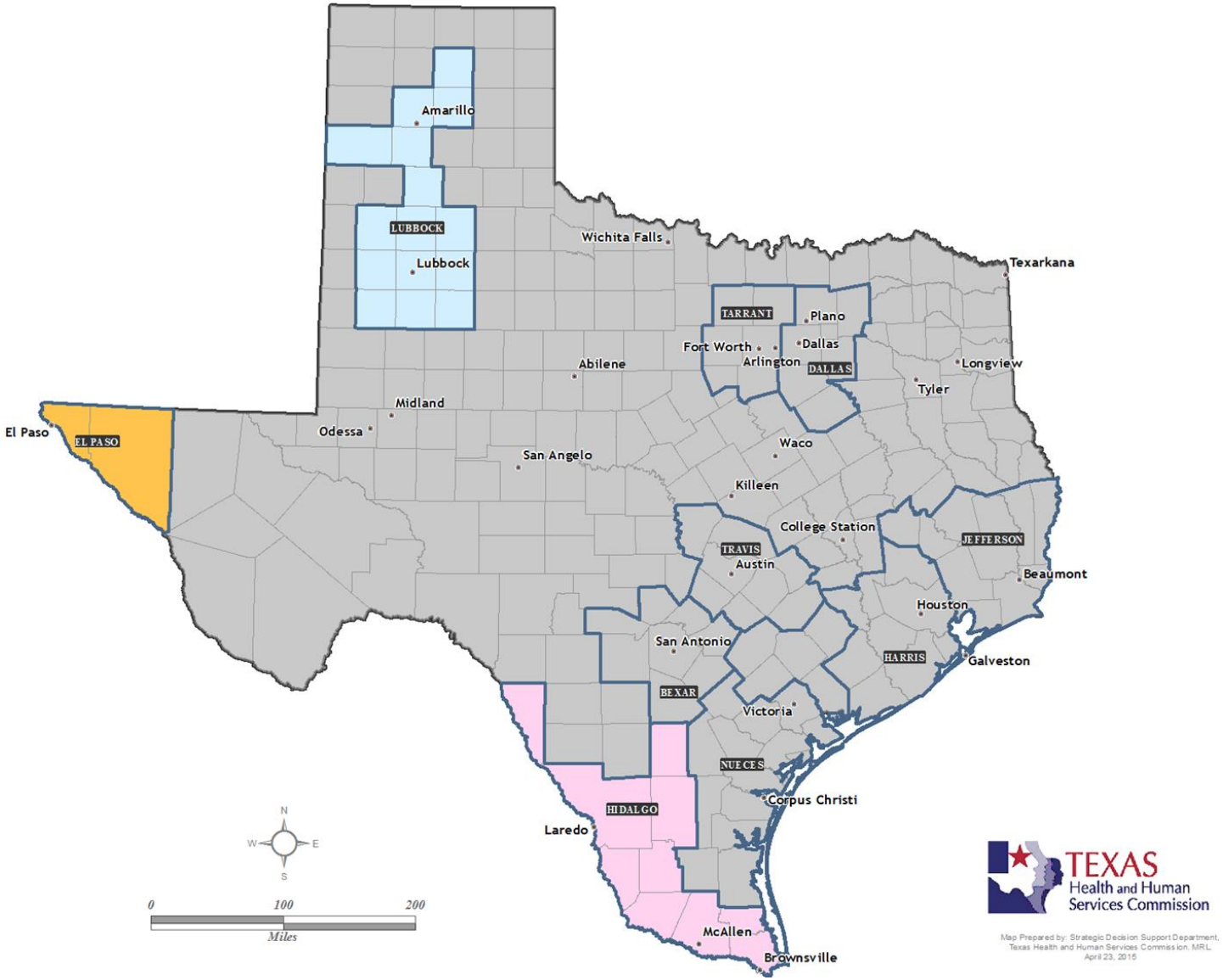


Figure 1.5. Additional Service Delivery Areas for Texas STAR+PLUS Medicaid Managed Care after Expansion (9/1/2014)

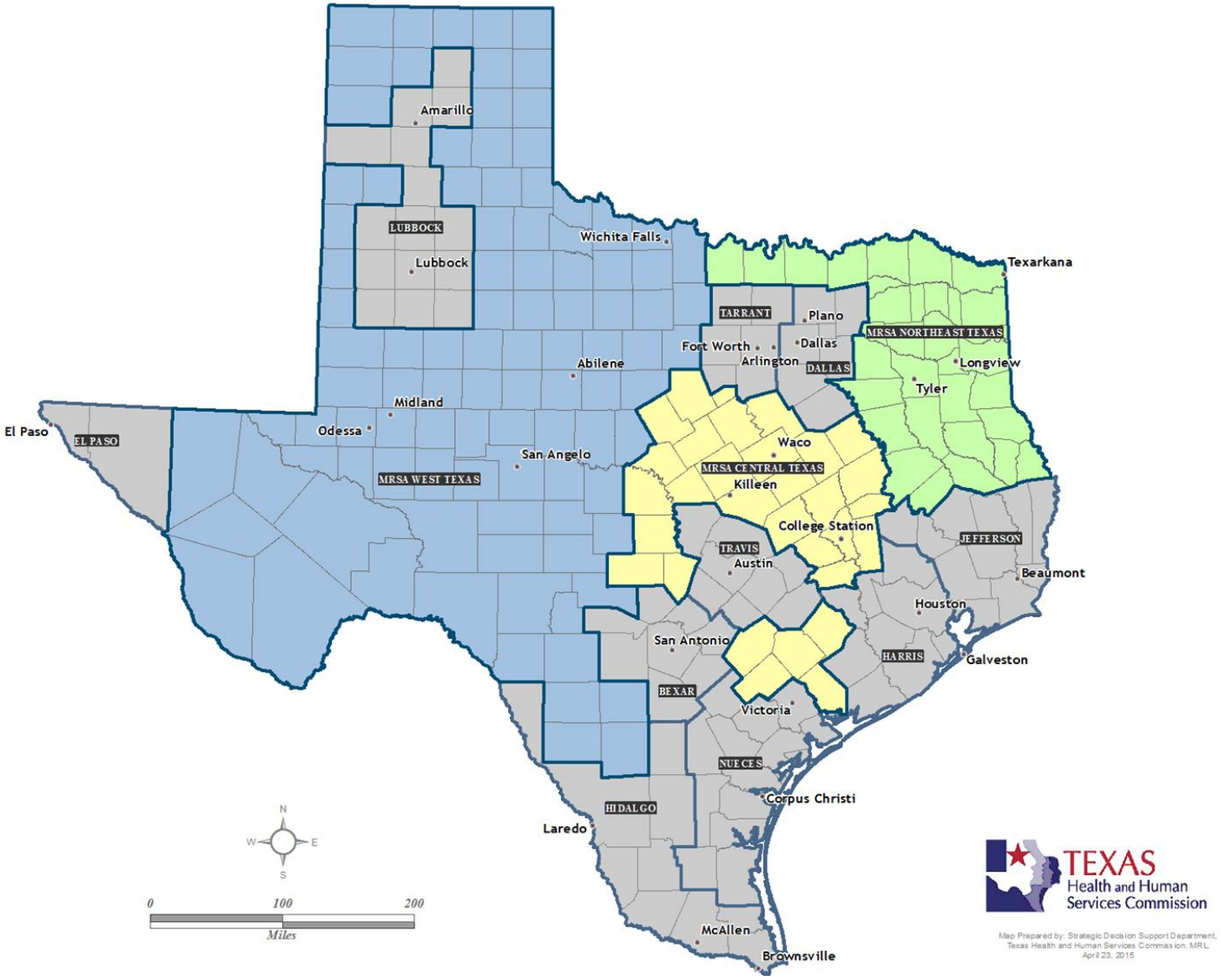
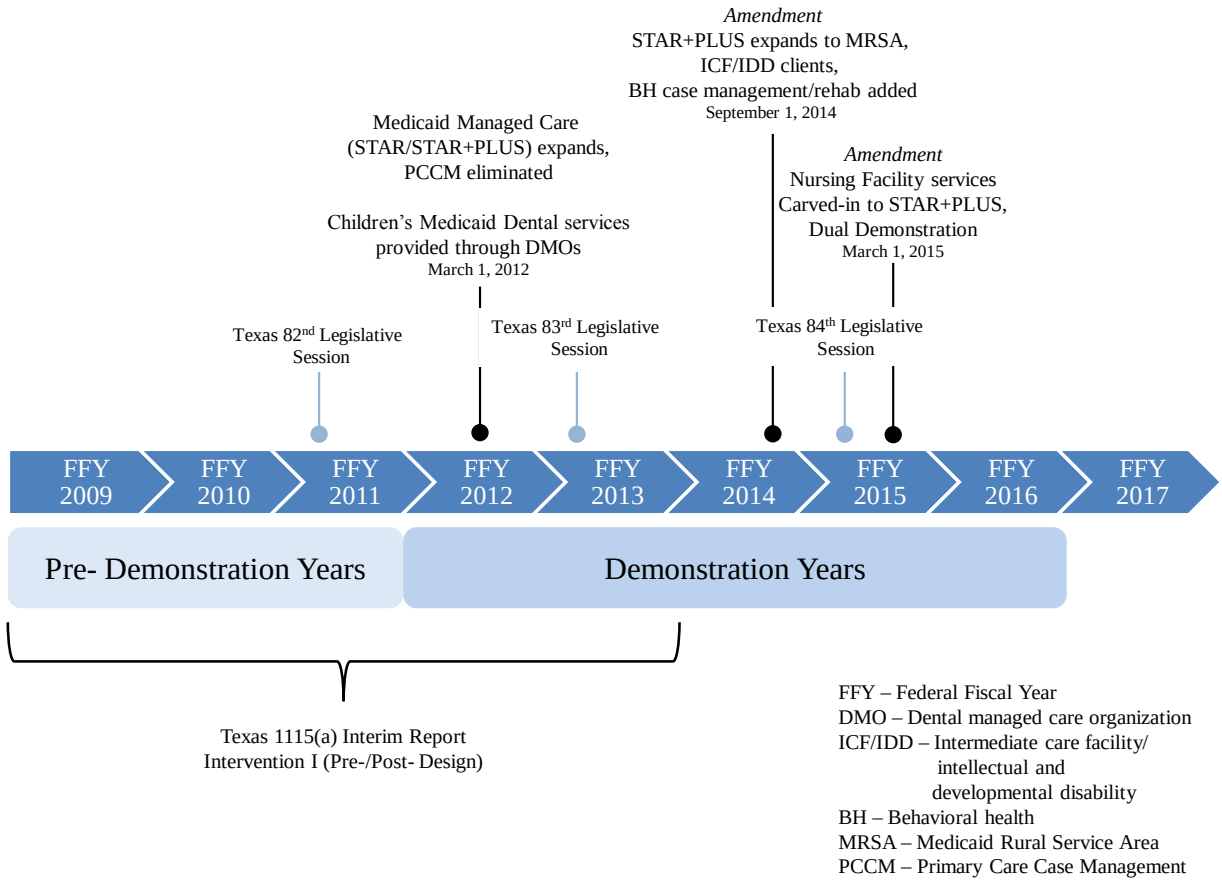


Figure 1.6 provides a timeline of key dates for the expansion of MMC. Details on each phase of expansion are provided after the timeline.

Figure 1.6. Intervention I Key Dates



On March 1, 2012, Texas made several significant changes to its Medicaid program (see Table 1.1). Specifically, Texas:

- Expanded the STAR program statewide replacing the PCCM delivery systems. New STAR SDAs included: Hidalgo and the Medicaid Rural Service Areas (MRSAs),
- Expanded the STAR+PLUS program into the El Paso, Hidalgo, and Lubbock SDAs, replacing the PCCM delivery systems,
- Carved in non-behavioral health inpatient hospital services to the STAR+PLUS capitation rate,
- Replaced the FFS delivery system for children's primary and preventive dental care with a managed care model, and
- Replaced the prescription FFS delivery system (Vendor Drug Program) by carving in outpatient pharmacy benefits into managed care.

Table 1.1. Summary of Program, Geographic, and Service Changes to Texas Medicaid Managed Care

Medicaid Program	Pre-Managed Care Expansion (before 3/1/2012)	Post-Managed Care Expansion (after 3/1/2012)
STAR	**Eligibility:** pregnant women, children with limited income, and TANF[1] clients **Service delivery areas:** Bexar, Dallas, Harris, Jefferson, Nueces, Tarrant, and Travis **Services:** Primary and acute care services, in-patient hospital services, and pharmacy through VDP[2]	**Eligibility:** no change **Service delivery areas:** Hidalgo, MRSA[4] Central, MRSA West, MRSA Northeast **Services:** Pharmacy benefits carved in
Primary Care Case Management (PCCM)	**Eligibility:** pregnant women, children with limited income, and TANF clients **Service delivery areas:** removed as non-capitated plan choice in the STAR service delivery areas in 2005. Served rural counties. **Services:** Primary and acute care covered services, and pharmacy through VDP	Eliminated from all remaining areas on February 29, 2012.
STAR+PLUS	**Eligibility:** SSI/SSI-related[3] clients with a disability or who are age 65 and older and have a disability **Service delivery areas:** Bexar, Dallas, Harris, Jefferson, Nueces, Tarrant, and Travis **Services:** Acute, pharmacy, and long-term services and supports are coordinated. In-patient hospital services are not included in the capitation rate (carved out)	**Eligibility:** no change **Service delivery areas:** El Paso, Hidalgo, Lubbock **Services:** In-patient hospital services and pharmacy benefits carved in

[1] Temporary Assistance for Needy Families (TANF).
[2] Vendor Drug Program (VDP).
[3] Supplemental Security Income (SSI).
[4] Medicaid Rural Service Area (MRSA).

Impact of Managed Care Expansion

The evaluation goals for Intervention I relate to the impact of MMC expansion on healthcare access, coordination, quality, efficiency, and cost.

- **Evaluation Goal 1:** Evaluate the extent to which *access to care* improved through managed care expansion to new STAR and STAR+PLUS SDAs, dental services, and pharmacy services.
  - Program focus goals include access to prescription drugs, dental care for children, non-behavioral inpatient care, adult access to preventative/ambulatory health service, and prenatal and postpartum care.

- **Evaluation Goal 2:** Evaluate the extent to which *coordination of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs.
  - Program focus goals include coordination of care among providers and service coordination.
- **Evaluation Goal 3:** Evaluate the extent to which *quality of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs, dental services, and pharmacy services.
  - Program focus goals include quality of dental care for children and quality of adult preventive and emergent care.
- **Evaluation Goal 4:** Evaluate the extent to which *efficiency improved and cost decreased* through managed care expansion to new STAR and STAR+PLUS SDAs, and dental services.
  - Program focus goals include reduction of member costs, increased utilization rates, and an analysis of the experience rebate provision.

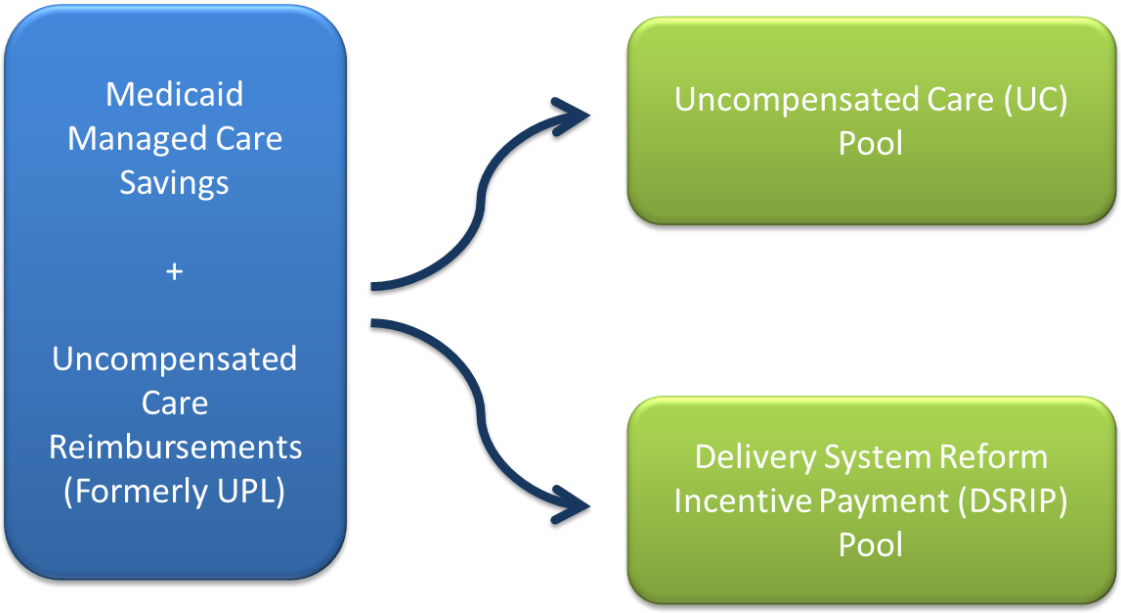
Intervention II: Formation of Regional Healthcare Partnership (RHP) Regions

Texas chose to apply for a Medicaid 1115 waiver that incentivizes system transformation and quality improvements in hospitals and other providers that serve high volumes of low-income patients. Since 2010, eight states have negotiated with the federal government to implement Delivery System Reform Incentive Payment (DSRIP) programs, providing states with a unique opportunity to redesign delivery systems within the context of their particular needs and goals.

The Program in Texas was modeled after the *Bridge to Reform* Section 1115(a) Medicaid waiver program in California which was approved in November 2010. The California demonstration waiver, worth $10 billion, expanded Medicaid coverage, expanded MMC, and implemented a similar DSRIP program. California implemented their DSRIP program through 21 designated public hospital systems (DPHs). The DPHs developed system-wide projects, including outpatient, inpatient, primary, and specialty care that corresponded with four project categories: (1) infrastructure development, (2) innovation and redesign, (3) population-focused improvement, and (4) urgent improvements in care. However, there were several key differences between the California DSRIP program and the Texas Program. Primarily, in addition to safety net hospitals, the Texas Program approved projects implemented by a range of providers including public and private hospitals, nursing facilities, and provider groups.

The Program intended to use savings from the expansion of MMC and to preserve federal hospital funding historically received as Upper Payment Limit (UPL) payments to form two new funding pools (see Figure 1.7).

Figure 1.7. New Funding Model under the Program



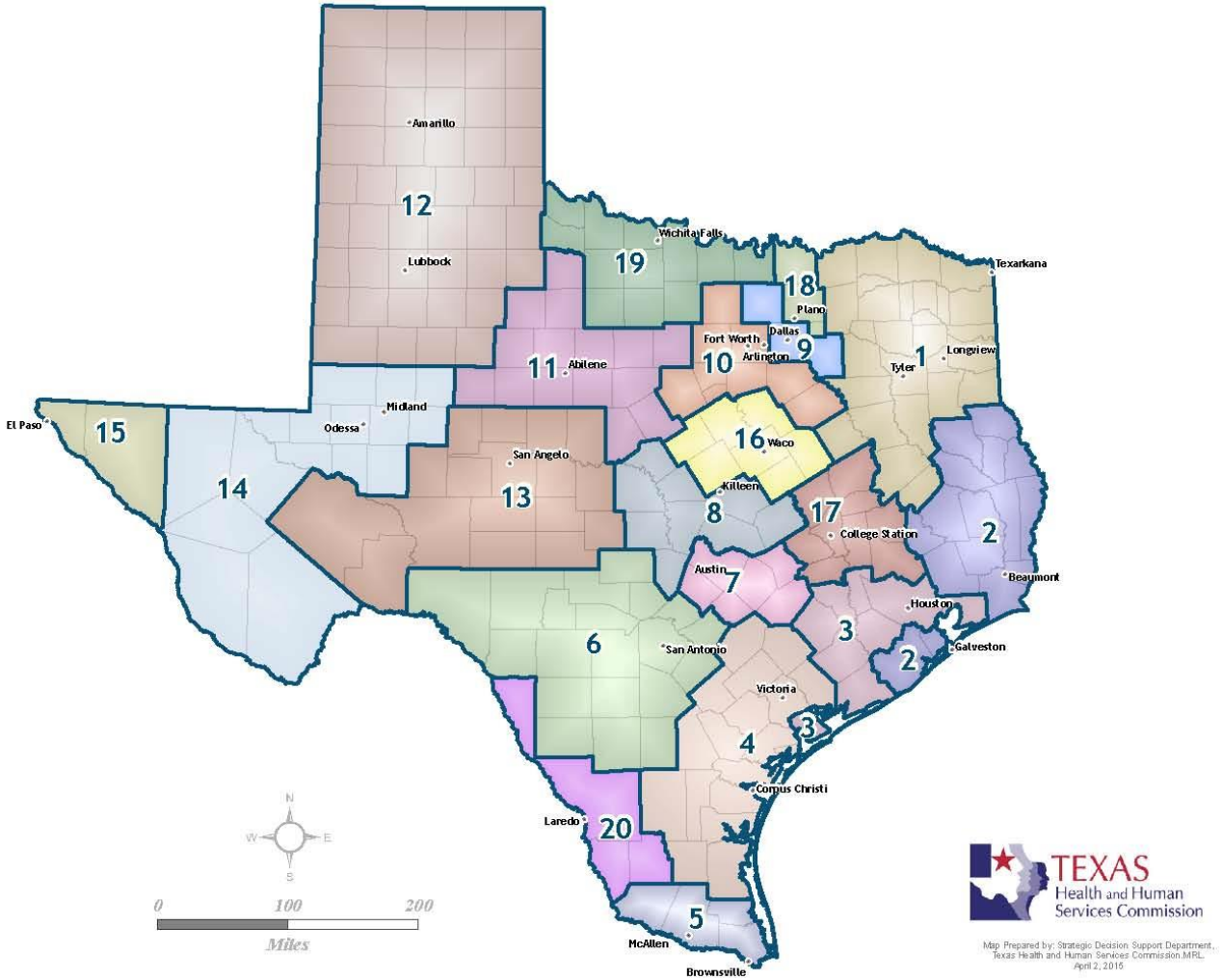
The UC and DSRIP pools aim to assist hospitals and other providers with UC costs and to promote health system transformation related to new coverage demands that began in 2014 as required by the Patient Protection and Affordable Care Act (ACA) (2010). The ACA may indirectly impact UC in Texas in multiple ways. For example:

- Due to changes in income eligibility, many children previously covered under CHIP are now part of the Texas Medicaid program.
- Previously uninsured individuals now have healthcare coverage due to the individual mandate, potentially increasing the demand on medical professionals..
- Medicaid coverage is extended to foster care youth through age 25.Health insurance companies are no longer able to refuse coverage due to a pre-existing condition.
- Although the implementation of the disproportionate share hospital payment reductions specified in ACA has been delayed, the eventual impact will be greater for hospitals in Texas and other states opting out of the Medicaid expansion.
- ACA is likely to drive many individuals, both previously insured and uninsured, into selecting high-deductible health plan options from the insurance exchange. Similarly, the ACA's "tax" on high cost employer-sponsored plans may push employers to encourage employees to select high deductible products as well.
- The trend toward a greater share of privately insured individuals in high deductible health plans may increase UC for hospital services provided to insured patients who lack income sufficient to pay the high deductible.

To receive payments from either funding pool, a hospital or other healthcare provider had to join with other hospitals or public entities in a geographic region to form an RHP (see Figure 1.8). Each RHP, with the collaboration of participating providers and stakeholders, identified

performance areas for improvement and created a plan under which its members implemented approved projects to achieve Program goals.

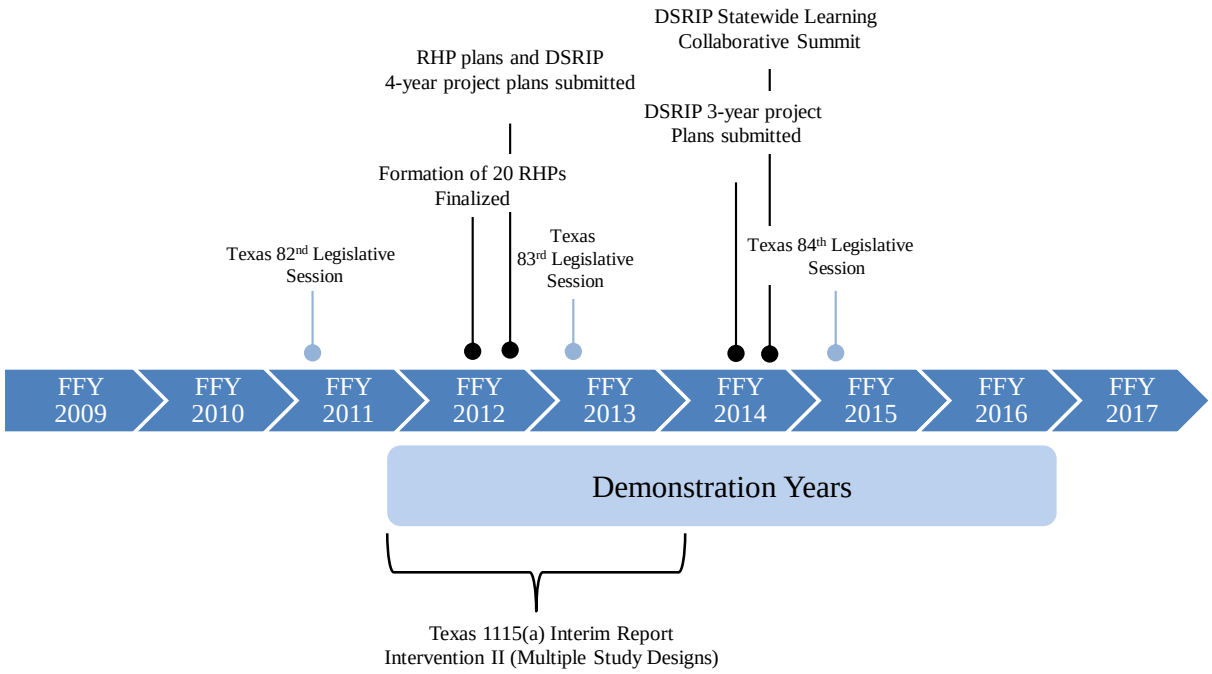
Figure 1.8. Texas Regional Healthcare Partnerships



Projects eligible for DSRIP incentive payments must come from a menu of projects approved by CMS and HHSC, and have corresponding metrics and milestones associated with each payment.[5] HHSC is particularly interested in the lessons learned from the development of these sustainable networks of hospitals and providers.

Figure 1.9 provides a timeline of key dates for Intervention II. These include the formation of the 20 RHPs, the RHP plan submission dates, and the corresponding demonstration years.

Figure 1.9. Intervention II Key Dates



Uncompensated Care Costs

The evaluation goal under this domain relates to examining UC costs for hospitals and other provider types.

The UC pool is designed to help hospitals or other providers defray the cost of providing UC to individuals with no third party coverage and who lack the resources to pay, as well as uncompensated costs due to the Medicaid shortfall (the difference between the cost of service and the Medicaid reimbursement rate). To receive payments from the UC pool, a hospital must

[5] For more information on the menu of approved project types, and the metrics and milestones see: http://www.hhsc.state.tx.us/1115-Waiver-Guideline.shtml.

complete an application listing its uncompensated costs. A hospital may claim uncompensated costs for inpatient and outpatient services, as well as related costs for physician, clinic, and pharmacy services. It is unknown how the need for UC funds will be affected by the health system transformation due to the DSRIP projects.

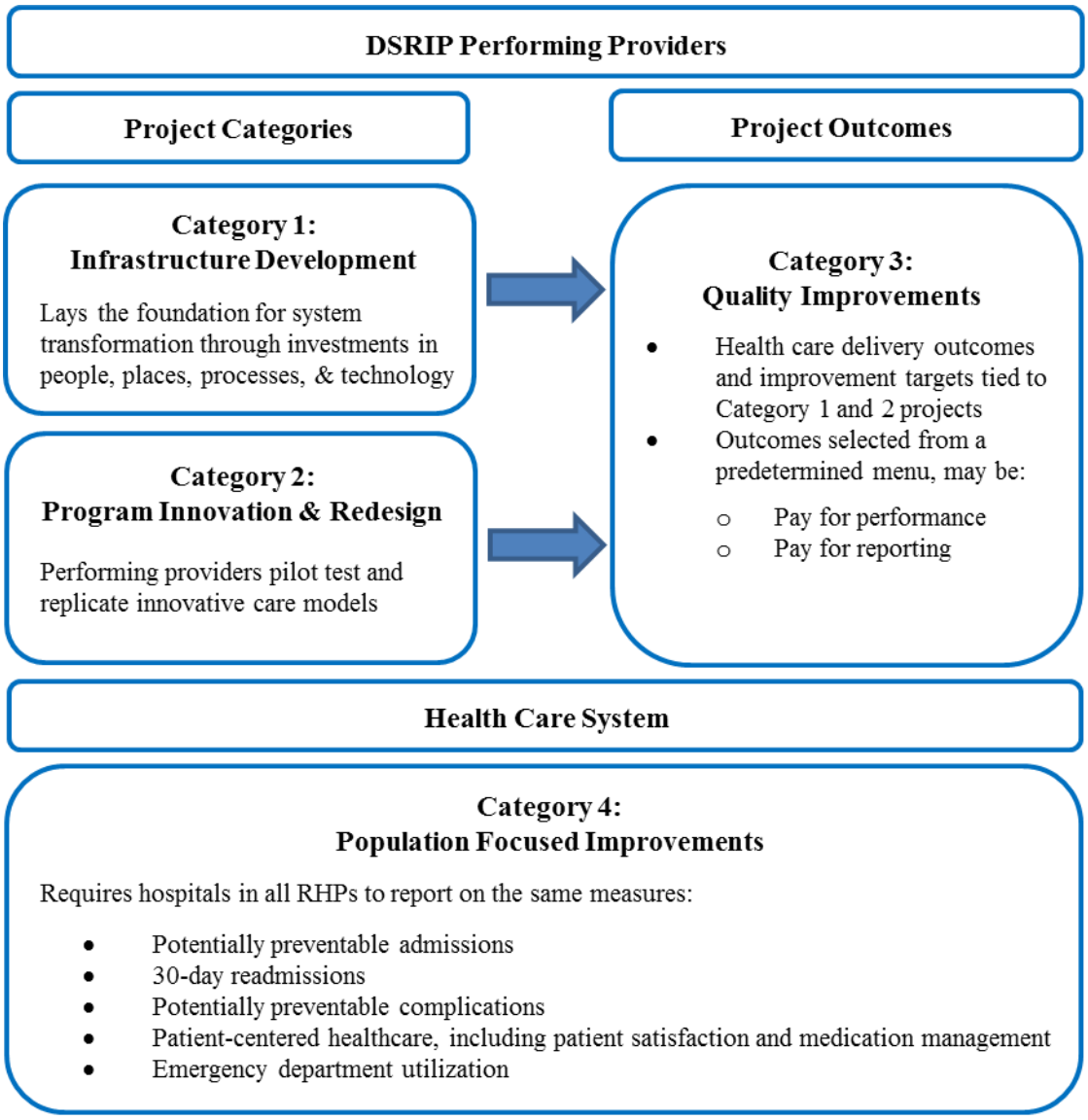
- **Evaluation Goal 5:** Evaluate whether uncompensated costs, based on service type, remain stable or decrease over time for hospitals participating in the Program.

Delivery System Reform Incentive Payment Pool

The evaluation goals under this domain relate to the ability of the RHPs to show, through the utilization of DSRIP funds, quantifiable improvements relating to quality of care, population health, and cost of care. The goals also relate to the increased collaboration among healthcare organizations and stakeholders in each RHP due to their establishment of the partnerships.

The DSRIP pool was designed to incentivize activities that support a region's collaborative efforts to improve access to care, quality of care, and the health of the patients and families served through innovations at the provider-level that support the development and maintenance of a coordinated care delivery system. The DSRIP program is comprised of four interrelated and complementary categories: (1) infrastructure development, (2) program innovation and redesign, (3) quality improvements, and (4) population focused improvements (see Figure 1.10).

Figure 1.10. DSRIP Project Descriptions



Categories 1 and 2 are the *types* of projects DSRIP performing providers may design and implement to better reach and improve the health of specific populations. These projects must be related to quality outcomes as defined in Category 3. Performing providers report progress toward Category 3 metrics and milestones on a semi-annual basis. Through Category 4, Population-Focused Improvements, hospitals are required to report specific measures that reflect the health of the population. The goal of Category 4 is to build the capacity for reporting on a comprehensive set of population health metrics, so the emphasis is on *reporting* of these measures, not improvement. The overall structure of the DSRIP program is such that improvements can be made to healthcare at both the individual patient and the delivery system levels. Categories 1 and 2 allow providers the flexibility to prioritize healthcare improvements to

best meet the needs of their specific populations, while categories 3 and 4 provide a mechanism to monitor and measure these overall impacts to the healthcare delivery system in Texas. To receive payments from the DSRIP pool, a performing provider must meet specific metrics for each project selected by the RHP members and detailed in the plan.

- **Evaluation Goal 6:** Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the *quality of care*.
- **Evaluation Goal 7:** Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the *health of the population served*.
- **Evaluation Goal 8:** Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the *cost of care*.
- **Evaluation Goal 9:** Evaluate the extent to which the establishment of RHPs *increased collaboration* among health care organizations and stakeholders in each region.

Stakeholder Input

The evaluation goals under this domain relate to stakeholder perceptions of the expanded MMC program, and the UC and DSRIP pools. Stakeholders include individuals, advocacy groups, healthcare providers, health plans, and hospital administrators.

- **Evaluation Goal 10:** Assess stakeholder-perceived *strengths and weaknesses*, and successes and challenges of the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.
- **Evaluation Goal 11:** Assess stakeholder-recommended *changes* to the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.

Overview of Evaluation Report Requirements

The evaluation of the Program will examine the implementation and impact of the two Program interventions throughout the demonstration period (December 12, 2011 through September 30, 2016). The principal focus of the Program evaluation is to obtain and monitor data on performance measures for short-term (process measures) and intermediate health outcomes of the Program. The performance measures will be used to assess the extent to which the Program has accomplished its goals, track changes from year to year, and identify opportunities for improvement. Two reports will be submitted to CMS: this interim report, which is due October 1, 2015, and a final report due January 31, 2017.

The purpose of the interim report is to provide a description of Program implementation, preliminary findings on the Program, and plans for completing the evaluation. The interim report includes a description of Program implementation and preliminary analyses of policy changes to the Texas Medicaid program, changes in UC, formation of RHPs, and development and implementation of DSRIP projects during the first two demonstration years (December 12, 2011 through September 30, 2013).

The final report will more fully address the prescribed research questions included in the Special Terms and Conditions and approved by CMS in the evaluation plan on February 7, 2013.[6,7] While the interim report only examines changes to the Medicaid program through March 1, 2012, the final evaluation report due to CMS on January 31, 2017 will examine populations added to MMC through two amendments to the Program described below. These are also summarized in Chapter 14, Next Steps.

Given the nationwide concern on changing demographics, specifically the approaching retirement of the baby boom generation (Government Accountability Office, 2005), several states have begun shifting long-term care services and supports into managed care (Iglehart, 2011). Following such trends, the Texas 83rd Legislature, enacted legislation to extend MMC services to new populations, (e.g., chronically disabled adults with intellectual and developmental disabilities (IDDs)) in S.B. 7, 83rd Legislature, Regular Session, 2013. S.B. 7 also required that HHSC expand STAR+PLUS benefits to 164 MRSA counties, and S.B. 58 (83rd Legislature, Regular Session, 2013) required that HHSC add mental health rehabilitation and mental health targeted case management services into MMC. CMS approved these amendments to the original 1115(a) waiver (see Table 1.2).

On September 1, 2014, the STAR+PLUS program expanded:

- Statewide to include the 164 MRSA counties,
- To include mental health case management and rehabilitation services to adults requiring behavioral health services, and
- To provide acute care services to most adults with IDDs receiving services through a 1915(c) IDD waiver or a community-based intermediate care facility (ICF) for individuals with an intellectual disability or related conditions.[8]

Finally, on March 1, 2015 the STAR+PLUS program expanded to include:

- Most Medicaid adult clients living in a nursing facility, and
- A pilot of dual eligible clients (clients eligible for Medicaid and Medicare services) participating in the dual demonstration in six counties (Bexar, Dallas, El Paso, Harris, Hidalgo, and Tarrant). These clients will receive integrated care through one STAR+PLUS Medicare-Medicaid health plan.

[6] http://www.hhsc.state.tx.us/1115-docs/DSRIP-Protocols.pdf

[7] https://www.hhsc.state.tx.us/1115-docs/EvaluationPlan.pdf

[8] These clients continue to receive LTSS through the Texas Department of Aging and Disability Services (DADS) waiver or ICF/IID program..

Table 1.2. Summary of Program, Geographic, and Service Changes to Texas Medicaid Managed Care STAR+PLUS Program

Medicaid Program	Post-Managed care Expansion (after 9/1/2014)	Post-Managed Care Expansion (after 3/1/2015)
STAR+PLUS	**Eligibility:** no change **Service delivery areas:** MRSA[1] Central, MRSA West, MRSA Northeast **Services:** Acute care services for IDD[2] clients with limited exceptions. Mental health case management and rehabilitation services to clients in need of behavior health services	**Eligibility:** no change **Service delivery areas:** No change. **Services:** Nursing facility carve-in and dual Medicaid/Medicare demonstration pilot (not included in the final report)

[1] Medicaid Rural Service Area (MRSA).
[2] Intellectual and Developmental Disabilities (IDD).

CHAPTER 2
INTERVENTION I INTRODUCTION
STATEWIDE EXPANSION OF MEDICAID MANAGED CARE

In response to rising healthcare costs and national interest in cost-effective ways to provide quality healthcare, in the early 1990s the Texas Legislature directed the state to establish and implement a Medicaid managed care (MMC) pilot program in Travis, Chambers, Jefferson, and Galveston counties (House Bill 7, 72nd Legislature, Regular Session, 1991) (Texas Health and Human Services Commission, 2015). These initial four pilot counties implemented the LoneSTAR (State of Texas Access Reform) Health Initiative in 1993 (the name was later shortened to STAR). Since then, Texas has continued to expand its MMC program to additional counties and populations through the Centers for Medicare and Medicaid (CMS) 1915(b) waiver program. The Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") further expanded the existing MMC programs, STAR and STAR+PLUS, statewide and carved in dental services for children and prescription drug benefits.

Table 2.1 provides information on the Texas MMC program since 2011, when the Texas Legislature authorized the Texas Health and Human Services Commission (HHSC) to apply for the 1115(a) waiver, and details programmatic changes through September 2016.

Table 2.1. Texas Medicaid Managed Care (MMC) Programmatic Changes since 2011

Date	Enacting State Legislation	Change
6/2011	House Bill (H.B.) 1, 82nd Legislature, Regular Session, 2011	Authorized the HHSC to expand MMC to include additional Medicaid clients to improve budget efficiency.
8/2011		HHSC eliminated Primary Care Case Management in the 28 contiguous counties to the existing service delivery areas (SDAs).
9/2011		STAR expanded to 17 counties contiguous to Bexar, El Paso, Lubbock, Nueces, and Travis SDAs and STAR+PLUS expanded to 10 counties contiguous to the Bexar, Harris, Nueces, and Travis SDAs. STAR and STAR+PLUS expanded to the newly formed Jefferson SDA.
9/2014	Senate Bill (S.B.) 7, 83rd Legislature, Regular Session, 2013	STAR+PLUS expanded to the Medicaid Rural Service Areas, integrating acute care and long-term services and supports for individuals 65 and older and those with disabilities. Most adults with intellectual and developmental disabilities (IDD) being served through one of the 1915(c) waivers for individuals with IDD or living in a community-based Intermediate Care Facility (ICF)/IID began receiving acute care services through STAR+PLUS. Mental health rehabilitation and mental health targeted case management services carved into MMC.
3/2015	S.B. 58, 83rd Legislature, Regular Session, 2013	Nursing facility services now delivered through the STAR+PLUS managed care model to most adults age 21 and over.
3/2015		HHSC implemented the Texas Dual Eligible Integrated Care Project (known as the Dual Demonstration), a fully integrated managed care model for individuals enrolled in Medicare and Medicaid.
2016	S.B. 7, 83rd Legislature, Regular Session, 2013	HHSC will implement a new MMC program, STAR Kids, for children with disabilities, including children who are receiving benefits under the Medically Dependent Children Program.

STAR Program

The STAR MMC program provides healthcare services primarily to low-income children, families, and pregnant women. Under the Program, STAR was expanded in March 2012 to the Hidalgo service delivery area (SDA) and the Central, Northeast, and West Medicaid Rural Service Areas (MRSAs), replacing the Primary Care Case Management (PCCM) Medicaid service delivery model in those areas. Both before and after the MMC expansion, a small number of Medicaid clients in the Hidalgo SDA and MRSA remained in the traditional Medicaid fee-for-service (FFS) delivery model.

STAR+PLUS Program

The Medicaid STAR+PLUS program provides acute care services plus long-term services and supports (LTSS) by integrating primary care, pharmacy services, and LTSS for individuals who are age 65 or older or who have a disability. LTSS includes services such as attendant care and adult day activities and health services. In March 2010, STAR+PLUS was expanded under the Program to the Hidalgo, El Paso, and Lubbock SDAs, replacing the PCCM Medicaid service delivery model. In September 2014, it was further expanded to the Central, Northeast, and West MRSAs. Enrolling in the STAR+PLUS MMC program was optional for STAR+PLUS eligible children who previously received services in the traditional Medicaid FFS delivery model. As with the STAR population, before and after the MMC expansion, a small number of Medicaid clients in the new SDAs remained in the Medicaid FFS delivery model.

Children's Medicaid Dental Program

Children's Medicaid Dental program services are provided through MMC for most children and young adults through age 20. Members receive, through a main dentist, routine preventive, diagnostic, urgent, and therapeutic services. Medicaid clients who are age 21 and over, reside in a Medicaid-paid facility (e.g., nursing home, state supported living center, etc.), or are STAR Health clients are not eligible to participate in the Children's Medicaid Dental program and continue to receive dental services through their existing service delivery models.

DESCRIPTION OF EVALUATION GOALS

Research questions included in the evaluation of MMC expansion are associated with four interrelated program goals.

Goal Summaries

The Program has defined goals to improve the cost, quality, coordination and access of Medicaid services. Therefore, the evaluation of MMC expansion was designed to examine the impact of

MMC expansion on access to care, coordination of care, quality of care, efficiency of care, and cost of care. Specifically, the evaluation goals are the following:

- **Evaluation Goal 1:** Evaluate the extent to which *access to care* improved through managed care expansion to new STAR and STAR+PLUS SDAs, dental services, and pharmacy services.
- **Evaluation Goal 2:** Evaluate the extent to which *coordination of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs.
- **Evaluation Goal 3:** Evaluate the extent to which *quality of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs, dental services, and pharmacy services.
- **Evaluation Goal 4:** Evaluate the extent to which *efficiency improved and cost decreased* through managed care expansion to new STAR and STAR+PLUS SDAs, and dental services.

The literature examining the impact of managed care on these evaluation goals is expansive. The next four sections briefly summarize the background literature as it relates to each of the aforementioned evaluation goals.

Evaluation Goal 1: Access to Care

Conceptualizing and operationalizing healthcare access is essential for health policy to monitor the effectiveness of various programs and/or interventions in improving health outcomes (Donabedian, 1980). Although there is no systematic definition or measurement of healthcare access, Donabedian (1980) defines accessibility of care as the ease with which care is initiated and maintained. Furthermore, Anderson (2007) proposed a conceptual framework of healthcare access which focuses on describing and measuring the relationships between the health service system, the population served, and health outcomes. One of the most measured relationships is between access to ambulatory care and avoidable hospitalization due to ambulatory care sensitive conditions (ACSC) (Rosano et al., 2012).

MMC and Access

Increasingly, states are enrolling Medicaid populations into MMC to allow for greater accountability for health outcomes, to improve beneficiary healthcare access, to improve care management, and to control costs (Medicaid and CHIP Payment and Access Commission, 2011). However, while states have data necessary to manage their MMC programs, there is not sufficient national data available to determine whether, on a national level, these programs result in improved quality and access to care (Medicaid and CHIP Payment and Access Commission, 2011). Most research focuses on the impact of managed care on individual states, and given the uniqueness of each state's populations and the variety of managed care programs in terms of structure and scope, generalizations across states are difficult (Kaiser Family Foundation, 1995). There is little empirical evidence to suggest that MMC results in significant Medicaid program savings or increases recipient access to care (Hurley, Freund, & Paul, 1993).

Research to determine whether MMC is associated with increased access to care often explores utilization of healthcare services. A study examining California's transition from FFS to MMC found that among all Temporary Assistance to Needy Families (TANF)-eligible Medicaid beneficiaries in California, there was a 33 percent lower rate of hospitalizations for ambulatory care sensitive conditions, suggesting that MMC may be associated with improvements in access to ambulatory care (Bindman, Chattopadhyay, Osmond, Huen, & Bacchetti, 2005).

Evaluation Goal 2: Coordination of Care

While there is no standard definition of "care coordination," it is often contrasted against case management programs, yet in reality, they exist along a continuum, with some features more or less dominant depending on program structure. The nature of care coordination is to promote coordination of social support and medical services across different organizations and providers (United Hospital Fund, 2014).

Grabowski (2014) describes a conceptual framework containing multiple levels of payers and providers in healthcare (see Figure 2.1), where the coordination of care at the financing level relates directly to the financing and payment of those services. The financing level consists of federal government, state government, and healthcare providers. Coordination at the financing level leads to integrated policies and cost shifting that may introduce stronger incentives to improve patient care coordination at the delivery level.

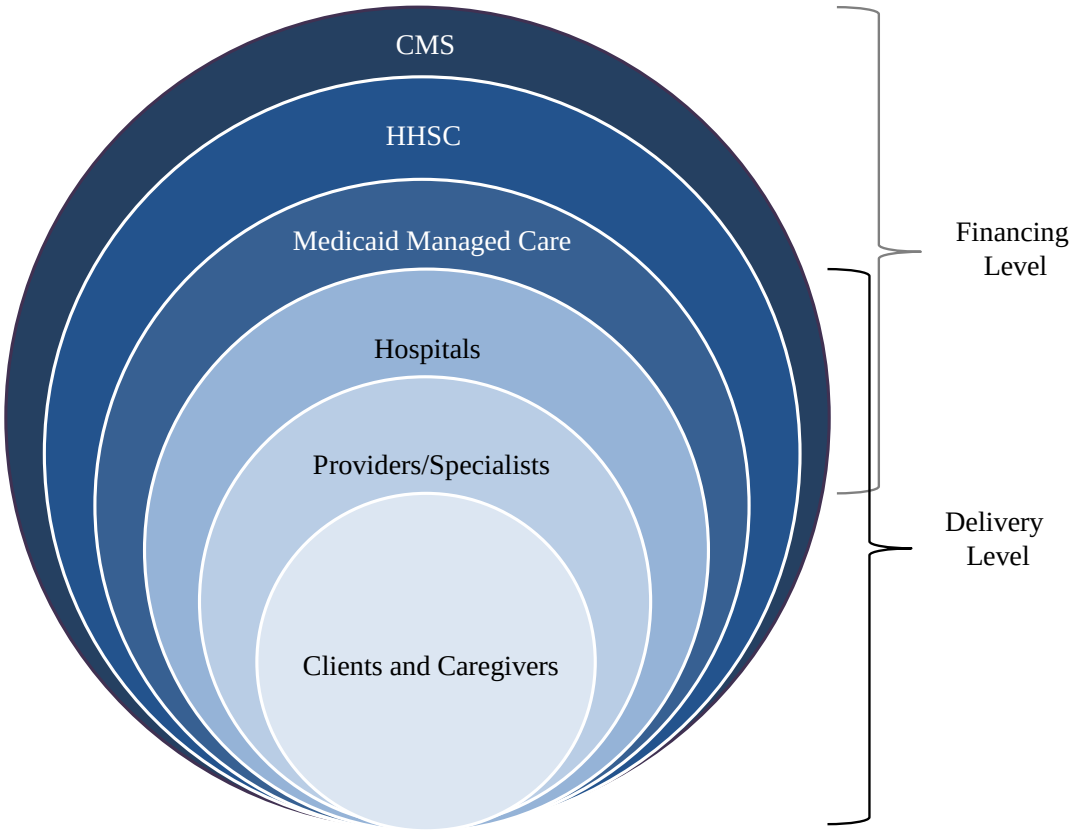
The delivery level consists of healthcare providers, clients, and caregivers. At the delivery level, the coordination of financing and payment can be thought of as necessary, but not sufficient, conditions for the coordination of health services. Examples of care coordination at the delivery level are case management, patient education, and shared patient health information.

Visualizing how multiple payers coordinate may provide perspectives on how conflicting provider incentives lead to negative implications for cost containment, service delivery, and quality of care, thus eroding care coordination at the client level. The fundamental issue is that the actions of one payer may affect the costs and outcomes of patients covered by other payers. However, without an alignment in payment and financing in which providers can internalize the cost and benefits of their actions, there is little reason any coordination would be sustainable (Grabowski, 2014).

Since the Program impacted selected segments of the financing level, the evaluation will focus on the delivery level where most of the care coordination in Texas might include: "case management, team-based care models, patient education, management of care transitions, communication protocols for providers, and shared clinical and social information" (Texas Health and Human Services Commission, 2015a). Care coordination is a service available to recipients of MMC, including eligible members in STAR, STAR+PLUS, STAR Health, and the Children's Health Insurance Program (CHIP).[9]

[9] This service is called *Service Management* in STAR and CHIP and *Service Coordination* in STAR Health.

Figure 2.1. Conceptual Framework:
The Role of Financing and Healthcare Delivery in Care Coordination



Care coordination includes working with individuals and families to develop a plan of care to meet the needs of the individual and to coordinate the services of the managed care organization (MCO). In a State Fiscal Year (SFY) 2012 STAR Adult Member Survey, nearly two out of three members reported that they had someone helping to coordinate their healthcare (61 percent). Among these members, a vast majority reported that they were satisfied or very satisfied with the assistance they received (93 percent).

Although there is no systematic definition and measurement, the goal of evaluation would be to quantify both the direction and the size of the effects of coordination of care. The concept of "coordination of care" will be measured (operationalized) by monitoring member perceptions of care coordination and comparing to baseline years.

Evaluation Goal 3: Quality of Care

In addition to examining the impact of the Program on access to and coordination of care, the evaluation of the Program aimed to examine the extent to which quality of care improved through MMC expansion to new STAR and STAR+PLUS SDAs, dental services, and pharmacy services. Since 1991, Texas has utilized MMC as a strategy to deliver quality healthcare to

clients while containing costs. MCOs in Texas Medicaid are required to "operate quality assessment and performance improvement programs…[to] evaluate performance, use objective quality standards, foster data-driven decision-making, and support programmatic improvements" (Texas Health and Human Services Commission, v. 2.3).

Quality of care and *healthcare quality* are terms commonly used throughout the healthcare industry. For purposes of this brief literature review the broad term, *quality*, will be used. The World Health Organization definition of quality includes six dimensions. Quality healthcare must be effective, efficient, accessible, acceptable/patient-centered, equitable, and safe (World Health Organization, 2006). Donabedian (1980) further describes that quality has two parts, technical and interpersonal. On a technical level, healthcare must provide services that maximize the benefits to the individual without increasing adverse risks. Several standardized quality measures have been developed to measure to what extent healthcare services provided increased positive outcomes, thereby improving quality.

Quality Measures

There are several quality indicators, metrics, and measures used to measure quality throughout the healthcare industry. The term, *measures*, will be used to collectively refer to the myriad of methods through which quality is operationalized and reported.

- **Healthcare Effectiveness Data and Information Set (HEDIS®)** was adopted by the National Committee for Quality Assurance (NCQA) as a standard of performance measures used by more than 90 percent of national health plans. HEDIS® measures focus on preventive and primary care services for defined populations of health plan enrollees. Specifically, this set of 81 performance measures across five domains focuses on a broad range of health services for defined populations (National Committee for Quality Assurance, n.d.). HEDIS® measures focus on the technical delivery of healthcare.
- **Consumer Assessment of Healthcare Providers and Systems (CAHPS®)** was developed by the Agency for Healthcare Research and Quality (AHRQ) to standardize patient surveys that can be used to compare results across sponsors over time. CAHPS® surveys ask patients to report on their experiences with a range of health care services at multiple levels of the delivery system (Agency for Healthcare Research and Quality, n.d.a.) and complement HEDIS® measures as they address the interpersonal aspect of quality (Donabedian, 1980).
- **Prevention Quality Indicators™** were developed by the AHRQ to measure quality of care related to specific "ambulatory care sensitive conditions" (ACSC) (Agency for Healthcare Research and Quality, n.d.b.). These indicators utilize hospital discharge data and are considered to be a measure of the quality of the healthcare system.
- **3M™ Software for Potentially Preventable Events** was created for three different product lines: 3M™ Potentially Preventable Readmissions, 3M™ Potentially Preventable Complications, and 3M™ Population-focused Preventables (3M™ Health Information Systems, 2015). This proprietary software utilizes inpatient hospital data to group events by severity and identify events that are potentially preventable with high quality healthcare.[10]

[10] http://solutions.3m.com/wps/portal/3M/en_US/Health-Information-Systems/HIS/Products-and-Services/Products-List-A-Z/PPR-and-PPC-Grouping-Software/

These measures were created to operationalize and measure very specific aspects of the healthcare delivery process, but do not necessarily capture all aspects of healthcare quality itself. Donabedian (2005) notes the complex nature of quality and suggests that existing measures are often too narrowly defined and leave out key aspects of quality, including the patient-physician relationship. Texas utilizes a variety of indicators, including those listed above, to measure quality in the MMC programs.

Quality and Managed Care

While quality measures such as these are widely used by insurance companies, including Medicaid MCOs, there is scarce research and varied results as to whether MMC improves quality as compared to other healthcare service delivery models, such as FFS and PCCM (Sparer, 2012). In a review of existing literature regarding MMC, results regarding improved quality in MMC were mixed (Sparer, 2012). One reason may be that healthcare occurs within a complex system that is not fully controlled by the MCOs (Donabedian, 2005; Paradise & Garfield, 2013; Sparer, 2012).

While overall improvement in quality in MMC has been difficult to determine through the literature, a specific area to consider is hospitalizations. MMC is designed to increase primary and preventive care and decrease higher cost care, such as hospitalizations (Sparer, 2012). ACSCs are conditions in which the receipt of appropriate ambulatory care would prevent or reduce the need for an admission to the hospital (Agency for Healthcare Research and Quality, n.d.c). These conditions were developed from a set of medical conditions called "sentinel health conditions," identified by Rutstein and colleagues in the mid-1970s (Porell, 2001). Research on the California MMC program has found that clients in MMC have lower rates of hospitalizations for ACSC as compared to clients in FFS (Bindman, Chattopadhyay, Osmond, Huen, & Bacchetti, 2005).

The same focus on prevention occurs in MMC for dental services. While less mature than MMC for physical health (Hunt & Aravamudhan, 2014), MMC for oral health follows a similar model with a focus on prevention and use of incentive payments (Snyder, 2015).

Texas MMC Program

The Texas MMC program strives to deliver high quality medical care by focusing on preventive care and early intervention to avoid preventable hospitalizations and unnecessary visits to the emergency department (ED) (Texas Health and Human Services Commission, v. 2.3). HHSC has a comprehensive Medicaid Quality Strategy and, as required by federal law, contracts with an External Quality Review Organization (EQRO) to provide monitoring and evaluation activities with respect to MMC (Texas Health and Human Services Commission, v. 2.3). The EQRO provides regular reports regarding certain quality measures, such as potentially preventable admissions and client satisfaction with care. The Texas Healthcare Transformation and Quality

Improvement Program Quality Improvement Strategy (REF HHSC 2014)[11] outlines the financial incentive programs through which MCOs receive payments based on performance measures. In addition, MCOs are assessed at regular intervals by the External Quality Review Organization (EQRO) and must meet minimum HHSC Dashboard Standards (Texas Health and Human Services Commission, 2.3).

Quality of healthcare is a difficult concept to operationalize and measure in a comprehensive way, but plays an important role in the measurement of performance and evaluation of MMC throughout the United States and Texas. Analyzing quality of care outcomes before and after MMC expansion in Texas provides an opportunity to compare quality of care for Medicaid clients under different service delivery models.

Evaluation Goal 4: Efficiency and Cost

Since the early 1990s, the majority of Medicaid clients have shifted from FFS to MMC in Texas and throughout the United States (Courtot, Coughlin, & Lawton, 2012). In SFY 2013, eighty (80) percent of Texas Medicaid clients were in MMC (Texas Health and Human Services Commission, 2015a). Duggan and Hayford (2013) determined there was a nation-wide increase from 11 percent to 71 percent in MMC enrollment from 1991 to 2009. Sparer (2012) also found a similar proportion of Medicaid clients in MMC nationwide, however only approximately 20 percent of the Medicaid spending was through MMC. Sparer (2012) suggests that this phenomenon was due to the fact that the majority of MMC clients are relatively healthy, low-income, children and families, rather than clients with greater healthcare needs such as the aged, blind, and disabled populations. However, current trends towards moving these "greater need" populations into MMC may further change Medicaid spending.

While MMC shifts the responsibility of healthcare coordination and delivery to MCOs, not all services are the responsibility of the MCO. Certain services are often carved out of MMC and are delivered through FFS or through separate MCOs that focus on providing a particular type of care, such as dental care. Courtot et al. (2012) found that services were carved out for a variety of reasons including the following:

- MCOs have less experience providing certain types of services (e.g., long-term facility care).
- Some services are provided by other state agencies (e.g., mental health, substance abuse).
- Medicaid agencies have concerns about access to care for particular services.

Their study identified both positive and negative aspects regarding carve-outs, including care coordination and cost shifting among different providers.

The overall goal of MMC is to increase access to care, improve quality of care, and reduce costs (Government Accountability Office, 1993). MCOs are required to meet certain access to care requirements and, in theory, have an incentive to promote improved coordination of care, reduce

[11] http://www.hhsc.state.tx.us/1115-docs/DSRIP-Protocols.pdf

unnecessary utilization, and keep patients healthy overall (Duggan & Hayford, 2013). This rationale supporting MMC has influenced the shift of Medicaid clients from FFS to MMC (Holahan, Zuckerman, Evans, & Rangarajan, 1998).

Studies examining the nationwide impact of MMC on Medicaid spending have not found a decrease in spending nationally. However, statewide results have been mixed with some states seeing a savings while others seeing either no savings or an increase in cost (Duggan & Hayford, 2013; Sparer, 2012). States with higher FFS reimbursement rates tended to experience savings through implementation of MMC due to the capitation of premiums paid to the MCOs, while states with low reimbursement rates found little to no savings. While the literature indicates mixed results regarding the actual cost savings realized through an MMC delivery system, evidence does support the possibility of cost savings as higher need clients, such as the aged, blind, and disabled, are shifted to an MMC service delivery model (Sparer, 2012). For example, Harman, Lamak, Al-Amin, Hall, and Duncan (2011) found that Florida MMC had little impact on per member per month (PMPM) expenditures for clients without complex healthcare needs. The study did find evidence of savings for clients with greater healthcare needs.

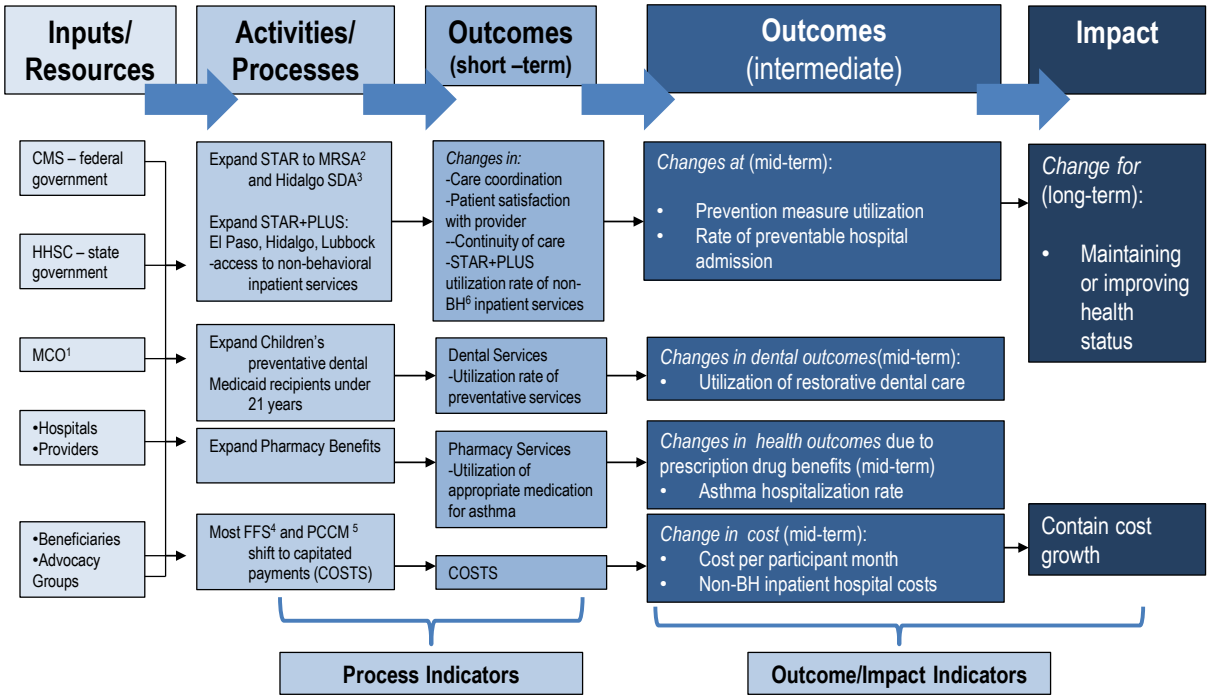
While the literature provides mixed results as to whether MMC reduces costs of patient care, there are measures in place at the MCO level to promote quality patient care while containing cost. The per member per month capitation structure of managed care provides an incentive for MCOs to provide more low-cost preventive care than more expensive hospital care, where possible. There are policies in place to ensure that MCOs spend the majority of the capitated payment on patient care, rather than on administrative costs, or retain for profit. The Medical Loss Ratio (MLR) is a component of the Patient Protection and Affordable Care Act (ACA) (2010), and the Experience Rebate (ER) is a financial model specific to Texas. Both of these policies were designed to ensure MCOs spend a minimum percentage of the capitated payment on patient care and limit MCO profit.

Examining the impact of the Program on cost of care and comparing MCO expenses under the MLR versus the ER methodologies will provide Texas with valuable information about program successes and opportunities for improvement.

EVALUATION DESIGN AND RESEARCH QUESTIONS

Given the Program expansion activities described in the Program description, this evaluation includes measures on short-term outcomes (process indicators), intermediate outcomes (health outcome indicators), and cost outcome indicators (see Figure 2.2). Process indicators include measures of care coordination, member satisfaction, and preventive care-specific clinical processes shown to be associated with favorable clinical outcomes. Health outcome measures include measures of clinical outcomes that are associated with process indicators. Finally, cost outcome indicators include measures associated with process and health outcome indicators, reflecting changes due to those measures and spending requirements/profit restrictions imposed on MCOs. These process, health, and cost indicators directly relate to the four evaluation goals.

Figure 2.2. Logic Model for the Medicaid Managed Care Expansion Intervention



[1] MCO = Managed Care Organization, [2] MRSA = Medicaid Rural Service Area, [3] SDA = Service Delivery Area, [4] FFS = Fee-for-Service, [5] PCCM = Primary Care Case Management, [6] BH = Behavioral Health

Over the five-year demonstration period, Texas anticipates that changes will first be observed in process outcomes and then in intermediate outcomes in later demonstration years. By monitoring process outcomes, Texas expects to reduce the likelihood of false negative results due to the time period for detecting any health outcome being too short. The primary focus of the interim report is on the process and cost indicators. For the final report there will be a greater focus on short and intermediate outcome indicators.

Even though the overarching long-term impact is to maintain or improve health outcomes while containing cost growth, Texas will focus on evaluating each process and associated health outcome. The advantage of this strategy enables Texas and CMS to examine differences among specific health benefits (e.g., non-behavioral health hospitalizations) in order to identify which benefit(s) may be making the greatest positive impact and which health benefit(s) needs improvement.

Process Indicators

Evaluation questions specifically having to do with process indicators are described below. Two of the initial process questions and three new process questions that were added after amendments will be addressed in the final report.

- Did expansion of STAR to the Hidalgo SDA and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impact access to care for the target population?
- What was the impact (access, quality of care, and program costs) of including non-behavioral hospital inpatient services to STAR+PLUS program?
- Has the utilization of preventative (and care coordination) of dental services for children age 20 years and younger changed as a result of the expansion?
- Has the carve-in of pharmacy benefits into capitated managed care impacted access to care for the target population? (FINAL REPORT)
- Did expansion of STAR and STAR+PLUS to new service delivery areas impact care coordination for the target population? (FINAL REPORT)
- What was the impact of carving in behavioral health services to STAR and STAR+PLUS on quality of care as compared to the carving out of behavioral health services in the NorthSTAR 1915(b) waiver program? (FINAL REPORT)
- What was the impact of carving in nursing facility services on quality of care? (FINAL REPORT)
- Did the behavioral health services carve-in impact care coordination as compared to the carving out of behavioral health services under the NorthSTAR program? (FINAL REPORT)

Intermediate Health Outcome Indicators

Evaluation questions specifically having to do with health outcome indicators are described below.

- Did the expansion of STAR and STAR+PLUS to the new SDAs reduce preventable ED visits and hospitalizations over the demonstration period for the target population?
- Have dental MCOs reduced restorative dental care to the target population (children) over the demonstration period? (FINAL REPORT)
- Has the carve-in of pharmacy benefits into STAR and STAR+PLUS reduced the number of hospital admissions due to an acute asthmatic event? (FINAL REPORT)

Cost Outcome Indicator

The evaluation question specifically having to do with cost outcome indicators is described below.

- How does Texas' ER provision compare to MLR regulations as a strategy to ensure that managed care plans spend an appropriate amount of their premium revenue on medical expenses? Specifically, would the MCOs return approximately the same amounts to Texas under a MLR requirement as under the ER, or would the results differ?

Table 2.2 describes how the process and outcome indicators are related to the four program goals.

Table 2.2. Process and Outcome Indicators of Evaluation and Program Goals

	Evaluation Questions	Goal 1: Access to care	Goal 2: Coordination of Care	Goal 3: Quality of Care	Goal 4: Efficiency and Cost of Care
Process Indicators	Did expansion of STAR to Hidalgo service delivery area (SDA) and Medicaid Rural Service Areas; and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impact access to care for the target population?	X			
	What was the impact (access, quality of care, and program costs) of including non-behavioral health inpatient services in the STAR+PLUS program?	X		X	X
	Has the utilization of preventive (and care coordination) of dental services for children age 20 years and younger changed as a result of the expansion?	X		X	
	Has the carve-in of pharmacy benefits into capitated managed care impacted access to care for the target populations?	X			
	Did expansion of STAR and STAR+PLUS to new SDAs impact care coordination for the target populations?		X		
	What was the impact of carving in behavioral health services to STAR and STAR+PLUS on quality of care as compared to the carving out of behavioral health services in the NorthSTAR 1915(b) waiver program?			X	
	Did behavioral health services carve-in impact care coordination as compared to the carving out of behavioral health services under the NorthSTAR 1915(b) waiver program?		X		
	What is the impact of the STAR+PLUS nursing facility carve-in on quality of care?			X	
Intermediate Health Outcomes	Did expansion of STAR to Hidalgo SDA and STAR+PLUS to the new SDAs reduce preventable Emergency Room visits and hospitalizations over the demonstration period for the target population?			X	
	Have dental Managed Care Organizations (MCOs) reduced restorative dental care to the target population over the demonstration?			X	
	Has the carve-in of pharmacy benefits into STAR and STAR+PLUS reduced the number of hospital admissions due to an acute event?			X	
Cost Outcomes	How does Texas' Experience Rebate provision compare to Medical Loss Ratio regulations as a strategy for ensuring that MCOs spend an appropriate amount of their premium revenue on medical expenses?				X

OVERALL METHODOLOGY

The research design selected for the MMC expansion evaluation uses the best available information to cost-effectively address the evaluation questions.

Overview

Due to concerns over establishing adequate comparison group(s), a pre- and post- MMC expansion design was developed to evaluate the expansion of the MMC program into the new SDAs. A pre- and post-design involved collecting information only on the expanded service areas (Hidalgo, El Paso, Lubbock, and MRSAs) and included analyses at the member, county, MCO, or SDA-level. The maps included in Chapter 1 (Figures 1.1-1.5) show the managed care landscape in Texas before and after expansion. For the purpose of the evaluation, federal fiscal year (FFY) is used as the analysis period because it corresponds with waiver demonstration year (DY).

Data at two time points were examined for the interim report:

- Pre-Program (FFYs 2009-2011) – Data collected before the MMC expansion will provide baseline data. Baseline data are ideally defined as data 3-years prior to MMC expansion (under FFS system or PCCM).
- Post-Program (FFYs 2012-2013) – This includes data collected by DY after MMC expansion.

Unless specified, data were collected to monitor and track process outcomes (short-term) and health outcomes indicators (intermediate outcomes) over the demonstration period (see Figure 2.2). However, it is important to note that a pre/post expansion design does not provide direct evidence that would allow program officials or policy makers to attribute any specific changes to the Program. Because it uses cross-sectional data, it does not provide strong evidence for cause and effect. Any findings would be limited to associations only.

Data Sources

The data collected to examine the impact of the MMC program expansion statewide for the interim report come from two basic sources. This section describes the data sources used to evaluate MMC expansion under the Program.

- **FFS Claims and MMC Encounter Data.** FFS claims and MMC encounter data have been processed by Texas Medicaid and Healthcare Partnership (TMHP) since January 1, 2004. TMHP perform internal edits for data quality and completeness. The member-level claims/encounter data contain the Current Procedural Terminology (CPT) codes and the International Classification of Diseases, 9th Revision (ICD-9-CM) codes, place of service (POS) codes, and other information necessary to calculate the quality of care indicators.

There is a six-month time lag for claims and encounter data. Prior analyses with Texas data showed that, on average, over 96 percent of the claims and encounters are complete by that time period.

- **Member-level enrollment files -** The enrollment files contain information about the person's age, gender, race/ethnicity, county, the MCO in which the member is enrolled, and the number of months the member has been enrolled in the program.
- **Member-level pharmacy data -**The member-level pharmacy data contain information about filled prescriptions, including the drug name, does, date filled, number of days prescribed, and refill information.

Inclusion/Exclusion Study Population Variables and Methodology

STAR Program

Inclusion criteria for the STAR population were determined according to the Medicaid Population Eligibility Criteria (Appendix M in the Maximus Medicaid Managed Care and CHIP Joint Interface Plan (2015)).[12] The member-level enrollment files were used to obtain data regarding Medicaid clients. Initial queries pulled all Medicaid clients from FFY08 through FFY13. The STAR population was then narrowed to Medicaid Category 2, meaning they qualified for Medicaid due to low income. Specific program types comprise the STAR population, including programs for children, low-income families, pregnant women, and transitional Medicaid. The STAR population for this evaluation was limited to the MMC expansions areas, the Hidalgo MRSA Central, MRSA Northeast, and MRSA West SDA.

Certain Medicaid clients in Category 2 and qualifying program types in the MMC expansion areas were excluded from the STAR population. Based on risk group, clients enrolled in STAR in error, those with eligibility under investigation, and clients enrolled in both Medicaid and Medicare were excluded from the STAR population. Additionally, children who ever received Medicaid services through STAR Health, an MMC program for children in foster care, were excluded from the STAR population.

Enrollment

The member-level enrollment files are considered to be final because they contain all client retroactivity and consist of one row per client per month of enrollment.[13] Therefore, for any given year that a client is in Medicaid, they may have one to twelve rows in the file, depending on the number of months they were enrolled. Each month of enrollment counts as a member-month. To determine the number of clients in the STAR population per year and SDA, a count of unique clients was utilized, regardless of the number of months the client was enrolled during that year.

[12] The STAR population collectively refers to the pre-Program STAR-like clients and the post-Program STAR clients. The same inclusion/exclusion criteria were used to identify both groups. STAR-like clients would have been in STAR, if it had been available in those areas at that time.

[13] The Eight Month Eligibility File contains monthly enrollment data for Medicaid clients. The file lags eight months behind the current month and reflects changes in Medicaid eligibility applied retroactively.

The length of continuous enrollment represents the longest single period of continuous enrollment in Medicaid during the measurement year (FFY: October through September). For example, if a client was enrolled in Medicaid November through April (six months), not enrolled in May and June, but then re-enrolled July through September (three months), their longest period of continuous enrollment is six months. Tables 2.3 through 2.6 provide data on length of continuous enrollment for each SDA in the STAR evaluation.

Demographics

As described above, Medicaid clients were listed for each month of enrollment in the member-level enrollment files. Given this, demographic information such as gender, age, race/ethnicity, and county was recorded each month. To determine the demographic characteristics of the STAR population, the gender, age, race/ethnicity, and county as of the first month of enrollment for each year were utilized.

Medicaid Program Type

Regardless of the service delivery model through which the clients received Medicaid services, the STAR population was all Medicaid Category 2, indicating they qualified for Medicaid due to low income. Beyond category, Medicaid clients were also enrolled into a certain program type, depending on age and circumstances. Program types included those specific to infants, children, caretakers of children, pregnant women, and those receiving transitional services (e.g., Medicaid benefits that continue after TANF benefits expire).[14] Programs types can change over time. Therefore, as with the demographics, the first program type as of the first month of enrollment for each year was utilized.

Medicaid Service Delivery Model

Three Medicaid service delivery models were available throughout the study period: FFS, PCCM, and MMC. The Medicaid service delivery model was recorded for clients each month in the member-level enrollment files and could change from month-to-month, particularly for new Medicaid enrollees or those whose enrollment had lapsed. For this reason and because of differences in funding among the three models, the service delivery model was reported in member months.

Medicaid services in the Hidalgo SDA and MRSAs were delivered through FFS and PCCM during the pre-Program period, prior to the expansion of MMC in March 2012. With implementation of the Program, PCCM was phased out and replaced with MMC in March 2012. Since the roll-out of MMC did not align with the start of the Program, PCCM remained for five months in the post-Program period.

[14]Caretakers are: "a parent or relative caretaker of a dependent child(ren) under age 19, blind, have a disability or a family member in your household with a disability, or be 65 years of age or older." From Benefits.gov: Texas Medicaid, http://www.benefits.gov/benefits/benefit-details/1640, July 6, 2015

STAR+PLUS Program

Inclusion criteria for the interim evaluation STAR+PLUS study population was determined according to the Medicaid Population Eligibility Criteria (Appendix M in the Maximus Medicaid Managed Care and CHIP Joint Interface Plan (2015)).[15] The member-level enrollment files were used to obtain data regarding Medicaid clients. Medicaid clients were identified as STAR+PLUS eligible if they were categorized as aged, blind, or disabled from FFY09 through FFY13 and residing in Hidalgo, Lubbock, or El Paso SDA The STAR+PLUS population is comprised of individuals in specific program types, including programs for SSI and SSI-related recipients and individuals requiring medical assistance.

Members who were eligible for both Medicaid and Medicare (i.e., dual-eligibles) and members who received benefits in previous fiscal years were excluded. Although, dual eligible members represent the majority of enrollees for each SDA, data regarding aspects of their care covered by Medicare (e.g., hospitalizations and prescription drugs) were unavailable to HHSC, thus including dual-eligibles may underestimate utilization patterns.

Enrollment

The member-level enrollment files are considered to be final because they contain all client retroactivity and consist of one row per client per month of enrollment.[16] Therefore, for any given year that a client is in Medicaid, they may have one to twelve rows in the file, depending on the number of months they were enrolled. Each month of enrollment counts as a member-month. To determine the number of clients in the STAR+PLUS population per year and SDA, a count of unique clients was utilized, regardless of the number of months the client was enrolled during that year.

The length of continuous enrollment represents the longest single period of continuous enrollment in Medicaid during the measurement year (FFY: October 1 through September 30). Tables 2.7 through 2.9 provide results on length of continuous enrollment for each SDA in the STAR+PLUS evaluation.

Demographics

Medicaid clients were listed each month of enrollment in the member-level enrollment files. Given this, demographic information such as gender, age, race/ethnicity, and county were recorded each month. To determine the demographic characteristics of the STAR+PLUS population, demographics as of the first month of enrollment for each year were utilized.

[15] The STAR+PLUS population collectively refers to the pre-Program STAR+PLUS-eligible clients and the post-Program STAR+PLUS clients. The same inclusion/exclusion criteria were used to identify both groups.

[16] The Eight Month Eligibility File contains monthly enrollment data for Medicaid clients. The file lags eight months behind the current month and reflects changes in Medicaid eligibility applied retroactively.

Medicaid Service Delivery Model

Three Medicaid service delivery models were available throughout the study period: FFS, PCCM, and MMC. Medicaid service delivery model was recorded for clients each month in the member-level enrollment files and could change from month-to-month, particularly for new Medicaid enrollees or those whose enrollment had lapsed. For this reason and differences in funding among the three models, the service delivery model was reported in member months.

Medicaid services in the Hidalgo SDA and MRSAs were delivered through FFS and PCCM during the pre-Program period, prior to the expansion of MMC in March 2012. With implementation of the Program, PCCM was phased out and replaced with MMC in March 2012. Since the roll-out of MMC did not align with the start of the Program, PCCM remained for five months in the post-Program period.

STUDY POPULATIONS

STAR Population

Collectively, these MMC expansion SDAs accounted for 174 of the 254 counties in Texas and an average of 1,041,307 clients per year from FFY09 though FFY13, the three years prior to through the first two years of the Program. Tables 2.3 through 2.6 describe the STAR population in the Hidalgo, MRSA Central, MRSA Northeast, and MRSA West SDAs.

Hidalgo STAR Population

The Hidalgo SDA is comprised of 10 counties along the United States - Mexico border. From FFY09–FFY13 (see Table 2.3), the following occurred.

- The STAR population increased from 413,267 to 452,274 clients with over 50 percent female.
- Forty (40) percent of STAR clients were 0–5 years, 50 percent were 6–20 years, and less than 10 percent were 21–64 years.
- Over 90 percent of clients were Hispanic.
- Approximately 6 percent pregnant women, 12 percent infants, 66 percent in children-specific programs, and 2 percent were transitional.
- There was an increase from 12 to 17 percent of clients from families eligible for TANF benefits.
- Clients continuously enrolled for 11–12 months increased from 49 percent to 59 percent.

Table 2.3. STAR Population Hidalgo Service Delivery Area by Federal Fiscal Year (FFY)[1]

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characteristic	Count	%	Count	%	Count	%	Count	%	Count	%
Member months	3,676,171		3,977,731		4,213,003		4,299,942		4,275,390	
Number of Medicaid Clients	413,267		433,223		453,502		456,685		452,274	
Gender										
Female	221,386	53.6	231,814	53.5	243,628	53.7	245,856	53.8	244,339	54.0
Age (years)										
0–5	176,624	42.7	181,093	41.8	184,244	40.6	181,694	39.8	177,214	39.2
6–14	151,892	36.8	161,981	37.4	167,679	37.0	169,277	37.1	169,554	37.5
15–20	54,150	13.1	58,625	13.5	62,278	13.7	63,433	13.9	62,471	13.8
21–64	30,601	7.4	31,523	7.3	39,300	8.7	42,281	9.3	43,035	9.5
Race/Ethnicity										
White	6,229	1.5	6,667	1.5	7,186	1.6	7,343	1.6	7,612	1.7
Hispanic	403,105	97.5	420,401	97.0	432,559	95.4	424,905	93.0	412,068	91.1
African-American	1,039	0.3	1,047	0.2	993	0.2	941	0.2	878	0.2
Other	2,894	0.7	5,108	1.2	12,764	2.8	23,496	5.1	31,716	7.0
Program Type[2]										
Pregnant Women	28,061	6.8	27,989	6.5	27,627	6.1	26,151	5.7	26,587	5.9
Infants	50,788	12.3	51,310	11.8	52,433	11.6	50,837	11.1	49,582	11.0
Children-specific programs	275,685	66.7	293,911	67.8	302,415	66.7	297,474	65.1	289,833	64.1
TANF[3]	49,095	11.9	51,979	12.0	63,197	13.9	74,750	16.4	75,717	16.7
Transitional	9,638	2.3	8,034	1.9	7,830	1.7	7,473	1.6	10,555	2.3
Length of Continuous Enrollment[4]										
1–6 months	140,730	34.1	131,671	30.4	133,143	29.4	124,188	27.2	119,898	26.5
7–10 months	71,370	17.3	68,889	15.9	67,794	14.9	67,206	14.7	64,755	14.3
11–12 months	201,167	48.7	232,663	53.7	252,565	55.7	265,291	58.1	267,621	59.2

[1] The STAR population collectively refers to the pre-Program STAR-like clients and the post-Program STAR clients. The same inclusion/exclusion criteria were used to identify both groups.

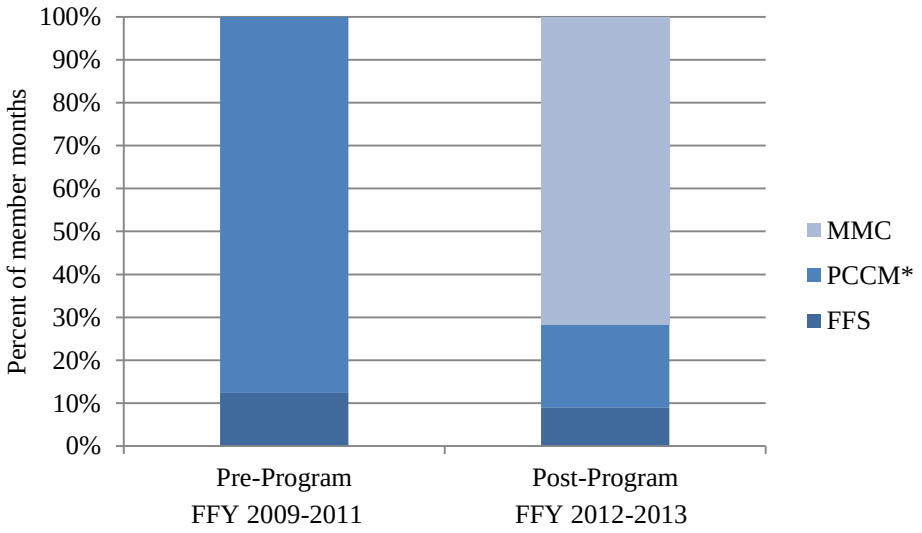
[2] Medicaid Program Types (TP): Pregnant women (TP40); Infants (TP43, TP45); Children (TP44, TP47, TP48); TANF (TP01, TP61); Transitional (TP07, TP20,

[3] Temporary Assistance for Needy Families (TANF).

[4] Longest single period of continuous enrollment during the measurement year.

During the pre-Program period (FFY09–FFY11) in the Hidalgo SDA, 12 percent of member months were in FFS and 88 percent in PCCM (see Figure 2.3). During the post-Program period, FFY12–FFY13, approximately nine percent of Hidalgo SDA member months were in FFS, 19 percent were in PCCM, and 72 percent were in MMC. In FFY13, approximately 8 percent of Hidalgo clients were in FFS and 92 percent were in MMC.

Figure 2.3. Percent of Member Months by Medicaid Service Delivery Model: Hidalgo Service Delivery Area by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM). Fee-for-Service (FFS). *PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period began.

MRSA Central STAR Population

MRSA Central is comprised of 31 counties in central Texas between the Austin and Dallas-Fort Worth metropolitan areas. MRSA Central had the smallest STAR population. From FFY09-FFY13 (see Table 2.4), the following occurred.

- The STAR population increased from 155,627 to 175,376 clients, with over 50 percent female.
- Over 40 percent were 0–5 years, 45 percent were 6–20 years, and 13 percent were 21–64 years.
- One third were White, one third were Hispanic, just over 20 percent were African-American, and the Other Race/Ethnicity category increased from 5 to 16 percent.
- The population included approximately 8 percent pregnant women, 13 percent infants, and 60 percent in children-specific programs.
- There was an increase of 13 to 18 percent, and from 2 to 3 percent in TANF transitional programs.
- Clients continuously enrolled 11–12 months increased from 36 percent to 44 percent.

Table 2.4. STAR Population Medicaid Rural Service Area Central by Federal Fiscal Year (FFY)[1]

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characteristic	Count	%	Count	%	Count	%	Count	%	Count	%
Member months	1,232,856		1,399,770		1,475,201		1,481,210		1,464,023	
Number of Medicaid Clients	155,627		169,086		175,922		177,154		175,376	
Gender										
Female	87,456	56.2	95,161	56.3	98,929	56.2	99,681	56.3	98,628	56.2
Age (years)										
0–5	68,850	44.2	72,622	43.0	74,323	42.3	73,876	41.7	72,340	41.3
6–14	48,959	31.5	53,706	31.8	56,632	32.2	58,069	32.8	58,442	33.3
15–20	19,347	12.4	20,874	12.4	21,709	12.3	21,536	12.2	21,012	12.0
21–64	18,471	11.9	21,884	12.9	23,258	13.2	23,673	13.4	23,582	13.5
Race/Ethnicity										
White	55,099	35.4	58,099	34.4	57,916	32.9	56,071	31.7	53,324	30.4
Hispanic	55,349	35.6	59,152	35.0	61,185	34.8	60,272	34.0	58,910	33.6
African-American	37,264	23.9	38,178	22.6	37,308	21.2	36,251	20.5	35,055	20.0
Other	7,915	5.1	13,657	8.1	19,513	11.1	24,560	13.9	28,087	16.0
Program Type[2]										
Pregnant Women	13,576	8.7	13,511	8.0	13,653	7.8	13,939	7.9	14,352	8.2
Infants	22,231	14.3	22,143	13.1	21,832	12.4	21,550	12.2	21,307	12.2
Children-specific programs	96,526	62.0	98,613	58.3	102,059	58.0	102,525	57.9	102,081	58.2
TANF[3]	20,464	13.2	31,323	18.5	33,046	18.8	33,540	18.9	31,796	18.1
Transitional	2,830	1.8	3,496	2.1	5,332	3.0	5,600	3.2	5,840	3.3
Length of Continuous Enrollment[4]										
1–6 months	69,417	44.6	67,076	39.7	67,519	38.4	68,868	38.9	67,597	38.6
7–10 months	30,042	19.3	30,311	9.7	30,492	17.3	30,332	17.1	30,219	17.2
11–12 months	56,168	36.1	71,699	42.4	77,911	44.3	77,954	44.0	77,560	44.2

[1] The STAR population collectively refers to the pre-Program STAR-like clients and the post-Program STAR clients. The same inclusion/exclusion criteria were used to identify both groups.

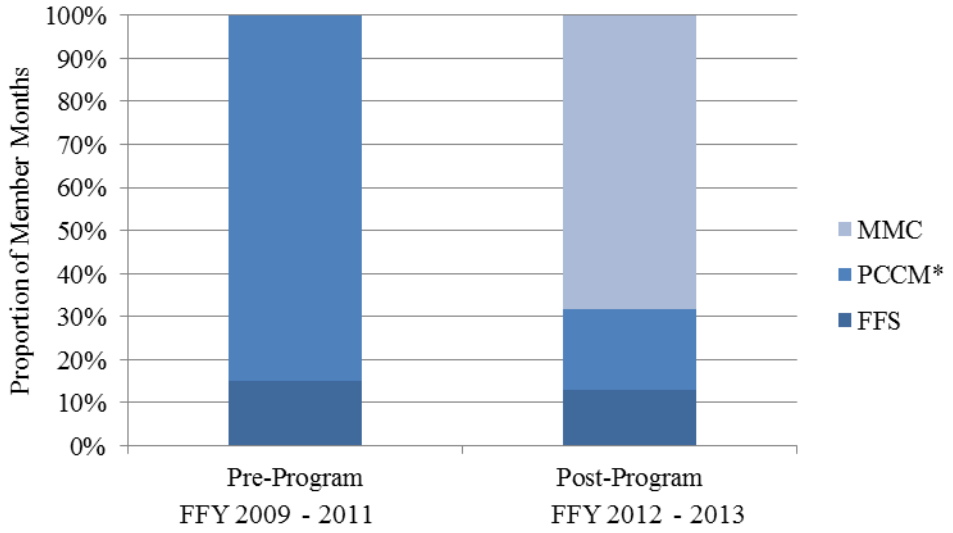
[2] Medicaid Program Types (TP): Pregnant women (TP40); Infants (TP43, TP45); Children (TP44, TP47, TP48); TANF (TP01, TP61); Transitional (TP07, TP20, TP29, TP37).

[3] Temporary Assistance for Needy Families (TANF).

[4] Longest single period of continuous enrollment during the measurement year.

Medicaid services in the MRSA Central were delivered through FFS and PCCM prior to the expansion of the STAR program in March 2012 (pre-Program period). The distribution of member months over each service delivery model was similar to that of the Hidalgo SDA. From FFY 2009–2011, 15 percent of member months were in FFS and 85 percent in PCCM (see Figure 2.4). During the post-Program period, FFY12–FFY13, approximately 13 percent of MRSA Central clients were in FFS, 19 percent were in PCCM, and 68 percent were in MMC. In FFY13, approximately 12 percent of MRSA Central clients were in FFS, and 89 percent were in MMC.

Figure 2.4. Percent of Member Months by Medicaid Service Delivery Model: Medicaid Rural Service Area Central by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM) Fee-for-Service (FFS). *PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period began.

MRSA Northeast STAR Population

MRSA Northeast is comprised of 34 counties in northeast Texas bordering Oklahoma, Arkansas, and Louisiana. The MRSA Northeast population was the most populous of the MRSAs. From FFY09–FFY13 (see Table 2.5), the following occurred.

- The STAR population increased from 195,919 to 226,517 clients.
- Fifty-six (56) percent of the clients were female.
- By age group 0–5 year-olds decreased from 46 to 41 percent, 6–20 year-olds remained at 46 percent, and 21–64 year-olds increased from 9 to 13 percent of the population.
- Whites decreased from 51 to 44 percent, Hispanics remained 24 percent, African-Americans decreased from 24 to 21 percent, and Other increased from 2 to 12 percent.

- There was change in the distribution of STAR clients in the following program types:
  - The percentage of pregnant women, infants, and clients in children-specific programs each decreased 2 to 7 percent, while the percentage of TANF families increased from 6 to 17 percent, and clients in transitional programs remained steady at approximately 2 percent.
- Clients continuously enrolled 11–12 months increased from 37 percent to 47 percent.

Table 2.5. STAR Population Medicaid Rural Service Area Northeast by Federal Fiscal Year (FFY)[1]

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characteristic	Count	%	Count	%	Count	%	Count	%	Count	%
Member months	1,567,498		1,778,952		1,932,452		1,963,957		1,947,371	
Number of Medicaid Clients	195,919		212,451		227,926		230,337		226,517	
Gender										
Female	108,731	55.5	117,036	55.1	126,783	55.6	128,580	55.8	126,585	55.9
Age (years)										
0–5	89,556	45.7	95,339	44.9	98,046	43.0	96,934	42.1	93,410	41.2
6–14	63,649	32.5	71,294	33.6	75,947	33.3	77,366	33.6	77,003	34.0
15–20	25,154	12.8	26,932	12.7	28,391	12.5	28,520	12.4	27,839	12.3
21–64	17,559	9.0	18,886	8.9	25,542	11.2	27,517	12.0	28,265	12.5
Race/Ethnicity										
White	99,179	50.6	106,801	50.3	110,553	48.5	106,097	46.1	99,966	44.1
Hispanic	46,389	23.7	52,055	24.5	54,918	24.1	55,139	23.9	54,033	23.9
African-American	46,674	23.8	48,059	22.6	48,947	21.5	47,297	20.5	45,310	20.0
Other	3,677	1.9	5,536	2.6	13,508	5.9	21,804	9.5	27,208	12.0
Program Type[2]										
Pregnant Women	19,564	10.0	19,717	9.3	18,965	8.3	18,552	8.1	18,961	8.4
Infants	30,072	15.4	30,400	14.3	30,078	13.2	28,480	12.4	27,929	12.3
Children-specific programs	132,470	67.6	146,941	69.2	151,121	66.3	141,207	61.3	137,012	60.5
TANF[3]	11,138	5.7	13,003	6.1	25,074	11.0	37,775	16.4	37,362	16.5
Transitional	2,675	1.4	2,390	1.1	2,688	1.2	4,323	1.9	5,253	2.3
Length of Enrollment[4]										
1–6 months	86,140	44.0	83,331	39.2	85,010	37.3	85,104	37.0	80,907	35.7
7–10 months	38,146	19.5	39,669	18.7	41,775	18.3	39,740	17.2	39,284	17.3
11–12 months	71,633	36.6	89,451	42.1	101,141	44.4	105,493	45.8	106,326	46.9

[1] The STAR population collectively refers to the pre-Program STAR-like clients and the post-Program STAR clients. The same inclusion/exclusion criteria were used to identify both groups.

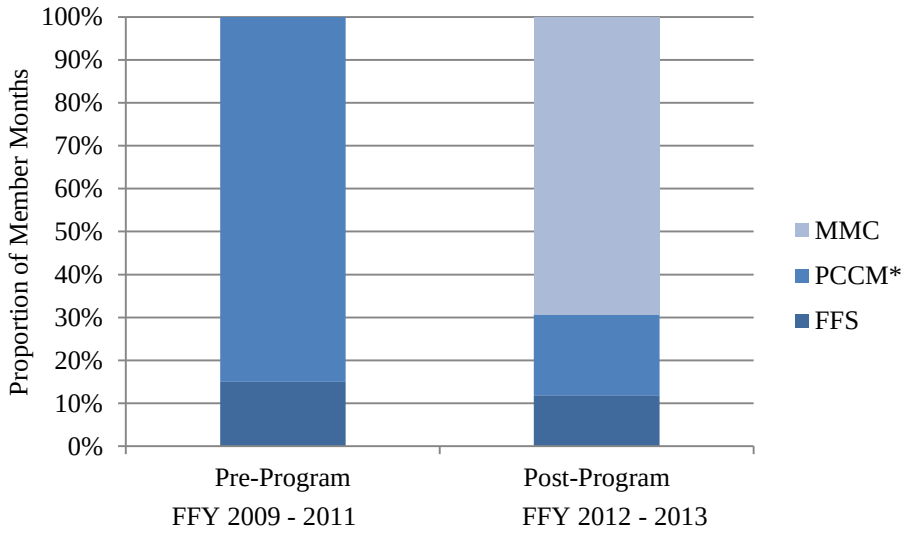
[2] Medicaid Program Types (TP): Infants (TP43, TP45), Children (TP44, TP47, TP48), TANF (TP01, TP61), Transitional (TP07, TP20, TP29, TP37); Pregnant women (TP40).

[3] Temporary Assistance for Needy Families (TANF).

[4] Longest single period of continuous enrollment during the measurement year.

The distribution of member months over each service delivery model was similar to that of the Hidalgo SDA and the other MRSAs. From FFY09–FFY11, 15 percent of member months were in FFS and 85 percent in PCCM (see Figure 2.5). During the post-Program period, FFY12–FFY13, approximately 12 percent of MRSA Northeast clients were in FFS, 19 percent in PCCM, and 69 percent in MMC. PCCM was in effect for the first five months of the post-Program period in FFY12. In FFY13, approximately 11 percent of MRSA Northeast clients were in FFS and 89 percent in MMC.

Figure 2.5. Percent of Member Months by Medicaid Service Delivery Model: Medicaid Rural Service Area Northeast by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM) Fee-for-Service (FFS). *PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period began.

MRSA West STAR Population

MRSA West is comprised of 99 counties covering the majority of west Texas, bordering Oklahoma, New Mexico, and Mexico. From FFY09–FFY13 (see Table 2.6), the following occurred.

- The STAR population increased from 204,265 to 211,266 clients.
- Fifty-six (56) percent of the clients were female.
- The age distribution increased slightly: 0–5 year-olds decreased from 45 to 42 percent, 6–20 year-olds remained at 46 percent, and 21–64 year-olds increased from 10 to 13 percent of the population.
- Whites decreased from 34 to 29 percent, Hispanics decreased from 58 to 52 percent, African-Americans remained 6 percent, and Other increased from 2 to 13 percent.
- There was change in the distribution of STAR clients in the following program types:

  - The percentage of pregnant women, infants, and clients in children-specific programs each decreased between 1 and 6 percent, while the percentage of TANF families increased from 6 to 15 percent, and clients in transitional programs remained steady at approximately 2 percent.
- Clients continuously enrolled 11–12 months increased from 35 percent to 41 percent.

Table 2.6. STAR Population Medicaid Rural Service Area West by Federal Fiscal Year (FFY) [1]

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characteristic	Count	%	Count	%	Count	%	Count	%	Count	%
Member months	1,602,164		1,771,130		1,829,870		1,790,902		1,720,818	
Number of Medicaid Clients	204,265		216,714		222,818		218,154		211,266	
Gender										
Female	114,002	55.8	120,123	55.4	124,201	55.7	122,259	56.0	118,977	56.3
Age (years)										
0–5	92,000	45.0	95,772	44.2	95,112	42.7	91,657	42.0	87,864	41.6
6–14	64,631	31.6	70,943	32.7	73,318	32.9	72,141	33.1	70,165	33.2
15–20	27,333	13.4	28,843	13.3	29,120	13.1	27,832	12.8	26,479	12.5
21–64	20,301	9.9	21,156	9.8	25,268	11.3	26,524	12.2	26,758	12.7
Race/Ethnicity										
White	68,694	33.6	72,454	33.4	72,228	32.4	66,958	30.7	62,199	29.4
Hispanic	118,018	57.8	123,683	57.1	122,505	55.0	115,289	52.9	108,752	51.5
African-American	13,336	6.5	13,582	6.3	13,541	6.1	12,998	6.0	12,348	5.8
Other	4,217	2.1	6,995	3.2	14,544	6.5	22,909	10.5	27,967	13.2
Program Type[2]										
Pregnant Women	22,241	10.9	21,286	9.8	20,310	9.1	19,969	9.2	20,451	9.7
Infants	31,673	15.5	31,141	14.4	29,737	13.4	28,439	13.0	28,275	13.4
Children-specific programs	133,645	65.4	144,863	66.9	144,242	64.7	131,411	60.2	125,294	59.3
TANF[3]	13,128	6.4	16,241	7.5	24,831	11.1	33,371	15.3	31,937	15.1
Transitional	3,578	1.8	3,183	1.5	3,698	1.7	4,964	2.3	5,309	2.5
Length of Continuous Enrollment[4]										
1 –6 months	93,609	45.8	89,377	41.3	90,240	40.5	88,497	40.6	86,324	40.9
7–10 months	40,175	19.7	41,515	19.2	41,744	18.7	39,856	18.3	38,605	18.3
11–12 months	70,481	34.51	85,822	39.6	90,834	40.8	89,801	41.2	86,337	40.9

[1] The STAR population collectively refers to the pre-Program STAR-like clients and the post-Program STAR clients. The same inclusion/exclusion criteria were used to identify both groups.

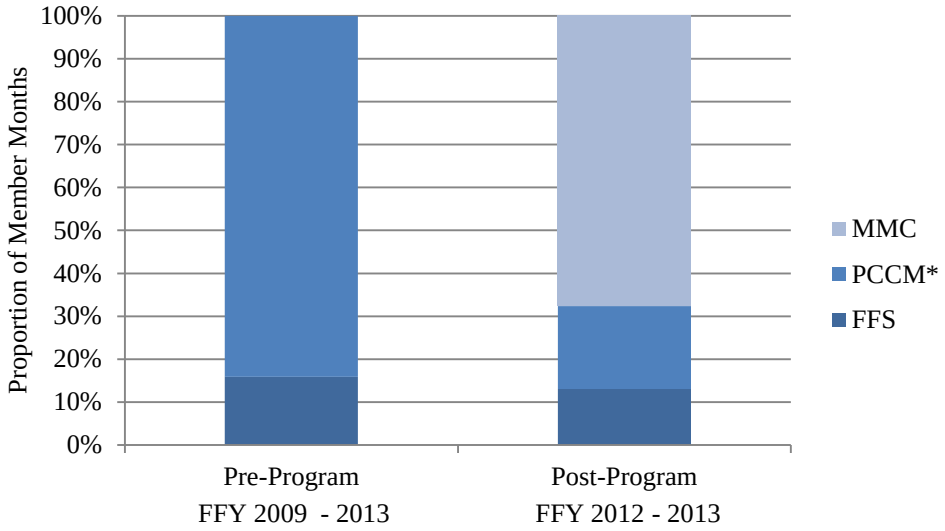
[2] Medicaid Program Types (TP): Infants (TP43, TP45); Children (TP44, TP47, TP48); TANF (TP01, TP61); Transitional (TP07, TP20, TP29, TP37); Pregnant women (TP40).

[3] Temporary Assistance for Needy Families.

[4] Longest single period of continuous enrollment during the measurement year.

Medicaid services in the MRSA West were delivered through FFS and PCCM prior to the expansion of MMC in March 2012 (pre-Program period). The distribution of member months over each service delivery model was similar to that of the Hidalgo SDA and the other MRSAs. From FFY09–FFY11, sixteen (16) percent of member months were in FFS and 84 percent in PCCM (see Figure 2.6). During the post-Program period, FFY12–FFY13, approximately 13 percent of MRSA West clients were in FFS, 19 percent in PCCM, and 68 percent in MMC. In FFY13, approximately 12 percent of MRSA West clients were in FFS and 88 percent in MMC.

Figure 2.6. Percent of Member Months by Medicaid Service Delivery Model: Medicaid Rural Service Area West by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM). Fee-for-Service (FFS). *PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period began.

STAR Population Summary

The Texas MMC program, STAR, is the primary program through which Texas Medicaid clients are provided services. STAR provides services to low-income children, families, and pregnant women. The March 1, 2012 expansion of STAR to the Hidalgo SDA and MRSAs phased out PCCM in 174 counties and completed the statewide expansion of MMC for clients in Medicaid category 2. A STAR-like population[17] for the pre-Program period was created, so the "STAR population" could be described over time and comparisons can be made between the three service delivery models, FFS, PCCM, and MMC.

The STAR population increased in the Hidalgo SDA and MRSAs from FFY09 through FFY13. Over 50 percent of clients in all areas were female. The Hidalgo SDA had the youngest

[17] The STAR population collectively refers to the pre-Program STAR-like clients and the post-Program STAR clients. The same inclusion/exclusion criteria were used to identify both groups. STAR-like clients would have been in STAR if it had been available in those areas at that time.

population and was primarily Hispanic, while the MRSAs had an older age distribution but all varied from one another in terms of Race/Ethnicity composition. The proportion of clients in the TANF program type increased in all areas as did the proportion of clients continuously enrolled for 11–12 months of the year.

The Program phased out the PCCM service delivery model for Texas Medicaid and expanded the STAR MMC program statewide. Prior to the Program, approximately 15 percent of member months were in FFS, while the rest were in PCCM in the Hidalgo SDA and MRSAs. Upon implementation of the Program, 8 to 12 percent of client member months were in FFS and approximately 90 percent of client member months were in MMC. Through the Program, Texas shifted clients from the PCCM service delivery model to STAR MMC to provide services to the growing population of low-income children, families, and pregnant Medicaid clients.

STAR+PLUS Population

Collectively, the STAR+PLUS MMC expansion SDAs accounted for 27 of the 254 counties in Texas. Tables 2.7 through 2.9 describe the STAR+PLUS population in the Hidalgo, Lubbock, and El Paso SDAs.

Hidalgo STAR+PLUS Population

The Hidalgo SDA is comprised of 10 counties the United States - Mexico border. From FFY09–FFY13 (see Table 2.7), the following occurred.

- The STAR+PLUS population increased from 41,243 to 48,857 clients.
- Over 50 percent of the clients were male.
- Over 50 percent of STAR+PLUS clients were 21 years or older.
- Over 50 percent of clients were Hispanic.
- Over 98 percent of clients were categorized as disabled.
- The percentage of clients continuously enrolled for 11–12 months increased from 73 percent to 78 percent.

Table 2.7 STAR+PLUS[1] Population Hidalgo Service Delivery Area by Federal Fiscal Year (FFY)

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characterstic	Count	%	Count	%	Count	%	Count	%	Count	%
Member Months	420,043		453,187		480,391		505,039		516,249	
Number of Medicaid Clients	41,234		44,248		46,876		48,487		48,857	
Gender										
Female	19,462	47.8	20,399	46.1	21,140	45.1	21,479	44.3	21,270	43.5
Age (years)										
0–20	18,584	45.1	21,061	47.6	23,510	50.2	25,014	51.6	25,970	53.2
21–44	7,966	19.3	8,407	19.0	8,729	18.6	8,961	18.5	8,926	18.3
45–64	14,684	35.6	14,780	33.4	14,637	31.2	14,394	29.7	13,827	28.3
65 and older	0	0.0	0	0.0	0	0.0	118	0.2	134	0.3
Race/Ethnicity										
White	3,772	9.2	3,613	8.2	3,719	7.9	3,955	8.2	3,567	7.3
Hispanic	35,299	85.6	38,009	85.9	38,592	82.3	25,395	52.4	24,797	50.8
African-American	130	0.3	129	0.3	124	0.3	119	0.3	103	0.2
Other	2,033	4.9	2,497	5.6	4,441	9.5	19,018	39.2	20,390	41.7
Program Category[2]										
Aged	0	0.0	0	0.0	0	0.0	119	0.3	139	0.3
Blind	512	1.2	507	1.2	497	1.1	489	1.0	476	1.0
Disabled	40,722	98.8	43,741	98.9	46,379	98.9	47,879	98.8	48,242	98.7
Length of enrollment[3]										
1–6 months	7,291	17.7	7,553	17.1	7,919	16.9	7,555	15.6	6,755	13.8
7–10 months	3,794	0.1	4,160	9.4	4,854	10.4	4,026	8.3	4,060	8.3
11–12 months	30,149	73.1	32,535	73.5	34,103	72.8	36,906	76.1	38,042	77.9

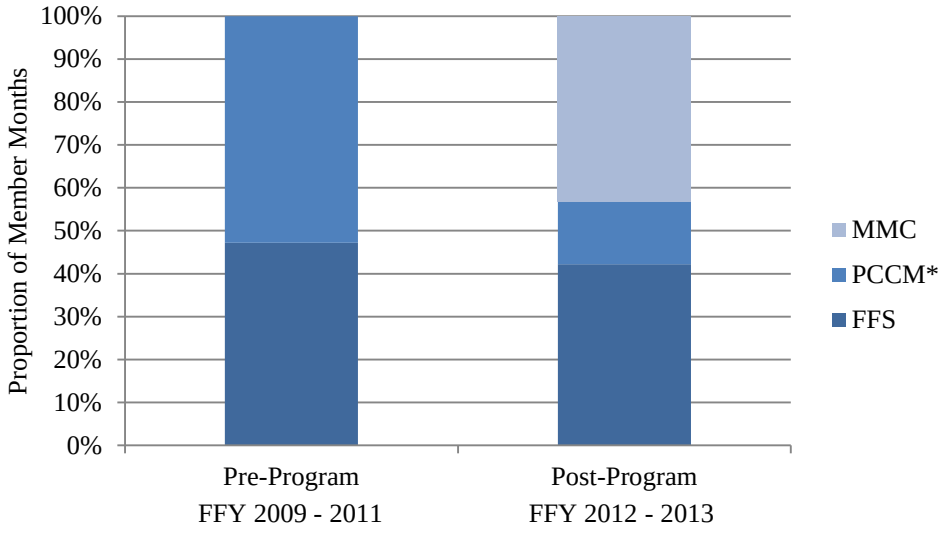
[1] The STAR+PLUS study population collectively refers to the pre-Program STAR+PLUS eligible clients and the post-Program STAR+PLUS clients. The same inclusion/exclusion criteria were used to identify both groups

[2] Medicaid Program Categories (CAT): Aged (CAT1), Blind (CAT3), and Disabled (CAT4)

[3] Longest period single period of continuous enrollment during the measurement year

During the pre-Program period (FFY09–-FFY11) in the Hidalgo SDA, forty-seven (47) percent of members months were in FFS and 53 percent in PCCM (see Figure 2.7). During the post-Program period, (FFY12–FFY13), approximately 42 percent of Hidalgo SDA members were in FFS, 15 percent in PCCM, and 43 percent were in MMC. During the most recent year reported (FFY13), over 50 percent of Hidalgo STAR+PLUS clients were in MMC.

Figure 2.7 Percent of Member Months by Medicaid Service Delivery Model: Hidalgo Service Delivery Area by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM). Fee-for-Service (FFS).
*PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period

Lubbock STAR+PLUS Population

The Lubbock SDA is comprised of 15 counties in northern Texas. From FFY09–FFY13 (see Table 2.8), the following occurred.

- The STAR+PLUS population increased from 11,043 to 12,112 clients.
- Over 50 percent of the clients were male.
- Over 65 percent of STAR+PLUS clients were 21 years or older.
- Over 30 percent of clients were White, followed by over 20 percent of Hispanic clients.
- Over 98 percent of clients were categorized as disabled.
- The percentage of clients continuously enrolled for 11–12 months increased from 66 percent to 70 percent.

Table 2.8 STAR+PLUS[1] Population Lubbock Service Delivery Area by Federal Fiscal Year

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characterstic	Count	%	Count	%	Count	%	Count	%	Count	%
Member Months	105,977		110,020		114,279		119,781		120,620	
Number of Medicaid Clients	11,043		11,454		11,887		12,337		12,112	
Gender										
Female	5,473	49.6	5,598	48.9	5,683	47.8	5,862	47.5	5,703	47.1
Age (years)										
0–20	3,745	33.9	4,009	35.0	4,267	35.9	4,442	36.0	4,393	36.3
21–44	2,840	25.7	2,900	25.3	2,903	24.4	2,903	23.5	2,896	23.9
45–64	4,458	40.4	4,545	39.7	4,717	39.7	4,920	39.9	4,752	39.2
65 and older	0	0.0	0	0.0	0	0.0	72	0.6	71	0.6
Race/Ethnicity										
White	4,047	36.7	4,111	35.9	3,883	32.7	3,826	31.0	3,481	28.7
Hispanic	3,870	35.1	3,925	34.3	3,817	32.1	2,814	22.8	2,620	21.6
African-American	1,650	15.0	1,657	14.5	1,518	12.8	1,469	11.9	1,385	11.4
Other	1,476	13.3	1,761	15.3	2,669	22.5	4,228	34.3	4,626	38.2
Program Category[2]										
Aged	0	0.0	0	0.0	0	0.0	72	0.6	73	0.6
Blind	131	1.2	135	1.2	128	1.1	134	1.1	129	1.1
Disabled	10,912	98.8	11,319	98.8	11,759	98.9	12,131	98.3	11,910	98.3
Length of enrollment[3]										
1–6 months	2,653	24.0	2,794	24.4	2,804	23.6	2,777	22.5	2,452	20.2
7–10 months	1,124	10.2	1,068	9.3	1,319	11.1	1,335	10.8	1,180	9.7
11–12 months	7,266	65.8	7,592	66.3	7,764	65.3	8,225	66.7	8,480	70.0

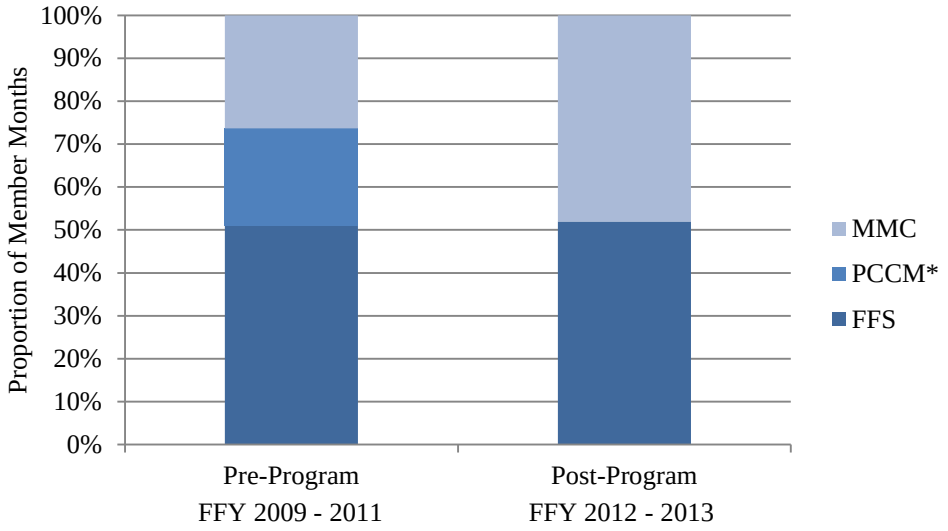
[1] The STAR+PLUS study population collectively refers to the pre-Program STAR+PLUS eligible clients and the post-Program STAR+PLUS clients. The same inclusion/exclusion criteria were used to identify both groups

[2] Medicaid Program Categories (CAT): Aged (CAT1), Blind (CAT3), and Disabled (CAT4)

[3] Longest period single period of continuous enrollment during the measurement year

During the pre-Program period (FFY09–FFY11) in the Lubbock SDA, fifty-one (51) percent of member months were in FFS, 23 percent in PCCM, and 26 percent of clients received acute care through a MMC (see Figure 2.8). During the post-Program period, FFY12–FFY13, 52 percent of Lubbock SDA member months were in FFS, 48 percent in MMC. In the most recent year (FFY13), 47 percent of Lubbock clients were in FFS and 53 percent were in MMC.

Figure 2.8 Percent of Member Months by Medicaid Service Delivery Model: Lubbock Service Delivery Area by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM). Fee-for-Service (FFS). *PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period began.

El Paso STAR+PLUS Population

The El Paso SDA is comprised of 2 counties in western Texas. From FFY09–FFY13 (see Table 2.9), the following occurred.

- The STAR+PLUS population increased from 14,474 to 15,823 clients.
- The percentage of female clients decreased from 51 percent in FFY09 to 48 percent in FFY13.
- The percentage of STAR+PLUS El Paso clients 21 years or older decreased from 66 percent in FFY09 to 63 percent in FFY13.
- The majority of clients were Hispanic.
- Over 98 percent of clients were categorized as disabled.
- The percentage of clients continuously enrolled for 11–12 months increased from 70 percent to 74 percent.

Table 2.9 STAR+PLUS[1] Population El Paso Service Delivery Area by Federal Fiscal Year

	Pre-Program						Post-Program			
	FFY 2009		FFY 2010		FFY 2011		FFY 2012		FFY 2013	
Characterstic	Count	%	Count	%	Count	%	Count	%	Count	%
Member Months	143,432		149,079		153,919		158,675		162,131	
Number of Medicaid Clients	14,474		14,783		15,315		15,735		15,823	
Gender										
Female	7,402	51.1	7,436	50.3	7,549	49.3	7,624	48.5	7,599	48.0
Age (years)										
0–20	5,007	34.6	5,324	36.0	5,636	36.8	5,982	38.0	6,073	38.4
21–44	2,397	22.8	3,324	22.5	3,465	22.6	3,555	22.6	3,649	23.1
45–64	6,170	42.6	6,135	41.5	6,214	40.6	6,157	39.1	6,038	38.2
65 and older	0	0.0	0	0.0	0	0.0	41	0.3	63	0.4
Race/Ethnicity										
White	1,967	13.6	1,865	12.6	1,857	12.1	1,830	11.6	1,694	10.7
Hispanic	10,995	76.0	11,185	75.7	10,814	70.6	7,888	50.1	7,586	47.9
African-American	465	3.2	423	2.9	399	2.6	407	2.6	374	2.4
Other	1,046	7.2	1,310	8.9	2,245	14.7	5,610	35.7	6,169	39.0
Program Category[2]										
Aged	0	0.0	0	0.0	0	0.0	41	0.3	68	0.4
Blind	160	1.1	155	1.1	152	1.0	162	1.0	153	1.0
Disabled	14,314	98.9	14,628	99.0	15,163	99.0	15,532	98.7	15,602	98.6
Length of enrollment[3]										
1–6 months	3,025	20.9	2,813	19.0	2,921	19.1	3,021	19.2	2,774	17.5
7–10 months	1,279	8.8	1,351	9.1	1,508	9.9	1,401	8.9	1,415	8.9
11–12 months	10,170	70.3	10,619	71.8	10,886	71.1	11,313	71.9	11,634	73.5

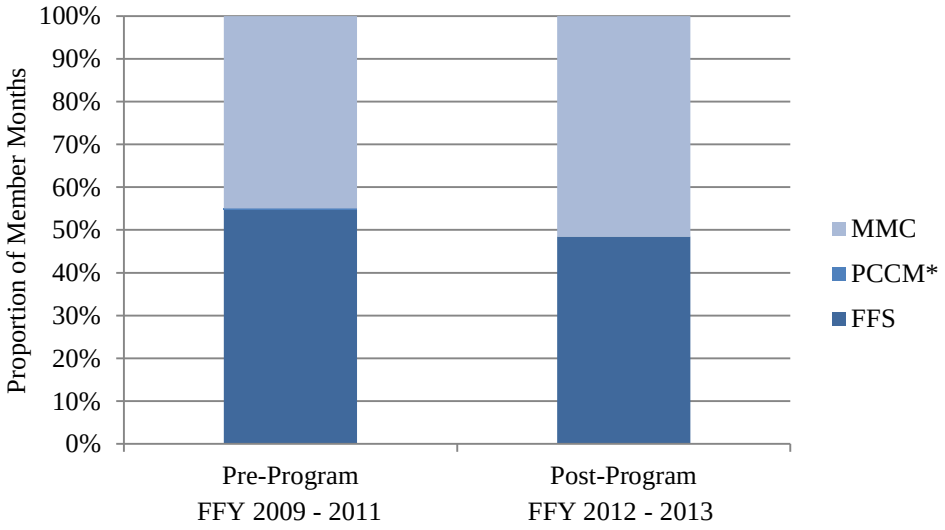
[1] The STAR+PLUS study population collectively refers to the pre-Program STAR+PLUS eligible clients and the post-Program STAR+PLUS clients. The same inclusion/exclusion criteria were used to identify both groups

[2] Medicaid Program Categories (CAT): Aged (CAT1), Blind (CAT3), and Disabled (CAT4)

[3] Longest period single period of continuous enrollment during the measurement year

During the pre-Program period (FFY09–FFY11) in the El Paso SDA, 55 percent of member months were in FFS, 45 percent of clients received acute care through a MMC, while PCCM had less than one percent member months (see Figure 2.9). During the post-Program period, FFY12–FFY13, 48 percent of El Paso SDA member months were in FFS and 52 percent in MMC. In the most recent year (FFY13), 47 percent of El Paso clients were in FFS and 53 percent were in MMC.

Figure 2.9 Percent of Member Months by Medicaid Service Delivery Model: El Paso Service Delivery Area by Federal Fiscal Year (FFY)[1]



[1] Medicaid Managed Care (MMC). Primary Care Case Management (PCCM). Fee-for-Service (FFS). *PCCM appears in the post-Program period because managed care expansion happened on March 1, 2012, five months after the Program period began.

STAR+PLUS Population Summary

There are more STAR clients than STAR+PLUS clients—this finding is consistent with previous analysis (Texas Health and Human Services Commission, 2015a). Although the proportion of STAR+PLUS clients served by the MMC model increased post-Program, it appears that FFS is also a preferred model for STAR+PLUS eligible clients (See Chapter 10). However for the majority of STAR clients, MMC health service delivery is the dominant model.

The exclusion of dual-eligibles from the STAR+PLUS study population is a major limitation of the STAR+PLUS analysis. STAR+PLUS represents clients who are aged, blind, or disabled. However, STAR+PLUS carved in hospitalization services into MMC capitation rates, because this evaluation required hospital data, we had to exclude clients who receive those benefits through Medicare. The analyses, results, and recommendations are limited to disabled STAR+PLUS clients.

CHAPTER 3
PROCESS MEASURES EXAMINING THE IMPACT OF MANAGED CARE EXPANSION ON ACCESS, QUALITY, AND UTILIZATION OF SERVICES

Process measures examine how program activities are delivered, whether the program was implemented as planned, and whether it is reaching the targeted participants (Substance Abuse and Mental Health Services Administration, n.d.). By examining process measures the evaluation can identify opportunities for improvement and monitor quality and access. Given the Medicaid managed care (MMC) expansion timeline and availability of data, not all process measures described in Chapter 2 are addressed in the interim report. Table 3.1 describes the interim report process measures and their corresponding evaluation goal.

Table 3.1. Interim Report Process Measures

	Evaluation Questions	Goal 1: Access to care	Goal 2: Coordination of Care	Goal 3: Quality of Care	Goal 4: Efficiency & Cost of Care
Process Indicators	Did expansion of STAR to Hidalgo service delivery area (SDA) and Medicaid Rural Service Areas (MRSA); and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impact access to care for the target population?	X			
	What was the impact (access, quality of care, and program costs) of including non-behavioral health inpatient services in the STAR+PLUS program?	X		X	X
	Has the utilization of preventive (and care coordination) of dental services for children age 20 years and younger changed as a result of the expansion?	X		X	

STAR AND STAR+PLUS EXPANSION ON ACCESS TO CARE

The first process measure addressed in the evaluation of the MMC expansion concerns whether the expansion of the State of Texas Access Reform (STAR) to Hidalgo service delivery area (SDA) and the Medicaid Rural Service Areas (MRSAs); and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impacted access to care. See Figures 1.1 through 1.5 in Chapter 1 for maps showing MMC expansion SDAs.

Evaluating Access to Care (Process Measures)

The evaluation design allows for the examination of the overall programmatic impact associated with implementation of the Program, whether or not the process of MMC expansion was successful, and whether there was an impact on maintaining or improving the health status of Texas STAR and STAR+PLUS MMC members.

Monitoring Medicaid client enrollment pre- and post-expansion allowed evaluators to establish adequate comparison groups in the expanded service delivery areas: Hidalgo, El Paso, Lubbock, and the MRSAs.

Analysis

Two measures were adapted to examine whether the expansion of STAR to the Hidalgo and MRSA SDAs and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impacted access to care for the target population.

- **Children and adolescent access to primary care practitioners.** As MMC expanded through STAR, the number of children and adolescents who visited their primary care practitioner was measured and monitored. As members formerly receiving benefits under fee-for-service (FFS) or primary care case management (PCCM) moved into STAR, it was expected that the number of members who visited their primary care practitioner would increase.
- **Adult access to preventive/ambulatory health services.** As MMC expanded through the STAR+PLUS delivery system, the number of preventive or ambulatory care visits by MCO members was measured and monitored. As members formerly receiving benefits under FFS or PCCM moved into STAR+PLUS, it was expected that the number of members who received preventive or ambulatory health services would increase. Pre-Program for El Paso and Lubbock SDAs, STAR+PLUS eligible members were receiving some acute care services through some of the STAR managed care organizations (MCOs). However, pre-Program Hidalgo SDA STAR+PLUS eligible members received services through PCCM or FFS.

STAR – Children and Adolescent Access to Primary Care Practitioners

In order to evaluate Program impact on access to care for STAR members, the interim evaluation report examined whether Program expansion activities impacted children and adolescent access to primary care practitioners.

Methods

Pediatric access to care was calculated by adapting a Healthcare Effectiveness Data and Information Set (HEDIS®) measure.[18] The Children and Adolescents' Access to Primary Care (CAP) measure calculates the "percentage of members 12 months – 19 years of age who had a visit with a primary care practitioner (PCP) during the measurement year" (National Committee for Quality Assurance, 2013, pp. 232) A "CAP-like" measure was created to better align with the Program. The CAP-like measure was created for the STAR population by making two adaptations to the HEDIS® 2014 Technical Specifications (National Committee for Quality Assurance, 2013).

[18] HEDIS® was adopted by the National Committee for Quality Assurance (NCQA) as a standard of performance measures used by more than 90 percent of national health plans. HEDIS® measures focus on preventative and primary care services for defined populations of health plan enrollees.

1. To align with demonstration year (DY) and federal fiscal year (FFY), the evaluation used September 30 as the anchor date.
2. The definition of PCP was defined according to the PCP provider types and provider specialty codes outlined in the MAXIMUS Medicaid Managed Care and CHIP Joint Interface Plan EB 724 (2015).

The CAP-like measure was calculated annually for FFY09 through FFY13 by:

- Healthcare delivery model type (FFS, PCCM, and MMC), and
- Expansion SDAs: Hidalgo, MRSA Central, MRSA Northeast, and MRSA West.

Data Sources.

- **FFS Claims and MMC Encounters -** FFS and PCCM claims and MMC encounters data have been processed by the Texas Medicaid and Healthcare Partnership (TMHP) since January 1, 2004. Outpatient claims/encounters for ambulatory visits with paid or partially paid status were pulled for claims with a data of service between October 1, 2007 and September 30, 2013. FFY08 claims were included due to continuous enrollment requirements for certain age groups.
- **Member-level enrollment files -** The enrollment files contain information about the person's age, gender, race/ethnicity, county, the MCO in which the member is enrolled, and the number of months the member has been enrolled in the program.

FFS and PCCM claims and MMC encounters data have been processed by the TMHP since January 1, 2004. Outpatient claims/encounters for ambulatory visits with paid or partially paid status were pulled for claims with a date of service between October 1, 2007 and September 30, 2013. FFY08 claims were included due to continuous enrollment requirements for certain age groups.

Unit of Analysis. The unit of analysis was the Medicaid member. A list of Medicaid members was linked to the claims and encounters system so that outpatient ambulatory visits for eligible members of the STAR population. Member-level data were aggregated and results reported at the SDA-level by FFY and service delivery model.

Eligible Population. The eligible population was divided into four age groups, based on members' age as of September 30 of the measurement year:

- 12–24 months,
- 25 months–6 years,
- 7–11 years, or
- 12–19 years.

Continuous enrollment in Medicaid was necessary to be included in the CAP-like population. The requirement for continuous enrollment for clients in age groups 1 and 2 was 11–12 months of the measurement year. Clients in age groups 3 and 4 were required to be enrolled for 11–12 months for the measurement year *and* the year prior.

CAP-like Measure. The eligible population served as the denominator to calculate the CAP-like measure. The numerator was comprised of clients in the eligible population who had an ambulatory visit with a PCP. HEDIS® Technical Specifications (National Committee for Quality Assurance, 2013) were followed to identify qualifying visits according to the Ambulatory Visits Value Set. This value set details specific Current Procedural Terminology (CPT); Healthcare Common Procedure Coding System (HCPCS); International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM); and Uniform Bill Revenue (UBREV) codes that must be reported on a claim/encounter for a visit to be eligible for this measure.

Clients in age groups 1 and 2 with at least one ambulatory visit with a PCP during the measurement year were counted in their respective numerator. Clients in age groups 3 and 4 with at least one ambulatory visit with a PCP during the measurement year *or* the year prior were counted in their respective numerator. The CAP-like measure was calculated as the number of clients with an ambulatory visit with a PCP during the requisite time period as a proportion of the eligible population. Age groups with denominators less than 30 were not reported individually, but were included in the overall measure.

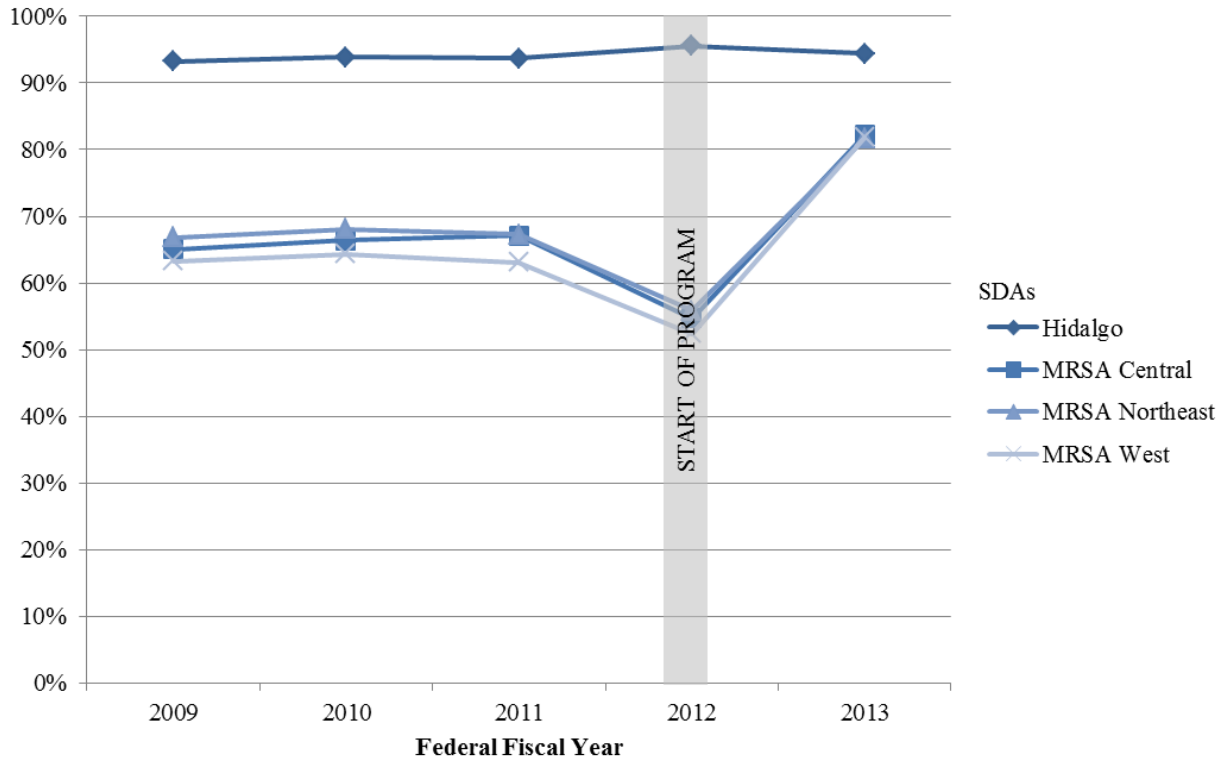
Reporting. CAP-like results were determined for the pre-Program (FFY09–FFY11) and the post-Program period (FFY12–FFY13) for STAR expansion SDAs: Hidalgo, MRSA Central, MRSA Northeast, and MRSA West. Due to the continuous enrollment requirement and the shift from PCCM to MMC, results were calculated and reported as follows:

- ***Overall:*** All age groups for all years. Measures were calculated for the entire eligible STAR population. Continuous enrollment was calculated overall, rather than for a specific healthcare service delivery model.
- ***FFS:*** All age groups for all years. The majority of individual age groups was too small (<30) to report so FFS results were included in the overall calculation only.
- ***PCCM:*** All age groups for FFY09–FFY11. In FFY12, PCCM was only available for five months so clients did not meet the continuous enrollment requirement for PCCM.
- ***MMC:*** Age groups 1 and 2 for FFY13. MMC was available for seven months in FFY12, so clients did not meet the continuous enrollment requirement for MMC for that year. Therefore, results were not calculated in FFY13 for age groups 3 and 4 due to the requirement that clients have continuous enrollment for the measurement year and the year prior.

Results

Overall. As measured by the CAP-like measure, access to care remained steady in the Hidalgo SDA and was consistently higher than in the rural MRSA SDAs (see Figure 3.1). Access to care was lower in rural SDAs, but improved in MRSA Central, MRSA Northeast, and MRSA West in FFY13 as compared to previous years before MMC was expanded to these areas.

Figure 3.1. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Federal Fiscal Year and Service Delivery Area (SDA)[1]



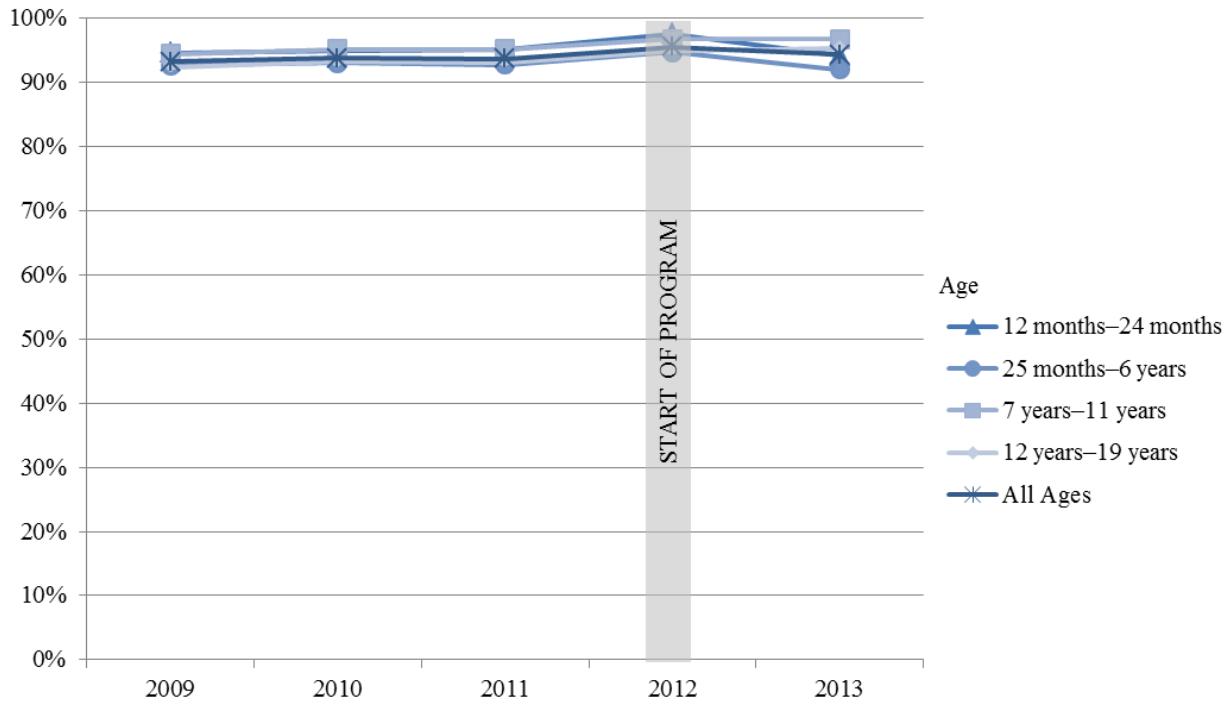
[1] Medicaid Rural Service Area (MRSA).

Hidalgo. Access to care for children and adolescents in the Hidalgo SDA remained fairly steady, with a slight increase in FFY12. In PCCM, ninety three (93) to 96 percent of clients had an ambulatory visit with a PCP, but this decreased slightly to 92 to 94 percent in MMC (see Figure 3.2).

Overall, access to care increased from 93 percent in FFY09 to 96 percent in FFY12, and then decreased slightly to 94 percent in FFY13.

- ***Age 12–24 months:*** Increased from 95 percent in FFY09 to 98 percent in FFY12 and then decreased to 94 percent in FFY13.
- ***Age 25 months–6 years:*** Increased from 93 percent in FFY09 to 95 percent in FFY12 and then decreased to 92 percent in FFY13.
- ***Age 7–11 years:*** Increased from 94 percent in FFY09 to 97 percent in FFY13.
- ***Age 12–19 years:*** Increased from 92 percent in FFY09 to 95 percent in FFY13.

Figure 3.2. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Federal Fiscal Year: Hidalgo Service Delivery Area

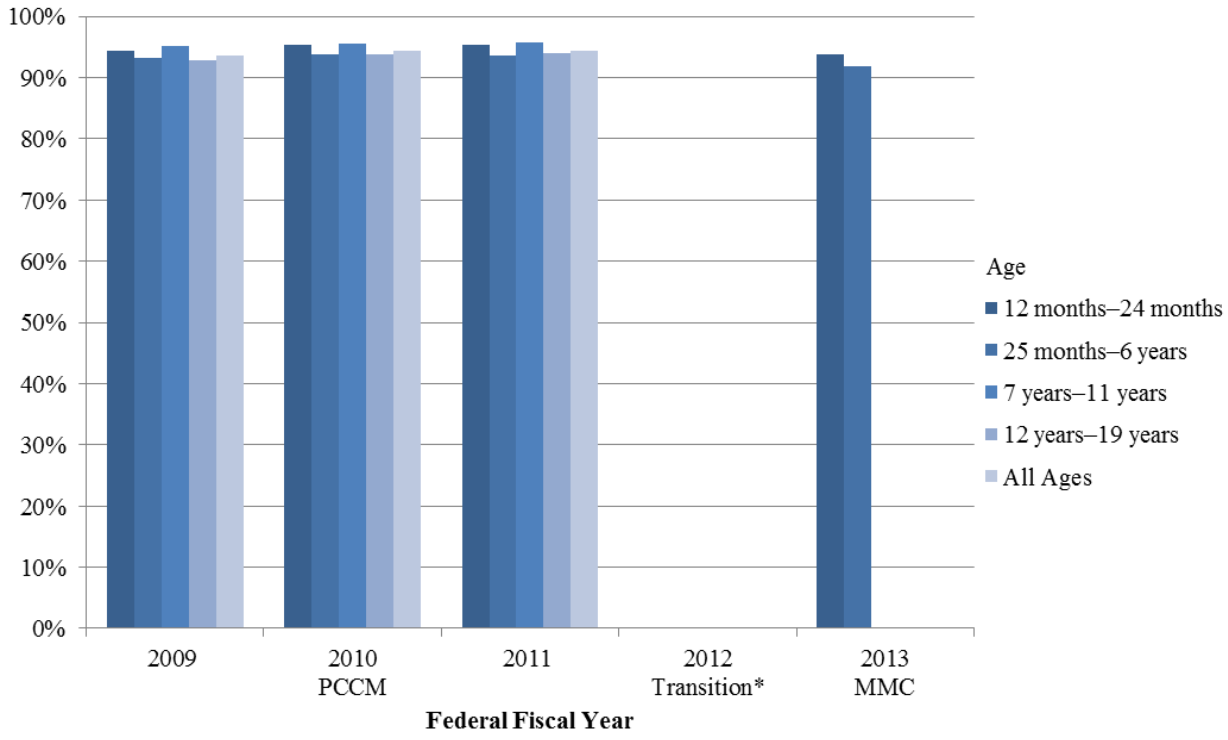


All Healthcare Service Delivery Models (Fee-for-service, Primary Care Case Management, Medicaid Managed Care)

When stratified by healthcare service delivery model, a higher proportion of children and adolescents continuously enrolled in PCCM had visits with their PCP as compared to those continuously enrolled in FFS or MMC (see Figure 3.3) as follows.

- ***Age 12–24 months:*** Remained between 94 and 95 percent for all years in PCCM and MMC.
- ***Age 25 months–6 years:*** Remained approximately 94 percent in PCCM, but decreased slightly to 92 percent in FFY13 in MMC.
- ***Age 7–11 years:*** Increased from 95 to 96 percent in PCCM from FFY09–FFY11. Results not available for FFY12–FFY13.
- ***Age 12–19 years:*** Remained at 94 percent in PCCM from FFY09–FFY11. Results not available for FFY12–FFY13.

Figure 3.3. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Healthcare Service Delivery Model and Federal Fiscal Year: Hidalgo Service Delivery Area[1]



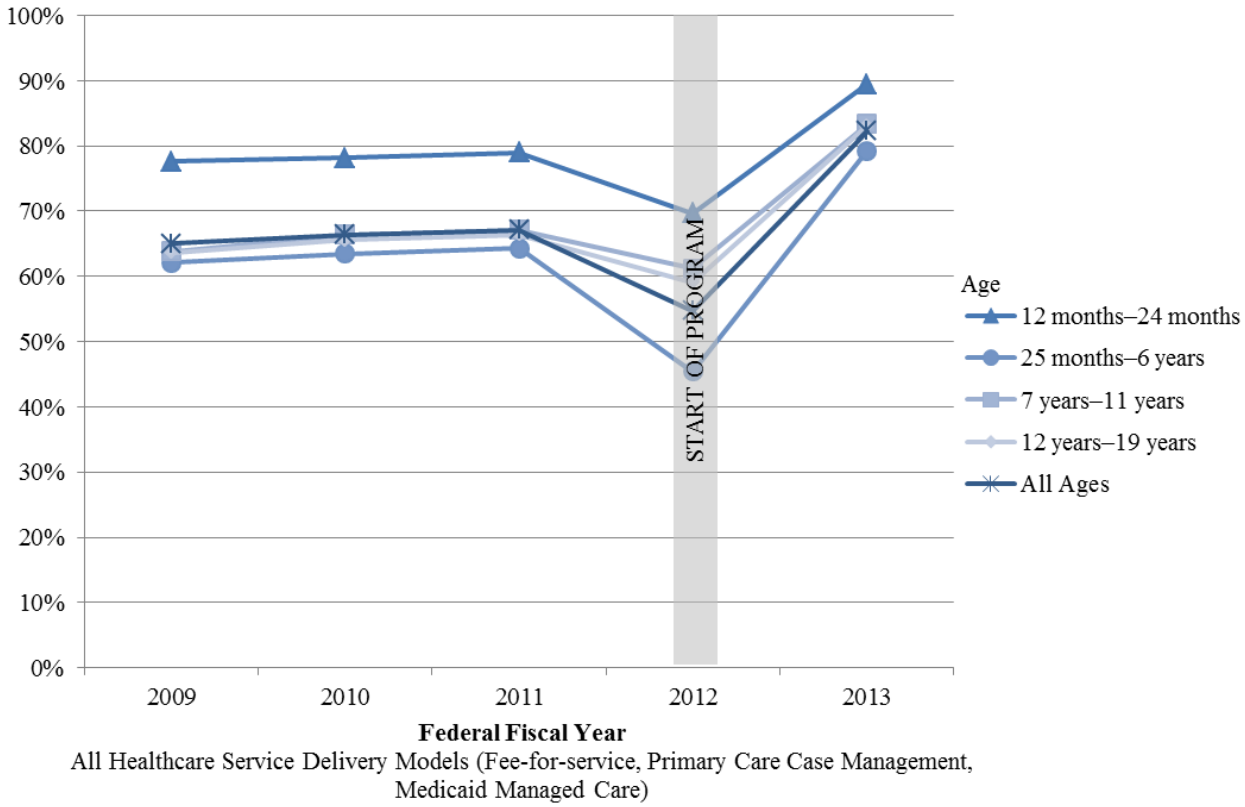
[1] Primary Care Case Management (PCCM). Medicaid Managed Care (MMC).
* Transition: In Federal Fiscal Year 2012, there were five months of PCCM and seven months of MMC, so continuous enrollment requirements were not met for either healthcare delivery model.

Medicaid Rural Service Area – Central. Access to care for children and adolescents in the MRSA Central SDA was lower than that of the Hidalgo SDA, but similar to that of other rural SDAs. The proportion of clients with an ambulatory visit decreased to its lowest level in FFY12, but increased to its highest levels of the study period in MMC in FFY13 (Figure 3.4).

Overall, CAP-like measures increased from 65 percent in FFY09 to 82 percent in FFY13, after a brief decrease to 55 percent in FFY12.

- ***Age 12–24 months:*** Increased from 78 percent in FFY09 to 79 percent in FFY11, decreased to 70 percent in FFY12, and then increased to 89 percent in FFY13.
- ***Age 25 months–6 years:*** Increased from 62 percent in FFY09 to 64 percent in FFY11, decreased to 45 percent in FFY12, and then increased to 79 percent in FFY13.
- ***Age 7–11 years:*** Increased from 64 percent in FFY09 to 67 percent in FFY11, decreased to 61 percent in FFY12, and then increased to 83 percent in FFY13.
- ***Age 12–19 years:*** Increased from 64 percent in FFY09 to 66 percent in FFY11, decreased to 59 percent in FFY12, and then increased to 83 percent in FFY13.

Figure 3.4. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Federal Fiscal Year: MRSA Central Service Delivery Area[1]

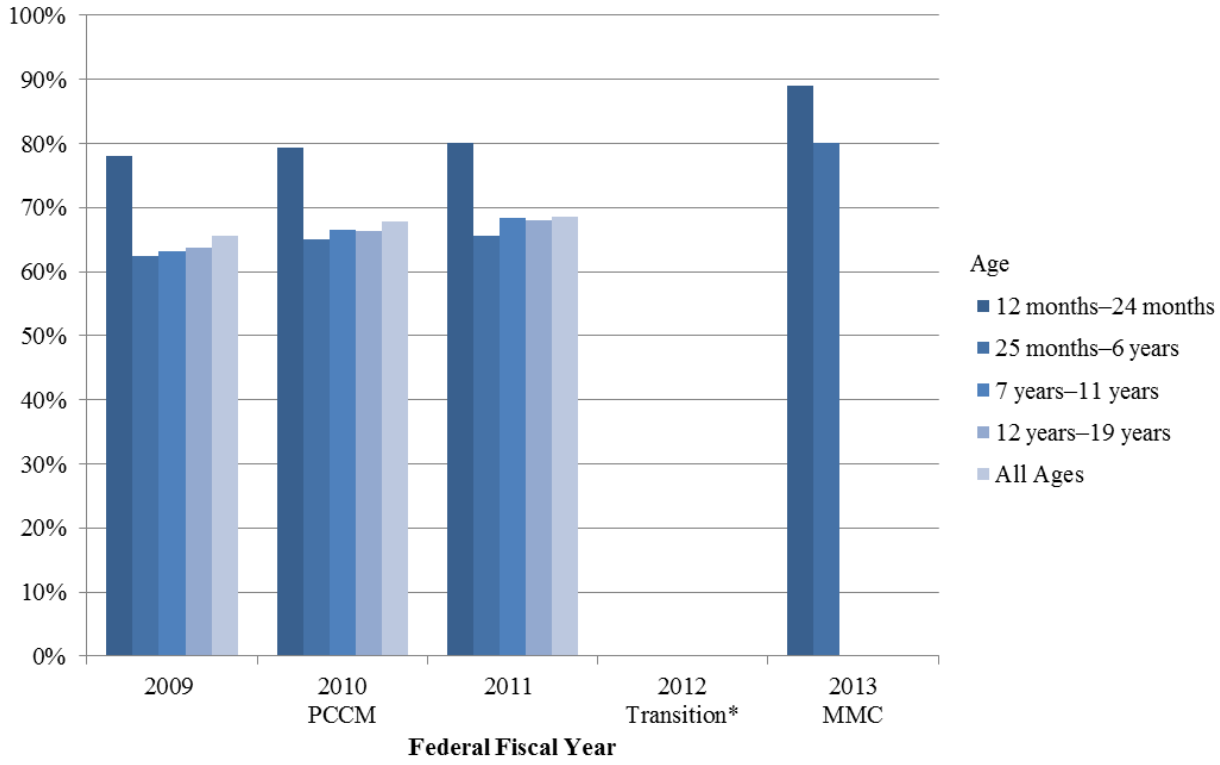


[1] Medicaid Rural Service Area (MRSA).

When stratified by healthcare service delivery model, CAP-like measures increased in MMC as compared to PCCM in the MRSA Central SDA (see Figure 3.5).

- ***Age 12–24 months:*** Increased from 78 percent in FFY09 to 80 percent in FFY11 in PCCM; and then increased to 89 percent in FFY13 in MMC.
- ***Age 25 months–6 years:*** Increased from 62 percent in FFY09 to 66 percent in FFY11 in PCCM; and then increased to 80 percent in FFY13 in MMC.
- ***Age 7–11 years:*** Increased from 63 percent in FFY09 to 68 percent in FFY11 in PCCM. Results not available in FFY12–FFY13 due to continuous enrollment requirements.
- ***Age 12–19 years:*** Increased from 64 percent in FFY09 to 68 percent in FFY11 in PCCM. Results not available in FFY12–FFY13 due to continuous enrollment requirements.

Figure 3.5. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Healthcare Service Delivery Model and Federal Fiscal Year: MRSA Central Service Delivery Area[1]



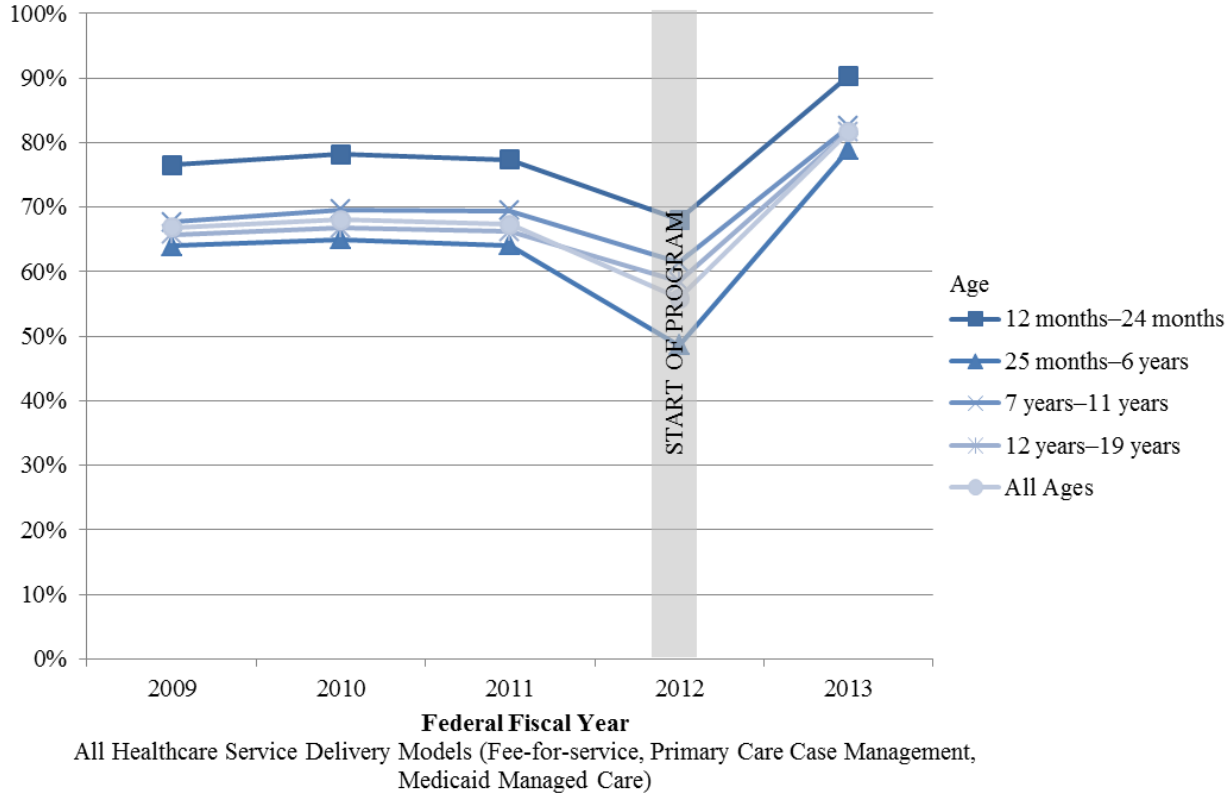
[1] Medicaid Rural Service Area (MRSA). Primary Care Case Management (PCCM). Medicaid Managed Care (MMC).
* Transition: In FFY12 there were five months of PCCM and seven months of MMC, so continuous enrollment requirements were not met for either healthcare delivery model.

Medicaid Rural Service Area – Northeast. Access to care for children and adolescents in the MRSA Northeast SDA was lower than that of the Hidalgo SDA, but similar to that of other rural SDAs. The proportion of clients with an ambulatory visit decreased to its lowest level in FFY12, but increased to its highest levels of the study period in MMC in FFY13 (Figure 3.6).

Overall, CAP-like measures increased from 67 percent in FFY09 to 82 percent in FFY13, after a brief decrease to 56 percent in FFY12.

- ***Age 12–24 months:*** Remained approximately 77 percent from FFY09 to FFY11, decreased to 68 percent in FFY12, and then increased to 90 percent in FFY13.
- ***Age 25 months–6 years:*** Remained approximately 64 percent from FFY09 to FFY11, decreased to 48 percent in FFY12, and then increased to 79 percent in FFY13.
- ***Age 7–11 years:*** Increased from 68 percent in FFY09 to 69 percent in FFY11, decreased to 61 percent in FFY12, and then increased to 82 percent in FFY13.
- ***Age 12–19 years:*** Remained approximately 66 percent from FFY09 to FFY11, decreased to 58 percent in FFY12, and then increased to 82 percent in FFY13.

Figure 3.6. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Federal Fiscal Year: MRSA Northeast Service Delivery Area[1]

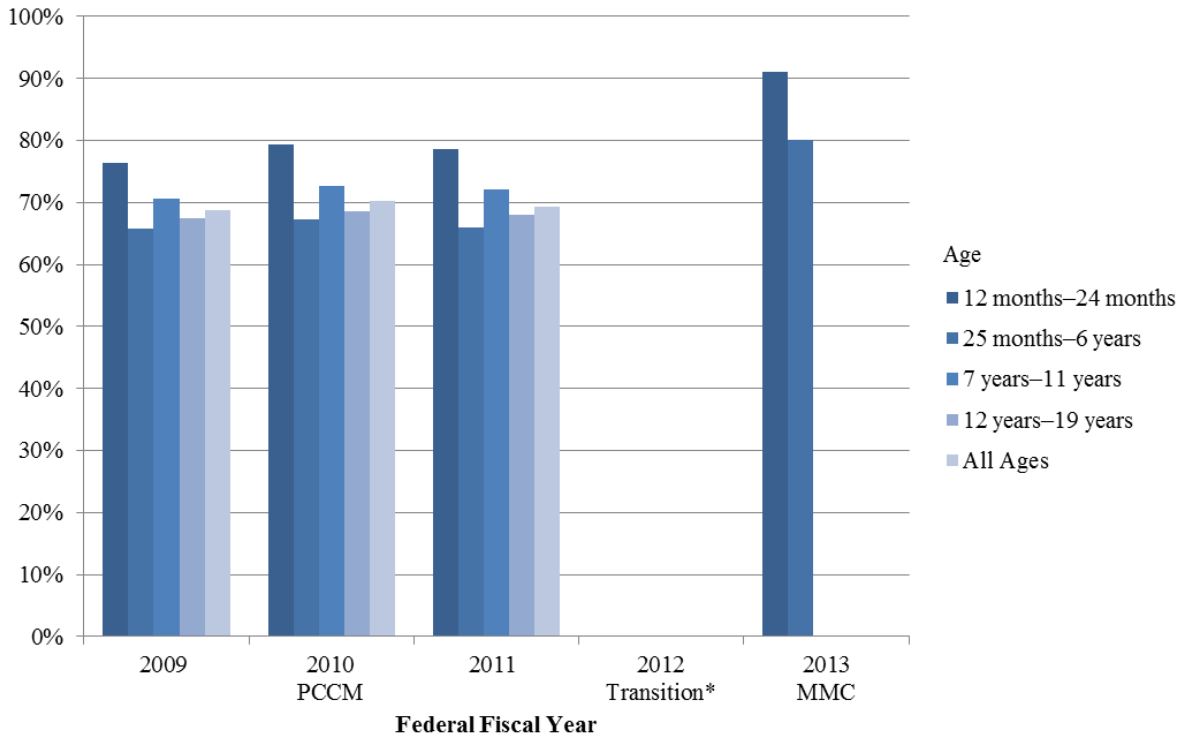


[1] Medicaid Rural Service Area (MRSA).

When stratified by healthcare service delivery model, CAP-like measures increased in MMC as compared to PCCM in the MRSA Northeast SDA (see Figure 3.7).

- ***Age 12–24 months:*** Increased from 76 percent in FFY09 to 79 percent in FFY11 in PCCM and then increased to 91 percent in FFY13 in MMC.
- ***Age 25 months–6 years:*** Remained approximately 66 percent from FFY09 to FFY11 in PCCM and then increased to 80 percent in FFY13 in MMC.
- ***Age 7–11 years:*** Increased from 71 percent in FFY09 to 72 percent in FFY11 in PCCM. Results not available in FFY12–FFY13 due to continuous enrollment requirements.
- ***Age 12–19 years:*** Remained approximately 68 percent from FFY09 to FFY11 in PCCM. Results not available in FFY12–FFY13 due to continuous enrollment requirements.

Figure 3.7. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Healthcare Service Delivery Model and Federal Fiscal Year: MRSA Northeast Service Delivery Area[1]



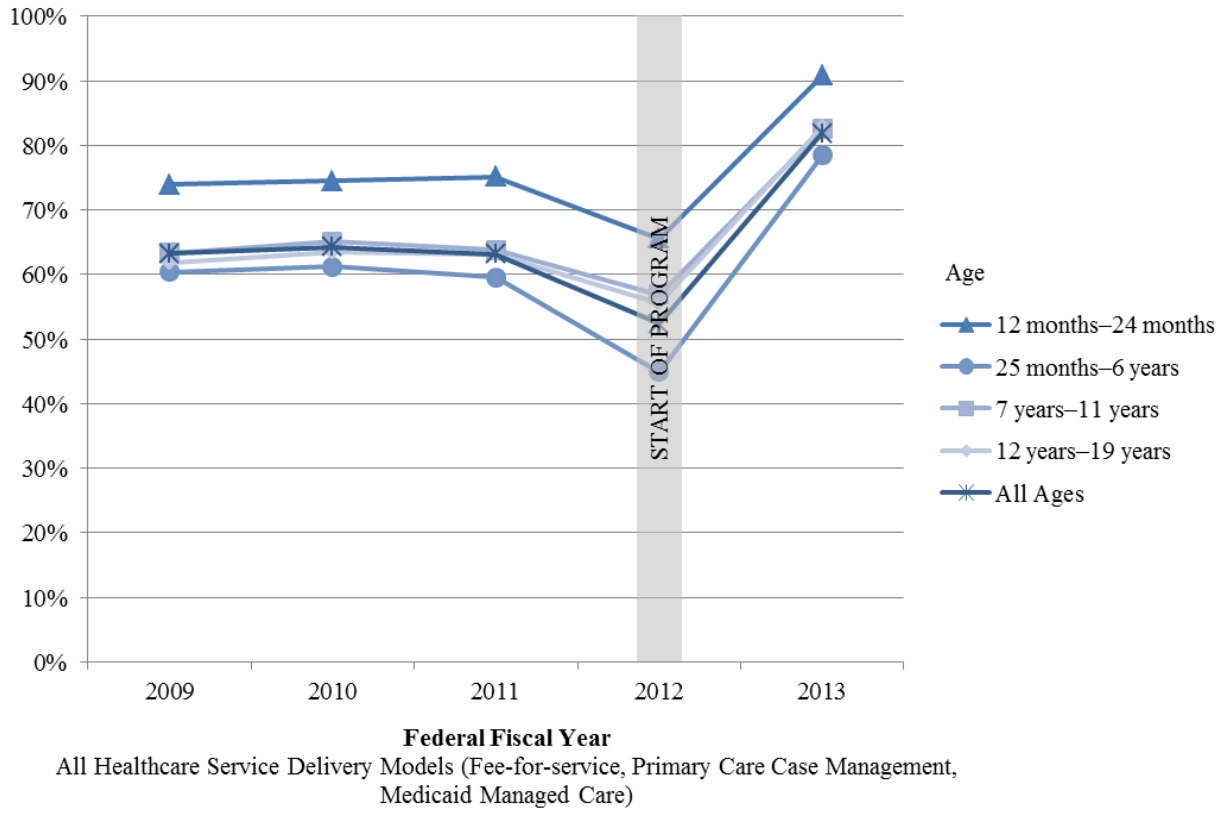
[1] Medicaid Rural Service Area (MRSA). Primary Care Case Management (PCCM). Medicaid Managed Care (MMC).
* Transition: In Federal Fiscal Year 2012 there were five months of PCCM and seven months of MMC, so continuous enrollment requirements were not met for either healthcare delivery model.

Medicaid Rural Service Area – West. Access to care for children and adolescents in the MRSA West SDA was lower than that of the Hidalgo SDA, but similar to other rural SDAs. The proportion of clients with an ambulatory visit decreased to its lowest level in FFY12, but increased in FFY13 to its highest levels of the study period in MMC (Figure 3.8).

Overall, CAP-like measures increased from 63 percent in FFY09 to 82 percent in FFY13, after a brief decrease to 52 percent in FFY12.

- ***Age 12–24 months:*** Increased from 74 percent in FFY09 to 75 percent in FFY11, decreased to 66 percent in FFY12, and then increased to 91 percent in FFY13.
- ***Age 25 months–6 years:*** Remained approximately 60 percent from FFY09 to FFY11, decreased to 45 percent in FFY12, and then increased to 79 percent in FFY13.
- ***Age 7–11 years:*** Increased from 63 percent in FFY09 to 64 percent in FFY11, decreased to 57 percent in FFY12, and then increased to 83 percent in FFY13.
- ***Age 12–19 years:*** Increased from 62 percent in FFY09 to 63 percent in FFY11, decreased to 56 percent in FFY12, and then increased to 83 percent in FFY13.

Figure 3.8. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Federal Fiscal Year: MRSA West Service Delivery Area[1]

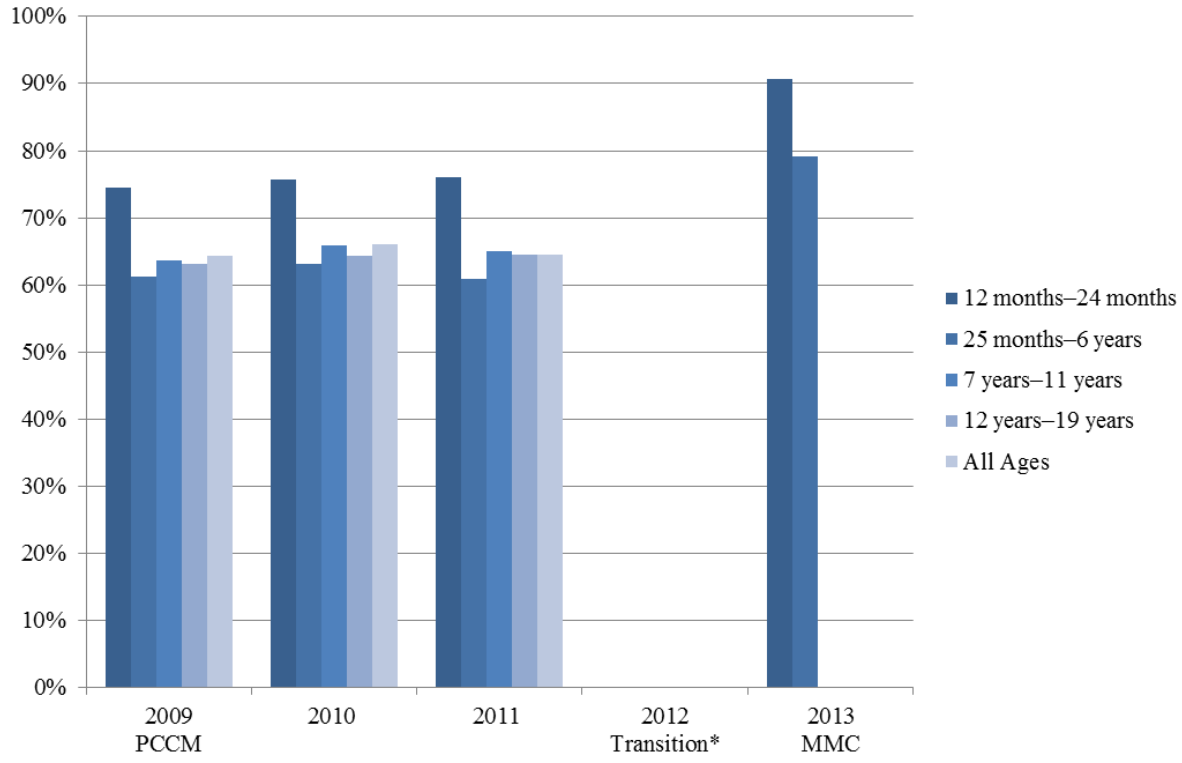


[1] Medicaid Rural Service Area (MRSA).

When stratified by healthcare service delivery model, CAP-like measures increased in MMC as compared to PCCM in the MRSA West SDA (see Figure 3.9).

- ***Age 12–24 months:*** Increased from 75 percent in FFY09 to 76 percent in FFY11 in PCCM; and then increased to 91 percent in FFY13 in MMC.
- ***Age 25 months–6 years:*** Remained approximately 61 percent from FFY09 to FFY11 in PCCM; and then increased to 79 percent in FFY13 in MMC.
- ***Age 7–11 years:*** Increased from 64 percent in FFY09 to 65 percent in FFY11 in PCCM. Results not available in FFY12–FFY13 due to continuous enrollment requirements.
- ***Age 12–19 years:*** Increased from 63 percent in FFY09 to 65 percent in FFY11 in PCCM. Results not available in FFY12–FFY13 due to continuous enrollment requirements.

Figure 3.9. Percent of STAR Population Receiving at Least One Visit with a Primary Care Provider by Healthcare Service Delivery Model and Federal Fiscal Year: MRSA West Service Delivery Area[1]



[1] Medicaid Rural Service Area (MRSA). Primary Care Case Management (PCCM). Medicaid Managed Care (MMC).
* Transition: In FFY12 there were five months of PCCM and seven months of MMC, so continuous enrollment requirements were not met for either healthcare delivery model.

Summary

Access to care for the STAR population was calculated using a CAP-like measure adapted for purposes of the Program evaluation. CAP-like measures were highest in the Hidalgo SDA, but increased the most in the rural SDAs. The increase in access to care as indicated by the CAP-like measure indicates MMC may benefit clients in rural areas of the state; however, with only one year of MMC data at this time, we cannot definitively draw that conclusion. More time is needed to determine if MMC maintains or improves access to care as compared to the PCCM healthcare service delivery model for the pediatric STAR population.

Limitations

Two important limitations of this analysis must be noted.

- The adapted CAP-like measure is similar to, but not exactly the same as, the validated HEDIS® CAP measure.
- Due to continuous enrollment requirements, there are gaps in the results of this analysis.

STAR+PLUS – Access to Preventive/Ambulatory Health Services

In order to evaluate Program impact on access to care for STAR+PLUS members, the evaluation examined whether Program expansion activities impacted adult access to preventive/ambulatory health services.

Methods

Adult access to ambulatory health services was calculated using two methodologies.

1. The first method obtained the proportion of clients that received at least one ambulatory visit in the FFY. For this measure the denominator consisted of the entire STAR+PLUS eligible population (reported by age stratification). The numerator consisted of STAR+PLUS Medicaid clients with one or more ambulatory or preventative care visit during the measurement year.
2. The second method adapted the 2014 HEDIS® measures for adult access to preventive/ambulatory health services (AAP). The adult access to AAP measures members who had an ambulatory or preventive care visit in the past year. The 2014 HEDIS® measures were calculated for STAR+PLUS members annually by healthcare delivery model (FFS, PCCM, and MMC) and SDA over the FFYs and compared to baseline years using the HEDIS® (National Committee for Quality Assurance, 2013) value sets. However, a few minor modifications were made to the HEDIS® methodology to better align with the Program.
    - Eligible population was reported by three age stratifications: STAR+PLUS eligible members or STAR+PLUS members < 21 years, 21–44 years, and 45–64 years. STAR+PLUS members 65 years and older Medicare/Medicaid (dual eligible) were excluded from the analysis.

- In order to be consistent with Program DY, FFY was used as the measurement year, instead of the calendar year, making September 30, the anchor date .
- Continuous enrollment was defined as no more than a one-month gap in coverage during the measurement year (HEDIS® requirement). Rates were reported as the number of ambulatory visits per 1,000 enrollee member months by SDA, age stratification, and health delivery model type.

Data Sources.

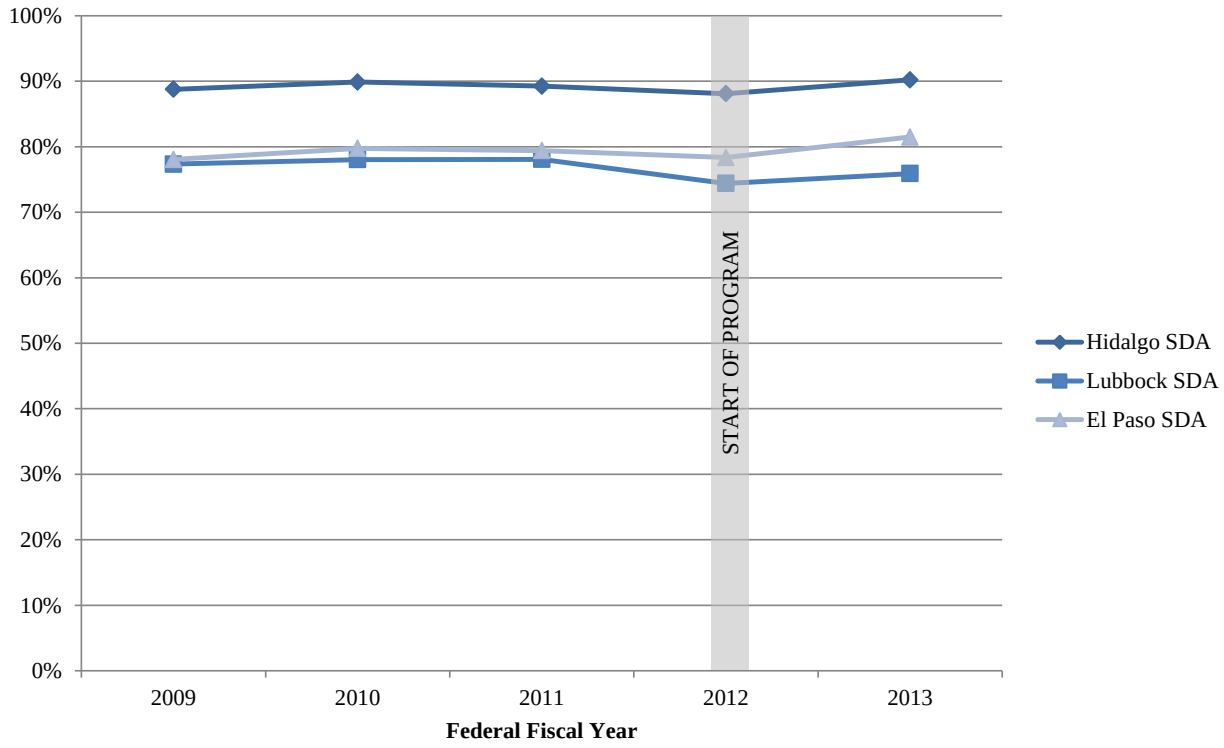
- **FFS Claims and MMC Encounters -** MMC encounters and FFS claims data have been processed by TMHP since January 1, 2004. All paid and partially paid outpatient hospital and professional claims were selected if the date of service occurred between October 1, 2008 and September 30, 2013.
- **Member-level enrollment files -** The enrollment files contain information about the person's age, gender, race/ethnicity, county, the MCO in which the member is enrolled, and the number of months the member has been enrolled in the program.

Unit of Analysis. The unit of analysis was the Medicaid member. A list of Medicaid enrollees was linked to the selected claims and encounters so that only ambulatory health services involving STAR+PLUS eligible and STAR+PLUS clients were selected. Member-level data were aggregated and results reported at the SDA-level and FFY.

Results

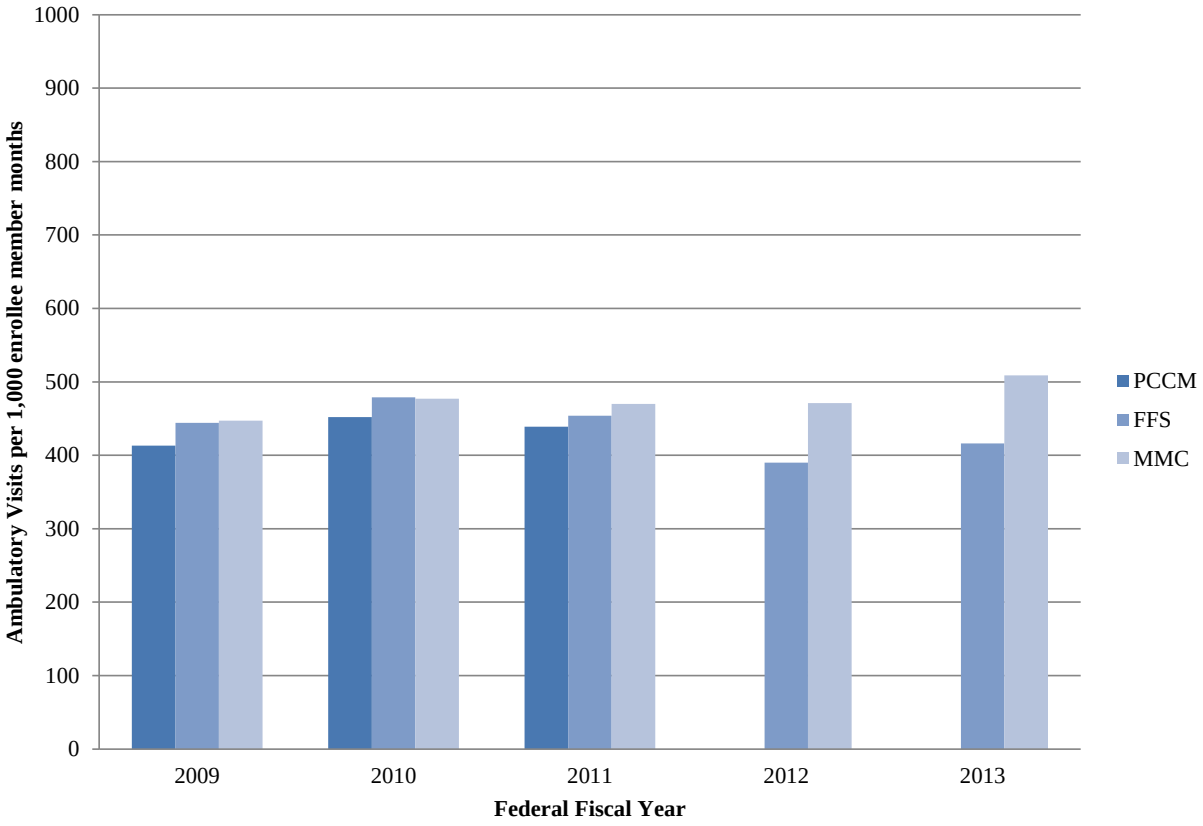
Overall. Figure 3.10 demonstrates that a majority of STAR+PLUS eligible Medicaid clients had at least one ambulatory visit in each FFY examined. Hidalgo SDA had the highest percent of ambulatory visits for every FFY (89 percent in FFY09 and 90 percent in FFY13) while Lubbock SDA had the lowest percent (77 percent in FFY09 and 76 percent in FFY13). Each SDA experienced a small decrease in the percent of ambulatory visits during FFY12 (DY1), however visits increased in FFY13, suggesting FFY12 was a transition period.

Figure 3.10 Percent of Medicaid Clients Receiving at Least One Ambulatory Visit by Federal Fiscal Year and STAR+PLUS Expansion Service Delivery Area (SDA)



Lubbock. Lubbock SDA rates of ambulatory visits (all ages) were similar by healthcare delivery model during pre-expansion years; however post-expansion MMC ambulatory visit rates were higher than FFS (see Figure 3.11).

Figure 3.11 Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Lubbock SDA (All ages)[1]

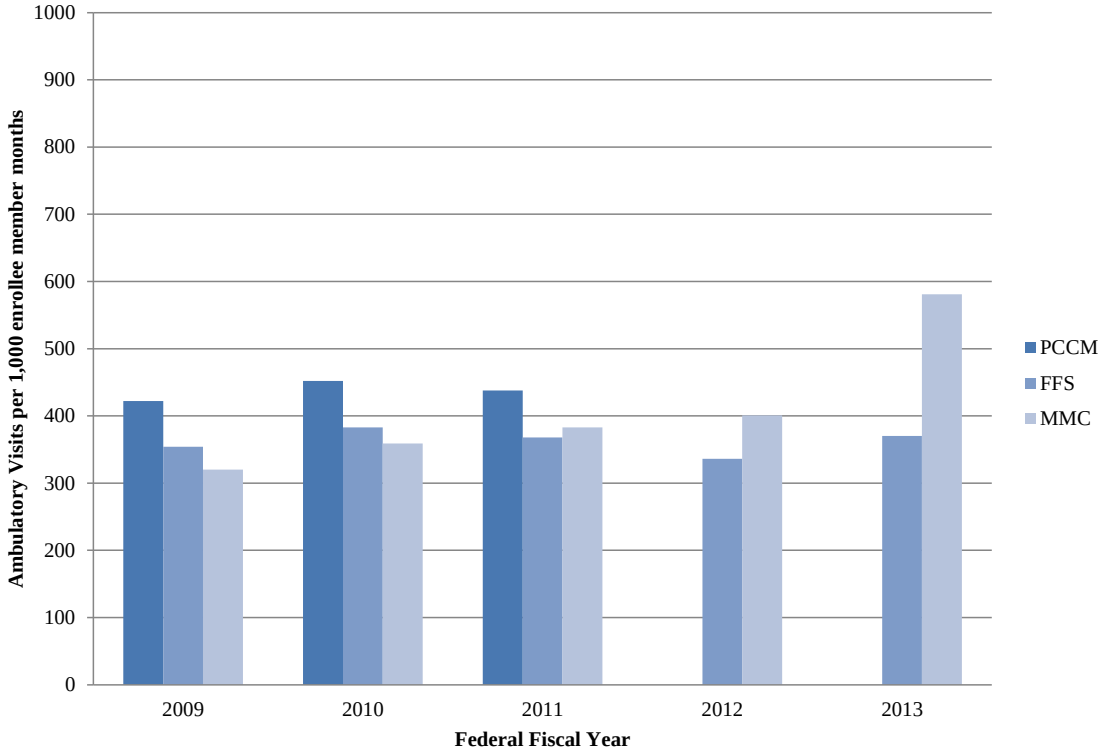


[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Rates of age-specific ambulatory visits varied by healthcare delivery model.

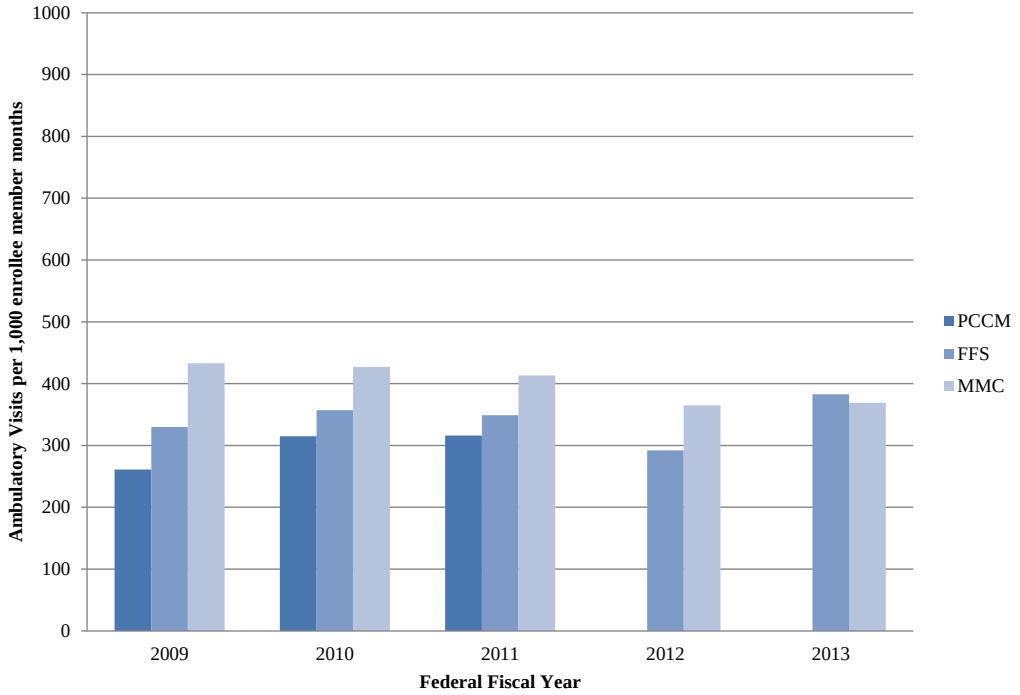
- ***Members aged 21 years or less.*** For Lubbock SDA, STAR+PLUS members less than 21 years, PCCM had higher rates pre-expansion (e.g., 422 visits per 1,000 member months in FFY09) than FFS (e.g., 354 visits per 1,000 member months in FFY09) or MMC pre-expansion (e.g., 320 visits per 1,000 member months in FFY09). However, MMC rates were higher post-expansion (e.g., 581 visits per 1,000 member months in FFY13) compared to members who remained in FFS (e.g., 370 visits per 1,000 member months in FFY13) (see Figure 3.12).
- ***Members aged 21 to 44 years.*** Lubbock SDA STAR+PLUS members 21–44 years experienced higher rates of ambulatory visits pre-expansion (e.g., 433 visits per 1,000 member months in FFY09) while enrolled MMC than PCCM (e.g., 261 visits per 1,000 member months in FFY09) or FFS (e.g., 330 visits per 1,000 member months in FFY09) (see Figure 3.13).
- ***Members aged 45 to 64 years.*** Rates of ambulatory visits for Lubbock SDA STAR+PLUS members 45–64 years were higher than any age group. Pre- and post-expansion ambulatory visit rates were higher for FFS compared to PCCM or MMC (see Figure 3.14).

Figure 3.12. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Lubbock SDA (age < 21 years)[1]



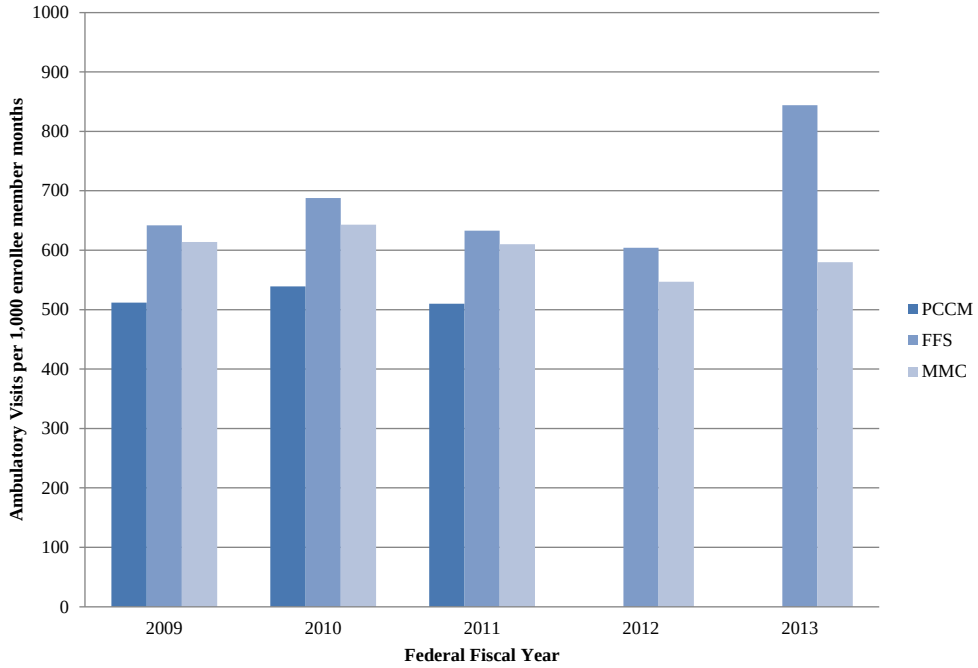
[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.13. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Lubbock SDA (age 21–44 years)[1]



[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.14. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Lubbock SDA (age 45–64 years)[1]

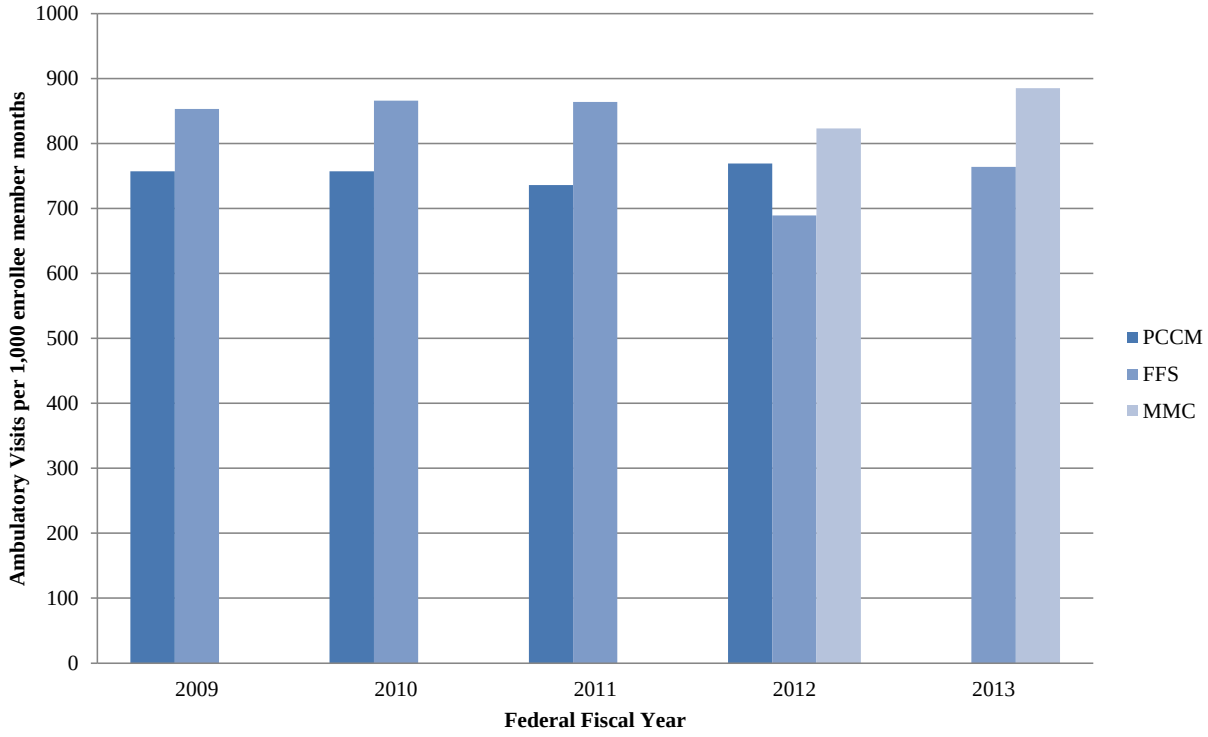


[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Hidalgo. Overall, Hidalgo SDA experienced higher rates of ambulatory care visits than any other new expansion area—almost twice the rate of Lubbock and El Paso SDAs (see Figure 3.15).

- Rates of ambulatory visits were higher for the PCCM healthcare delivery model pre-expansion than FFS healthcare model. For example, during FFY12 ambulatory visits were higher for MMC (823 visits per 1,000 member months) compared to PCCM (806 visits per 1,000 member months) or FFS (681 visits per 1,000 member months).
- MMC rates of ambulatory visits were highest in FFY13 at 885 visits per 1,000 member months.

Figure 3.15. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Hidalgo SDA (All ages)[1]

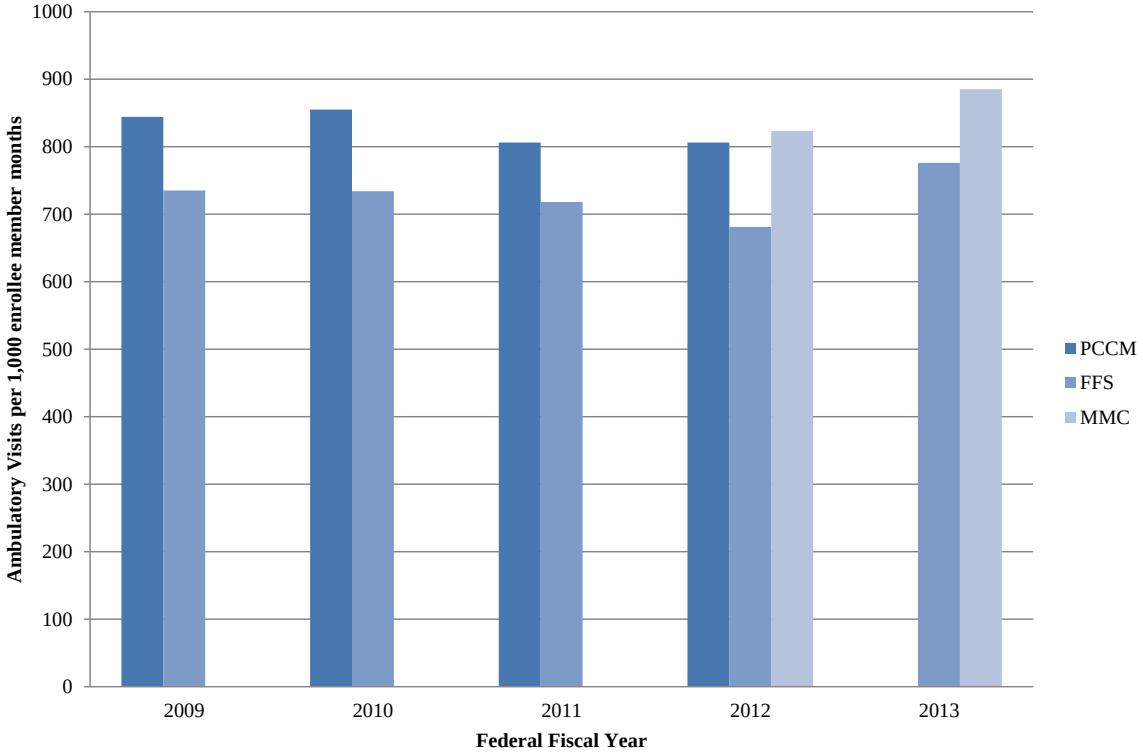


[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Rates of age-specific ambulatory visits varied by healthcare delivery model.

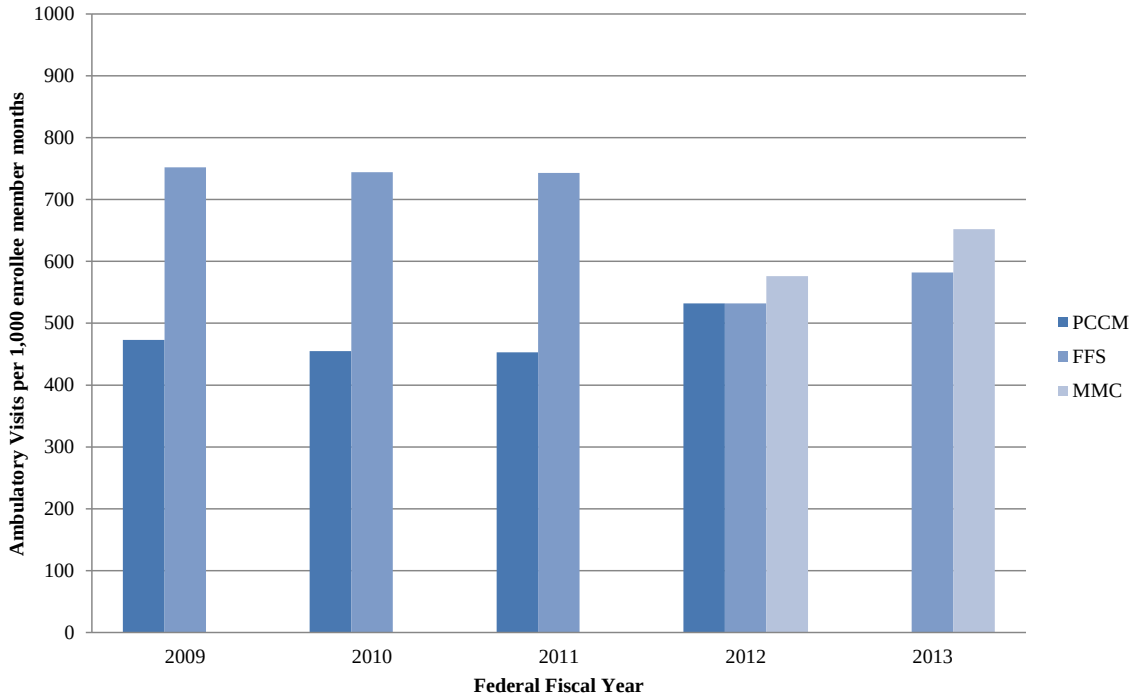
- ***Members aged 21 years or less.*** Age-specific rates suggest much of the higher PCCM rates are influenced by the greater number of Hidalgo SDA STAR+PLUS members less than 21 years of age compared to Lubbock and El Paso SDAs. PCCM ambulatory rates were greater than 800 visits per 1,000 member months for FFY09 through FFY12 (see Figure 3.16).
- ***Members aged 21 to 44 years.*** Hidalgo SDA STAR+PLUS members 21–44 years experienced higher rates of ambulatory visits pre-expansion (e.g., 752 visits per 1,000 member months in FFY09) while enrolled in an FFS compared to PCCM (e.g., 473 visits per 1,000 member months in FFY09) (see Figure 3.17).
- ***Members aged 45 to 64 years.*** Rates of ambulatory visits for Hidalgo SDA STAR+PLUS members 45–64 years were higher than any age group. Pre-expansion ambulatory visit rates were higher for FFS compared to PCCM (e.g., 1,088 visits per 1,000 member months in FFY09) (See Figure 3.18).

Figure 3.16. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Hidalgo SDA (age < 21 years)[1]



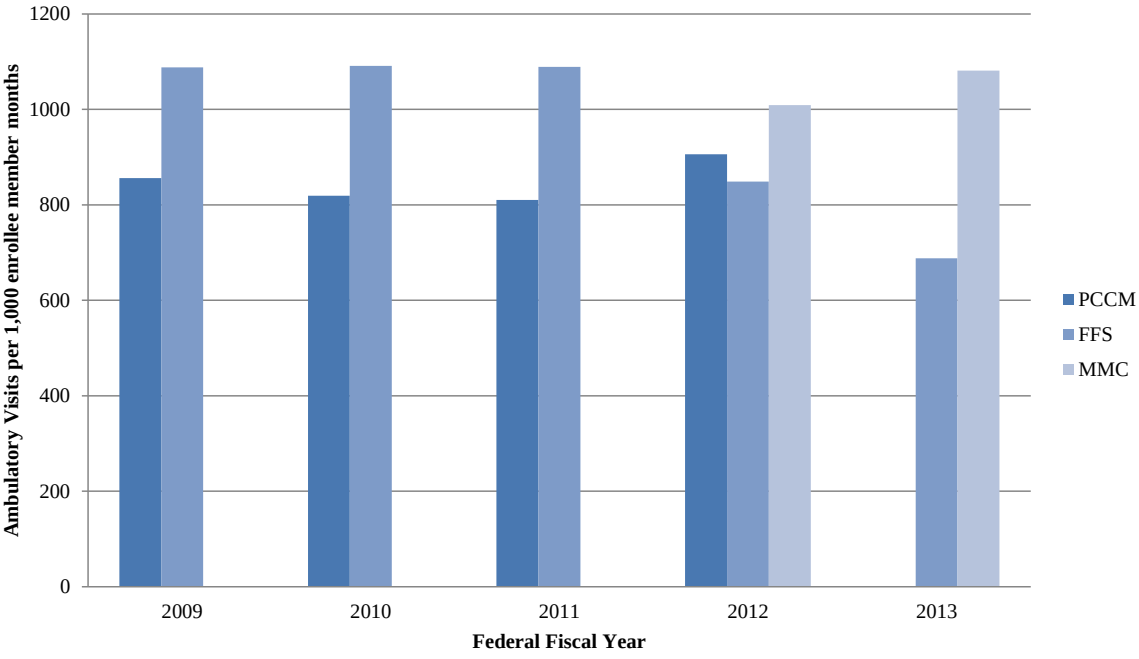
[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.17. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Hidalgo SDA (age 21–44 years)[1]



[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.18. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: Hidalgo SDA (age 45–64 years)[1]

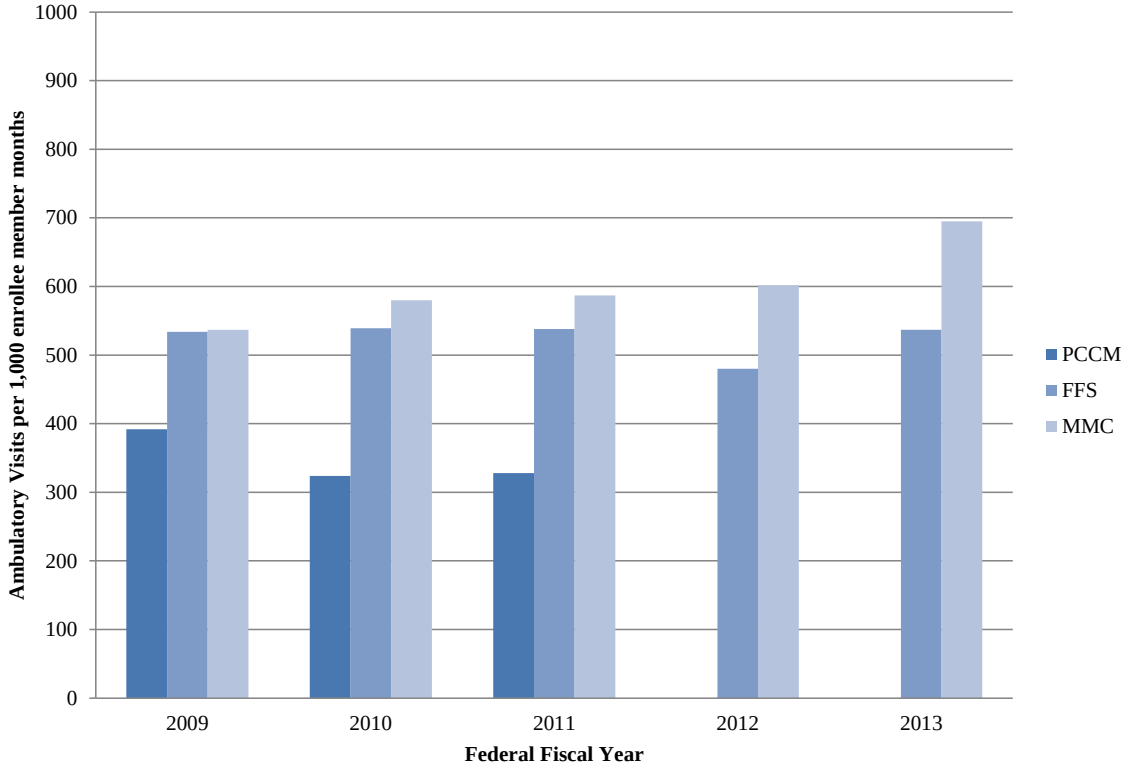


[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

El Paso. Overall, El Paso SDA experienced increasing rates of ambulatory care visits than any other new expansion area from pre-expansion (FFY09) to post-expansion (FFY13) (see Figure 3.19).

- Rates of El Paso SDA ambulatory visits were slightly higher for MMC (e.g., 537 visits per 1,000 member months in FFY09) healthcare delivery model pre-expansion than FFS (e.g., 534 visits per 1,000 member months in FFY09) healthcare model or PCCM (392 visits per 1,000 member months in FFY09).
- MMC rates of El Paso SDA ambulatory visits were highest in FFY13 at 695 visits per 1,000 member months.

Figure 3.19. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: El Paso SDA (All ages)[1]

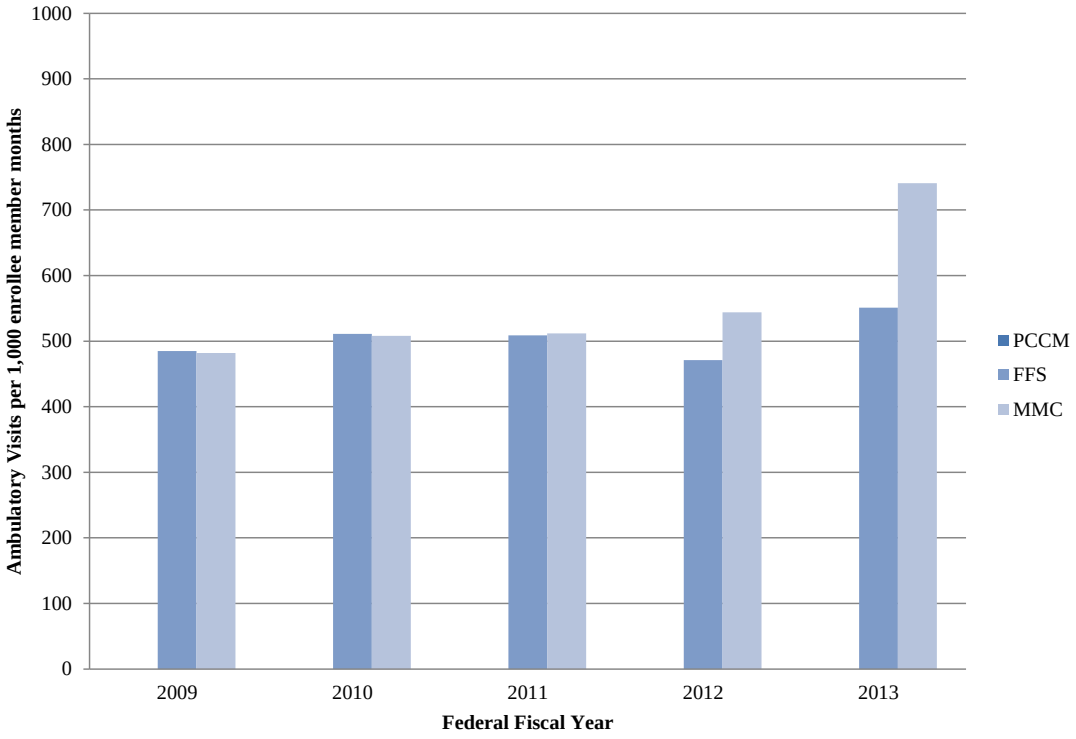


[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Rates of age-specific ambulatory visits varied by healthcare delivery model.

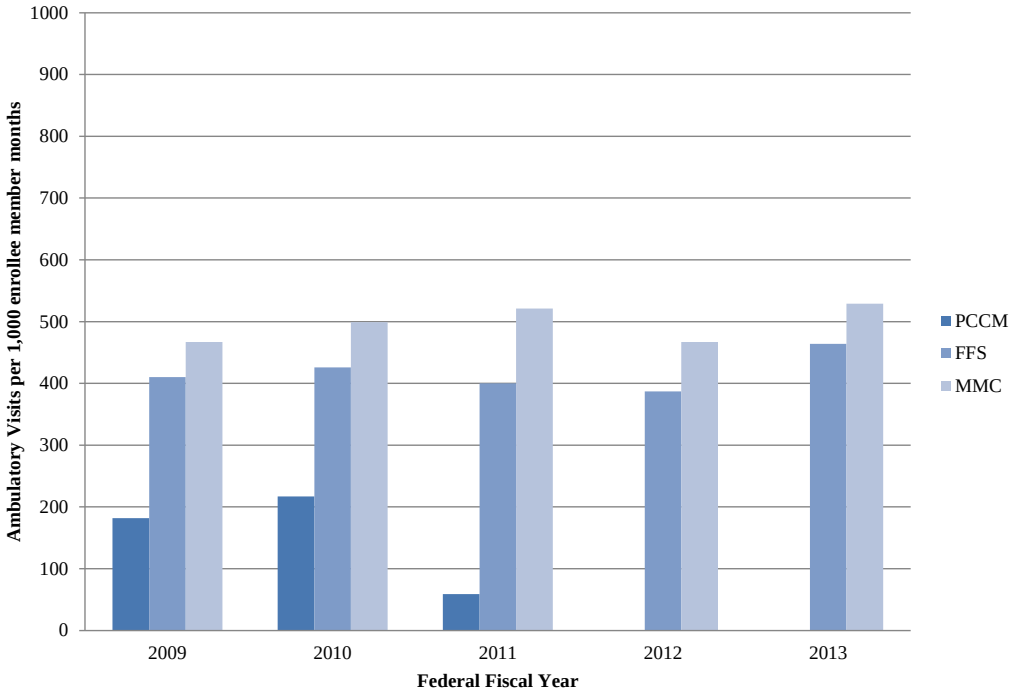
- ***Members aged 21 years or less.*** El Paso SDA PCCM ambulatory rates for STAR+PLUS members less than 21 years were higher pre-expansion than any other age group (see Figure 3.20). However, post-expansion, MMC ambulatory rates had increased to 741 visits per 1,000 member months in FFY13.
- ***Members aged 21 to 44 years.*** El Paso SDA STAR+PLUS members 21–44 years experienced higher rates of ambulatory visits pre-expansion (e.g., 752 visits per 1,000 member months in FFY09) while enrolled in an FFS compared to PCCM (e.g., 473 visits per 1,000 member months in FFY09) (see Figure 3.21).
- ***Members aged 45 to 64 years.*** Age-specific results suggest that the higher MMC rates of ambulatory visits were influenced by the greater number of El Paso SDA members 45–64 years compared to the Lubbock and Hidalgo SDAs. MMC ambulatory rates were approximately 700 visits per 1,000 member months for FFY09 through FFY12 (see Figure 3.22).

Figure 3.20. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: El Paso SDA (age < 21 years)[1, 2]



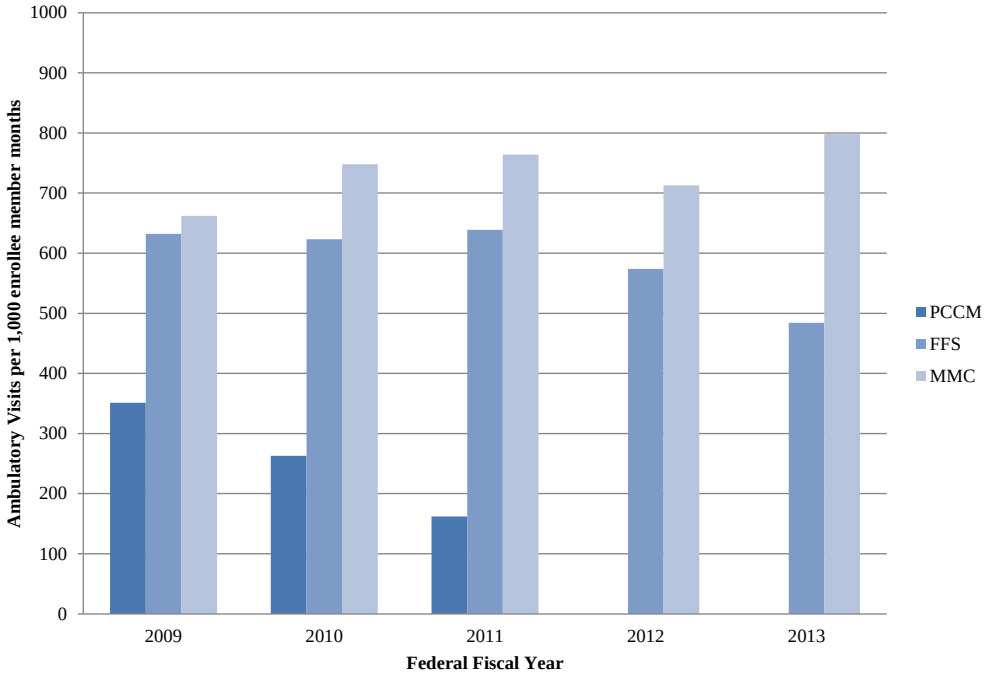
[1] PCCM was excluded due to insufficient enrollee months for rate calculation.
[2] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.21. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: El Paso SDA (age 21–44 years)[1]



[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.22. Ambulatory Visits per 1,000 Enrollee Months by Federal Fiscal Year: El Paso SDA (age 45–64 years)[1]



[1] Service Delivery Area (SDA). Primary Care Case Management (PCCM). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Summary

The rate of ambulatory visits as a process measure does suggest that healthcare access initiated under FFS, PCCM, or MMC in pre-expansion years (FFY09–FFY11) was maintained as STAR+PLUS clients transitioned to FFS or MMC healthcare delivery models in FFY12 (DY1). While there was a slight decrease in utilization during FFY12 (DY1) for all newly expanded SDAs, rates increased to previous pre-expansion levels overall in FFY13 (DY2).

There were no consistent findings to support the hypothesis that one healthcare delivery model (FFS, PCCM, or MMC) is the best healthcare delivery model for the provision of ambulatory care visits to the STAR+PLUS population, suggesting there may be regional differences in and among SDAs (e.g., provider networks, population characteristics) not captured in these analyses. However, these results reflect less than two full years of Program implementation. More time is needed to determine if one service delivery model is preferred over another.

STAR+PLUS CARVE-IN OF NON-BEHAVIORAL HEALTH INPATIENT SERVICES ON ACCESS, QUALITY, AND COST OF CARE

The second process measure addressed in the evaluation is the impact of the MMC expansion the carve-in of non-behavioral health inpatient services on access, quality, and cost of care. The interim evaluation report examined whether Program expansion activities impacted:

- Number of STAR+PLUS members who had inpatient hospital stays per 1,000 members,
- Top diagnoses during hospitalizations for STAR+PLUS members who had inpatient hospital stays and cost of hospitalizations, and
- Average number of miles from STAR+PLUS members to closest participating inpatient hospital in each new service area.

Medicaid Managed Care and Hospital Funding

Many of the access measures chosen for the evaluation focus on inpatient hospitalizations because it is a new service included in the STAR+PLUS capitation rate. Texas initially carved out inpatient hospital services from the risk-based STAR+PLUS program to preserve hospital supplemental payments. Under Section 1902(a)(30)(A) of the Social Security Act, Medicaid payment policies are developed by each state, with federal review limited to the general provisions requiring provider payments be consistent with efficiency, economy, quality, and access to prevent unnecessary utilization.

Issues Related to Managed Care Expansion

Upper payment limit (UPL) payment calculations can only count services utilized by Medicaid beneficiaries paid on an FFS basis. Services provided to Medicaid members enrolled in MCOs

on a capitated contracting basis are not included in the UPL payment calculation. Therefore, hospital admissions involving MMC members may negatively impact the hospitals providing the services due to the carve-in of non-behavioral health inpatient hospital services. The Program allows Texas to expand its managed care program, including inpatient hospital care, while preserving the hospital revenue made through UPL supplemental payments.

Analysis

In order to evaluate Program impact of the carve-in of non-behavioral health inpatient services on access, quality, and cost the interim evaluation report examined whether Program expansion activities impacted inpatient hospitalizations, services utilized during hospitalizations, and the distance a member must travel to access services at a participating hospital. Three measures were developed to examine whether the carve-in of non-behavioral health inpatient services into the STAR+PLUS program impacted access, quality of care, and program costs.

- **Number of STAR+PLUS members who had inpatient hospital stays.** The carve-in of non-behavioral health inpatient services to STAR+PLUS enables members to have covered access to non-behavioral health inpatient services through the capitated system rather than through an FFS system. Access to inpatient services were measured by monitoring the rate of inpatient hospitalizations over the demonstration period for STAR+PLUS members in the El Paso, Hidalgo, and Lubbock SDAs.
- **Services utilized during hospitalizations.** Services utilized during hospitalizations potentially indicate the quality of healthcare received. If top procedures performed include a high number of potentially avoidable conditions, this may indicate deficiencies in the quality of care.
- **Average number of miles from STAR+PLUS members to closest participating inpatient hospital in each new service area.** The expectation is that that members will continue to have similar access to inpatient services as before the expansion.

STAR+PLUS –Members with Inpatient Hospitalizations

Methods

The standard definition of hospital inpatient is a person who is provided room, board, and continuous general nursing service in an area of the hospital where patients generally stay at least overnight (42 U.S.C. § 1395x (b)).

Data Source. MMC encounter and FFS claims data have been processed by TMHP since January 1, 2004. Inpatient hospital claims with paid or partially paid status were pulled if the date of service occurred between October 1, 2008 and September 30, 2013.

Unit of Analysis. The unit of analysis was the hospital episode. A list of Medicaid enrollees was linked to the claims and encounter system so that hospitalizations involving STAR+PLUS eligible and STAR+PLUS clients were selected. Member-level data were aggregated and results reported at the SDA-level over FFY.

The inpatient hospitalizations were identified for each eligible Medicaid member, and FFS claims and managed care encounters were matched again by each SDA member's unique identifier (i.e., patient control number) and eligibility month and year. The resultant dataset for each SDA contained claims or encounters for Medicaid members who were eligible to receive services in a specific service delivery area for the eligibility period. The dataset contained one record for each hospital inpatient episode with a unique identifier, inpatient from date of service, inpatient to date of service, and principle diagnosis codes. This dataset was used to report results on the number of hospitalizations for each SDA, counts on the number of members who had inpatient hospital stays, and cost of hospitalizations for each new service area before and after MMC expansion.

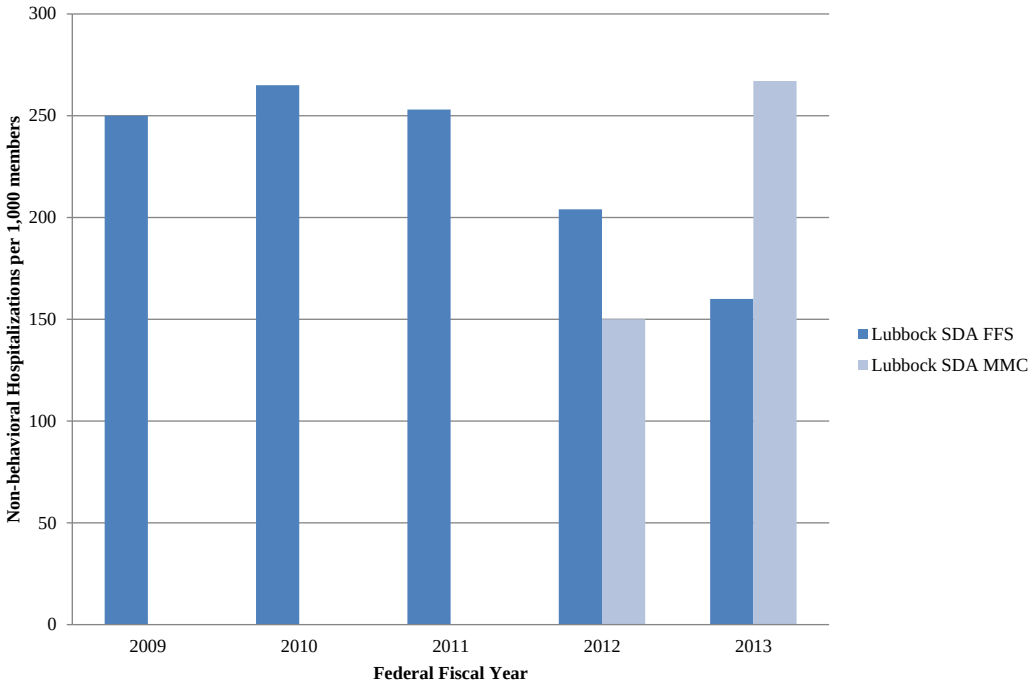
Calculation of non-behavioral health inpatient hospitalizations. Rates were used to measure inpatient hospitalizations over time. Ideally, the numerator consists of the number of events occurring during a time period while the denominator contains the number of cases or population at risk during the same time period. Rates were calculated for non-behavioral health inpatient hospitalizations (episodes) in order to compare pre- and post-expansion time periods and differences between health delivery models (i.e., FFS and MMC).

- The numerator was the number of non-behavioral health inpatient hospitalizations for each FFY.
  - Inpatient hospitalizations with a principle diagnosis of mental disorders were excluded from total number (numerator) of inpatient hospitalizations. Behavioral health inpatient hospitalizations were identified as any principle diagnosis (ICD-9 codes 290–319).
- The denominator was the number of STAR+PLUS clients per service delivery model per FFY. Clients were included in the denominator for the service delivery model if they were enrolled in that service delivery model for at least one month.

Results

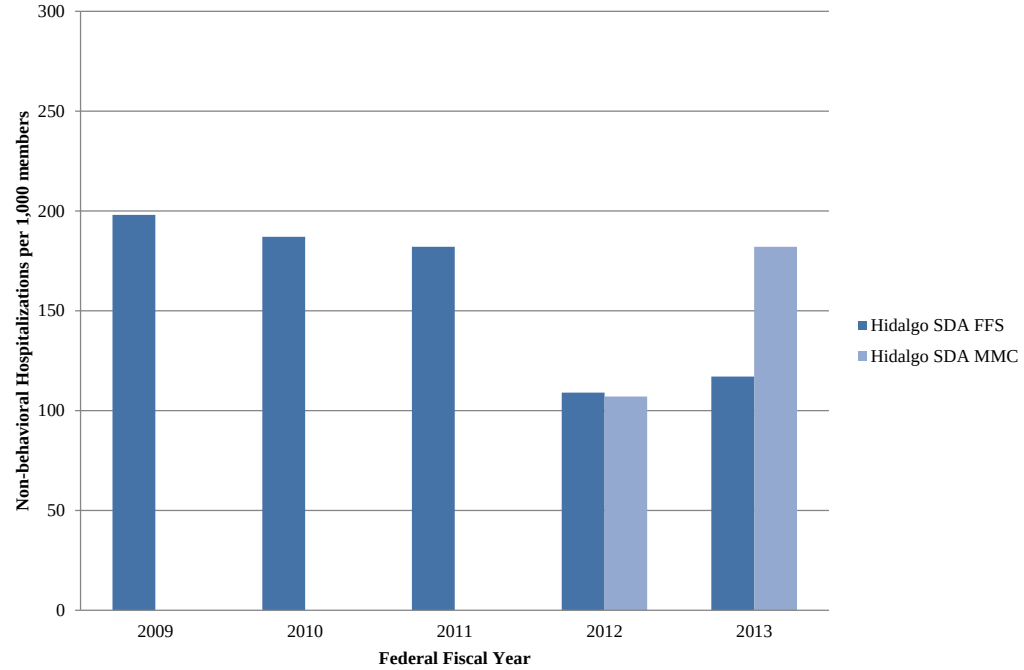
Overall. Rates of non-behavioral health hospitalizations ranged from 97 and 265 episodes per 1,000 members, depending on SDA (see Figures 3.23–3.25). Hospitalization rates peaked in FFY10, but for FFS decreased in FFY11 through FFY13 for each SDA. MMC hospitalization rates were much lower than FFS in FFY12 (DY1), but increased to pre-expansion levels in FY13 (DY2) for each SDA. Hidalgo SDA (see Figure 3.24) had the lowest rates among the newly expanded areas while Lubbock SDA (see Figure 3.23) had the highest rates of non-behavioral health hospitalizations.

Figure 3.23 Non-behavioral Hospitalizations per 1,000 Members by Federal Fiscal Year: Lubbock SDA[1]



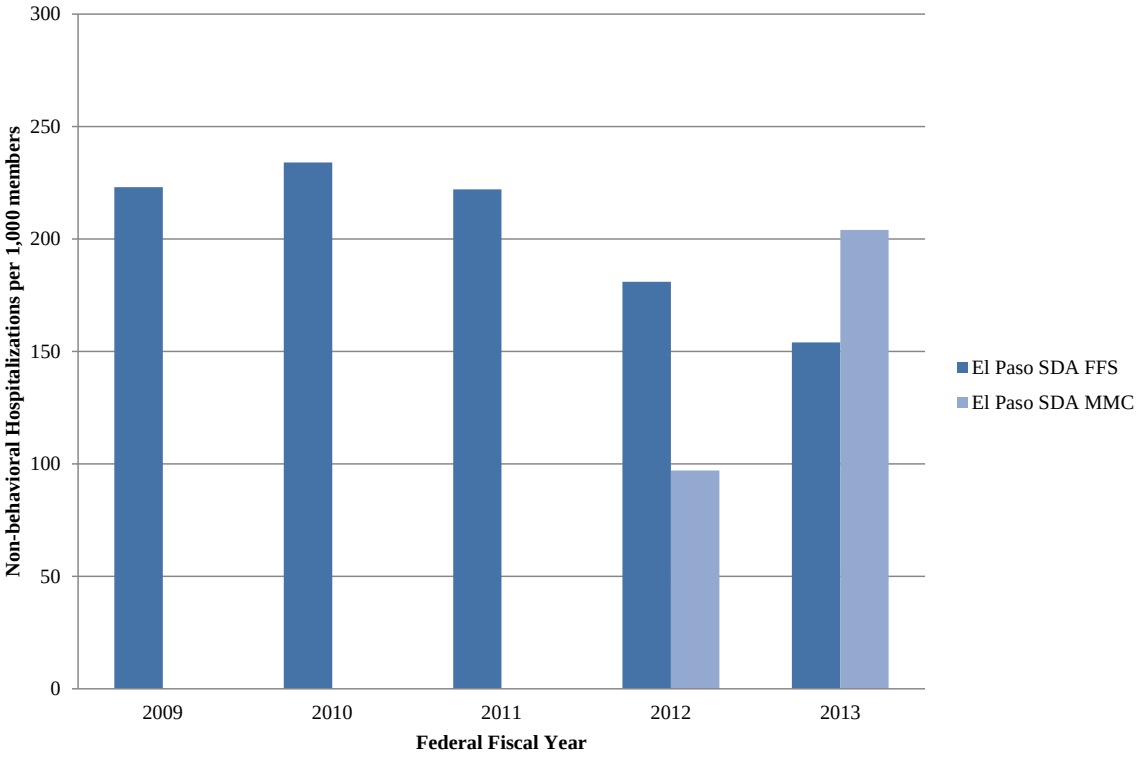
[1] Service Delivery Area (SDA). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.24. Non-behavioral Hospitalizations per 1,000 Members by Federal Fiscal Year: Hidalgo SDA[1]



[1] Service Delivery Area (SDA). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

Figure 3.25. Non-behavioral Hospitalizations per 1,000 Members by Federal Fiscal Year: El Paso SDA[1]



[1] Service Delivery Area (SDA). Fee-for-Service (FFS). Medicaid Managed Care (MMC).

STAR+PLUS –Top Diagnosis and Average Costs of Hospitalizations

Methods

Data Source. All paid and partially paid inpatient hospital claims were obtained from TMHP if the date of service occurred between October 1, 2008 and September 30, 2013.

Unit of Analysis. The unit of analysis was the Medicaid member. A list of Medicaid enrollees was linked to claims and encounter system so that only hospitalizations involving STAR+PLUS eligible and STAR+PLUS clients in the newly expanded SDAs were selected. Member-level data were aggregated and results reported at the SDA-level for each FFY.

After the TMHP system identified inpatient hospitalizations for each Medicaid member, FFS claims and MMC encounters were matched again by each SDA members' unique identifier (i.e., patient control number (PCN)) and eligibility month and year. The analytic dataset for each SDA contained claims or encounters for Medicaid members who were eligible to receive services in a specific service delivery area for the eligibility period. The dataset contained one record for each hospital inpatient stay (or episode) with a unique identifier, inpatient from date of service, inpatient to date of service, and principal diagnosis codes. This dataset was used to report results on the number of hospitalizations for each SDA, counts on the number of members who had

inpatient hospital stays, and cost of hospitalizations for each new service area before and after MMC expansion.

- All diagnoses (including behavioral health ICD-9 codes 290–390) were included in describing top diagnoses listed. In contrast to the previous analysis, diagnoses include both behavioral health and non-behavioral health diagnoses associated with inpatient hospitalizations.

Because FFS and MMC hospital costs are skewed (i.e., not normally distributed), histograms were constructed to show the frequency of hospital episodes at each $5,000 increments.

- Top five principal diagnoses were reported for the least expensive ($0 to $5,000) and most expensive hospital visits ($50,001 and more).

Results

Overall. The majority (approximately 50 percent or more for each SDA and FFY) of FFS hospital episodes costs less than $5,000 with the most frequent diagnoses being behavioral health-related. The most expensive FFS hospital episodes had greater lengths of stays than the least expensive hospital episodes and consisted of diagnoses resulting from congenital anomalies, cancer treatments, and mechanical complications due to implant/grafts.

Conversely the majority (50 percent or more for each SDA and FFY) of MCO hospital episodes costs more than $50K with the most frequent diagnoses being septicemia, diabetes, and congestive heart failure.

When inpatient hospitalizations were carved in to STAR+PLUS capitation rate, MCOs formed contracts with hospital providers establishing payment reimbursements at higher rates than historically covered by FFS. In other words, the difference in what FFS paid for hospitalizations versus what MCOs paid for hospital episodes makes it difficult to compare the two healthcare delivery models.

Overall, the number of hospital episodes (FFS hospital episodes plus MMC hospital episodes) decreased from FFY12 (DY1) to FFY13 (DY2) for Lubbock and Hidalgo SDAs (Lubbock SDA decreased from 3,771 hospital episodes in FFY12 to 3,447 hospital episodes in FFY13; Hidalgo SDA decreased from 10,383 hospital episodes in FFY12 to 10,228 hospital episodes in FFY13), yet El Paso SDA increased from 3,815 hospital episodes in FFY12 to 4,031 in FFY13.

Lubbock. During the study period (FFY09–FFY13), there were 19,989 unique clients with a total of 570,677 member months in the Lubbock SDA (see Table 3.2).

Medicaid FFS paid a total of $99,306,198 for 13,747 unduplicated, non-overlapping inpatient hospitalization episodes. A total of 5,594 STAR+PLUS eligible and STAR+PLUS clients were admitted to a hospital. The Lubbock SDA had 2,868 FFS clients (51 percent) with one inpatient episode and 2,726 FFS clients with more than one hospital episode. There was one FFS client with 44 hospital episodes during the study period.

In contrast, MMC paid a total of $423,590,006 for 3,438 unduplicated, non-overlapping inpatient hospital episodes. A total of 1,549 STAR+PLUS clients were admitted in the hospital. The Lubbock SDA had 869 MMC clients (56.1 percent) with one inpatient episode and 680 MMC clients with more than one hospital episode. There was one MMC client with 32 hospital inpatient episodes during the study period.

Irrespective of the healthcare delivery model (FFS or MMC), the most frequent diagnosis for the least expensive hospital episodes each FFY was major depressive disorder (see Figures 3.26–3.32).

Table 3.2. STAR+PLUS Inpatient Hospital and Outpatient Characteristics[1] by Federal Fiscal Year (FFY): Lubbock Service Delivery Area

	Pre-Program			Post-Program	
	FFY 2009	**FFY 2010**	**FFY 2011**	**FFY 2012**	**FFY 2013**
Characterstic	Count	Count	Count	Count	Count
Number of Medicaid Clients	11,043	11,454	11,887	12,337	12,112
Member Months					
Fee-for-service (FFS)	54,380	55,842	58,015	67,901	57,107
Primary care case management	24,535	25,520	24,913	0	0
Medicaid Managed Care (MMC)	27,062	28,658	31,351	51,880	63,513
Total Member Months	105,977	110,020	114,279	119,781	120,620
FFS Hospital Episodes					
Count of Hospital Episodes	3,061	3,452	3,454	2,449	1,331
Average Length of Stay (days)	7	7	7	7	7
Average Paid per Hospital Episode	$5,715	$6,022	$7,061	$10,137	$9,309
Median Paid per Hospital Episode	$3,936	$3,936	$3,838	$4,840	$4,981
Potentially Preventable Hospitalizations	811	859	818	561	275
MMC Hospital Episodes					
Count of Hospital Episodes	0	0	0	1,322	2,116
Average Length of Stay (days)	0	0	0	5	6
Average Paid per Hospital Episode	$0	$0	$0	$123,358	$123,118
Median Paid per Hospital Episode	$0	$0	$0	$54,847	$59,800
Potentially Preventable Hospitalizations	0	0	0	333	492
FFS Outpatient Emergency Department (ED) visits					
Count of FFS Outpatient ED visits	10,140	11,720	12,507	8,662	4,730
FFS Potentially Preventable ED visits	2,144	2,508	2,711	1,813	1,024
MMC Outpatient ED visits					
Count of MMC Outpatient ED visits	0	0	0	13,263	22,781
MMC Potentially Preventable ED visits	0	0	0	238	423

[1] Potentially Preventable Hospitalizations and ED visits will be described in Chapter 4.

Figure 3.26. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2009: Lubbock Service Delivery Area

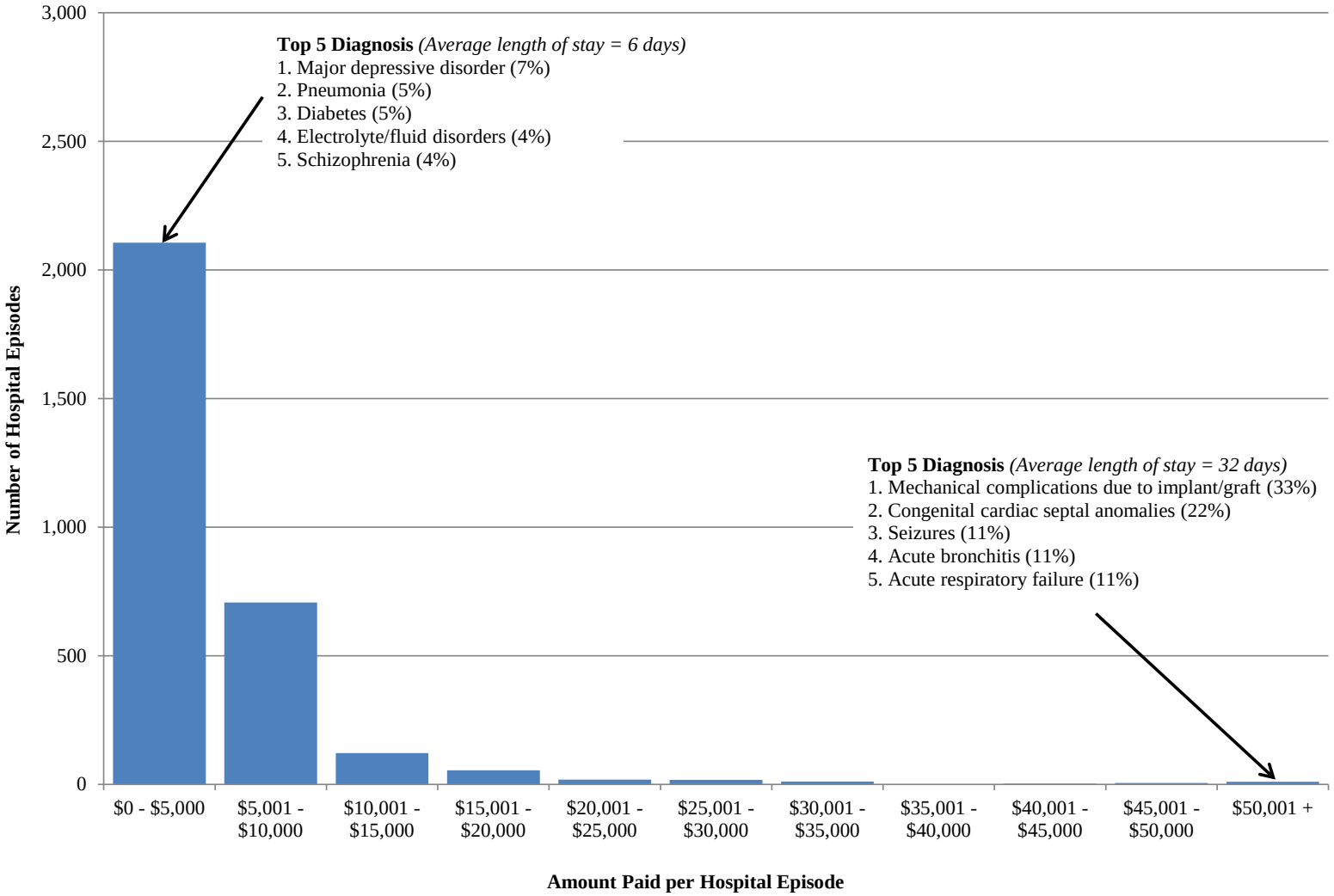


Figure 3.27. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2010: Lubbock Service Delivery Area

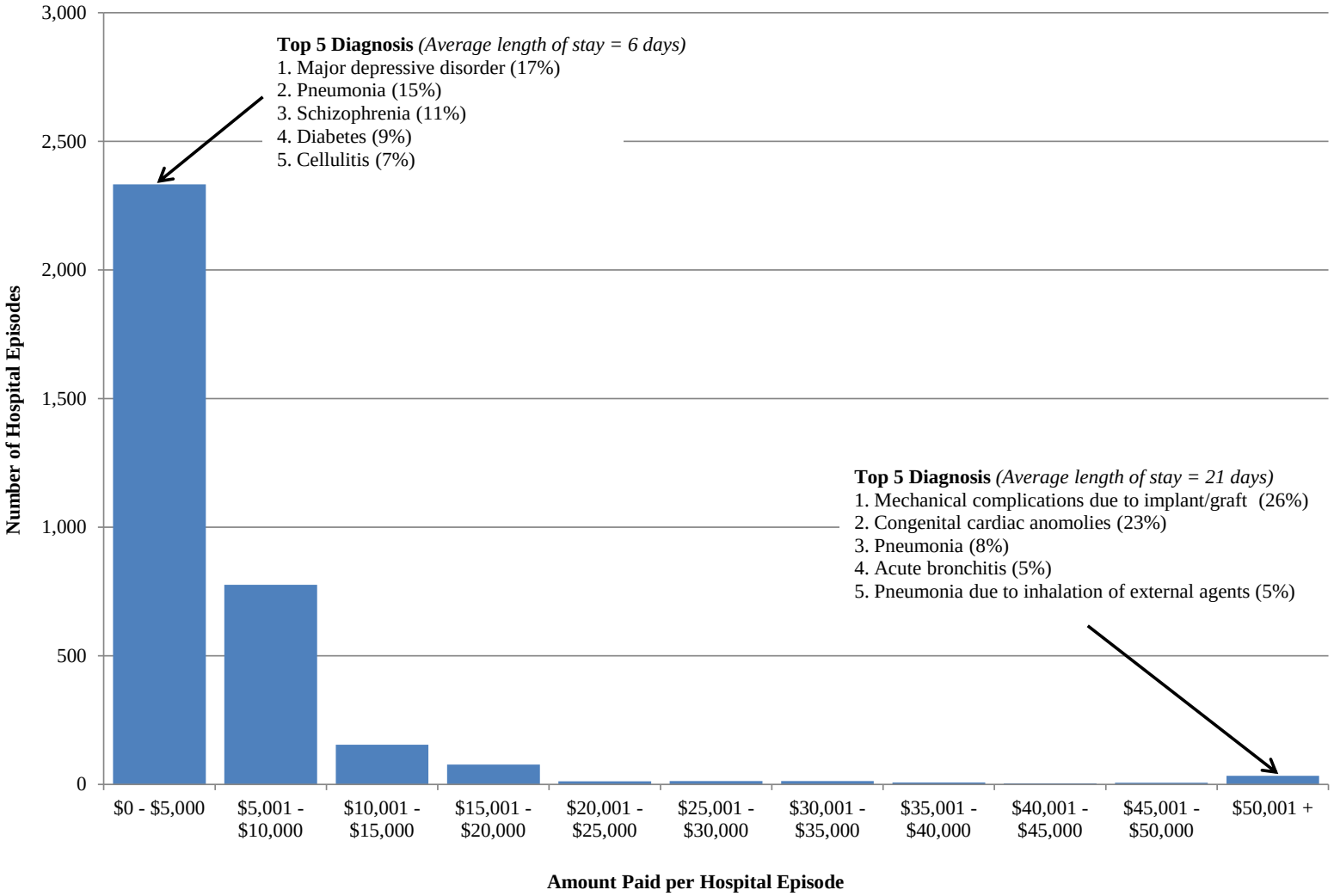


Figure 3.28. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2011: Lubbock Service Delivery Area

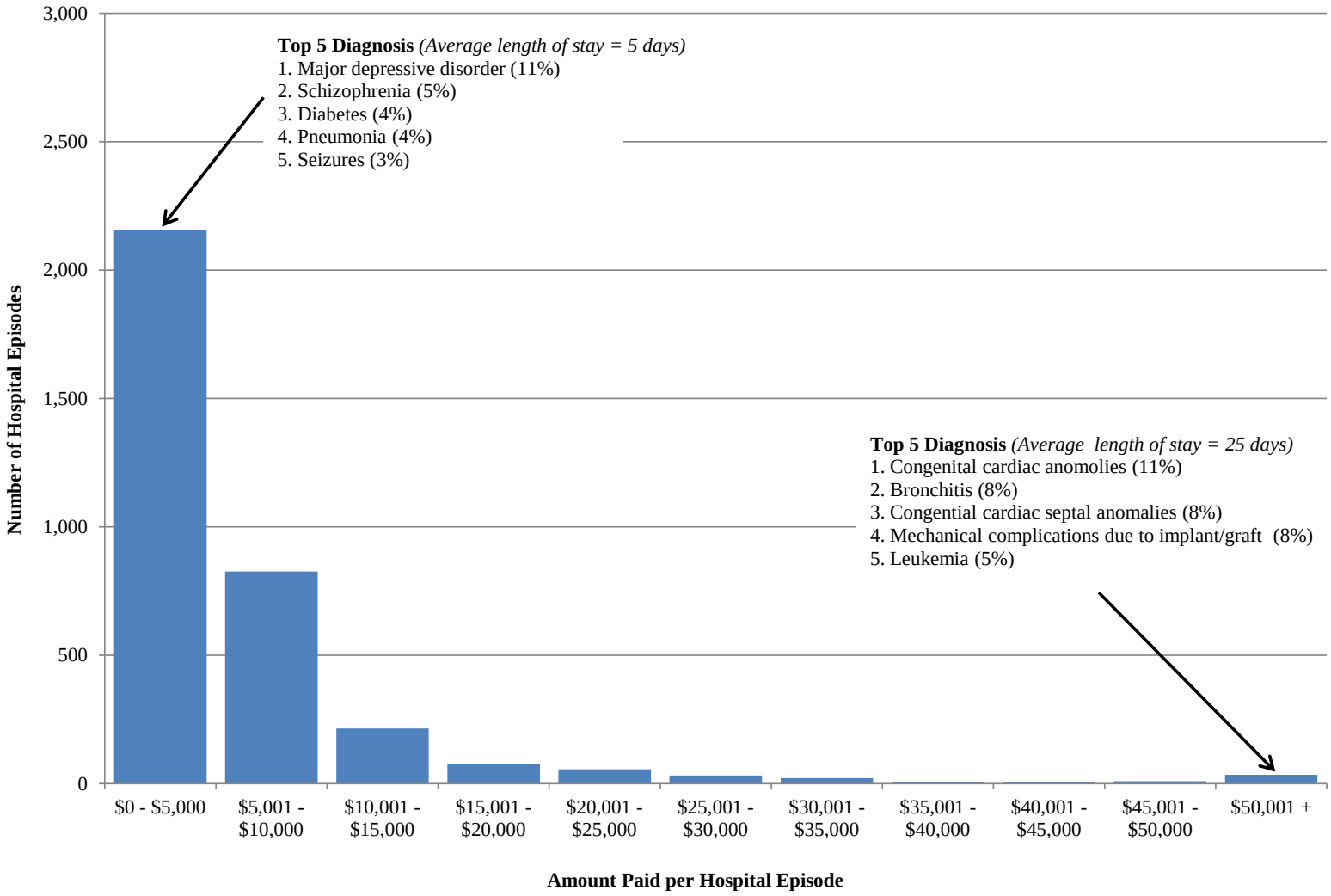


Figure 3.29. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2012: Lubbock Service Delivery Area

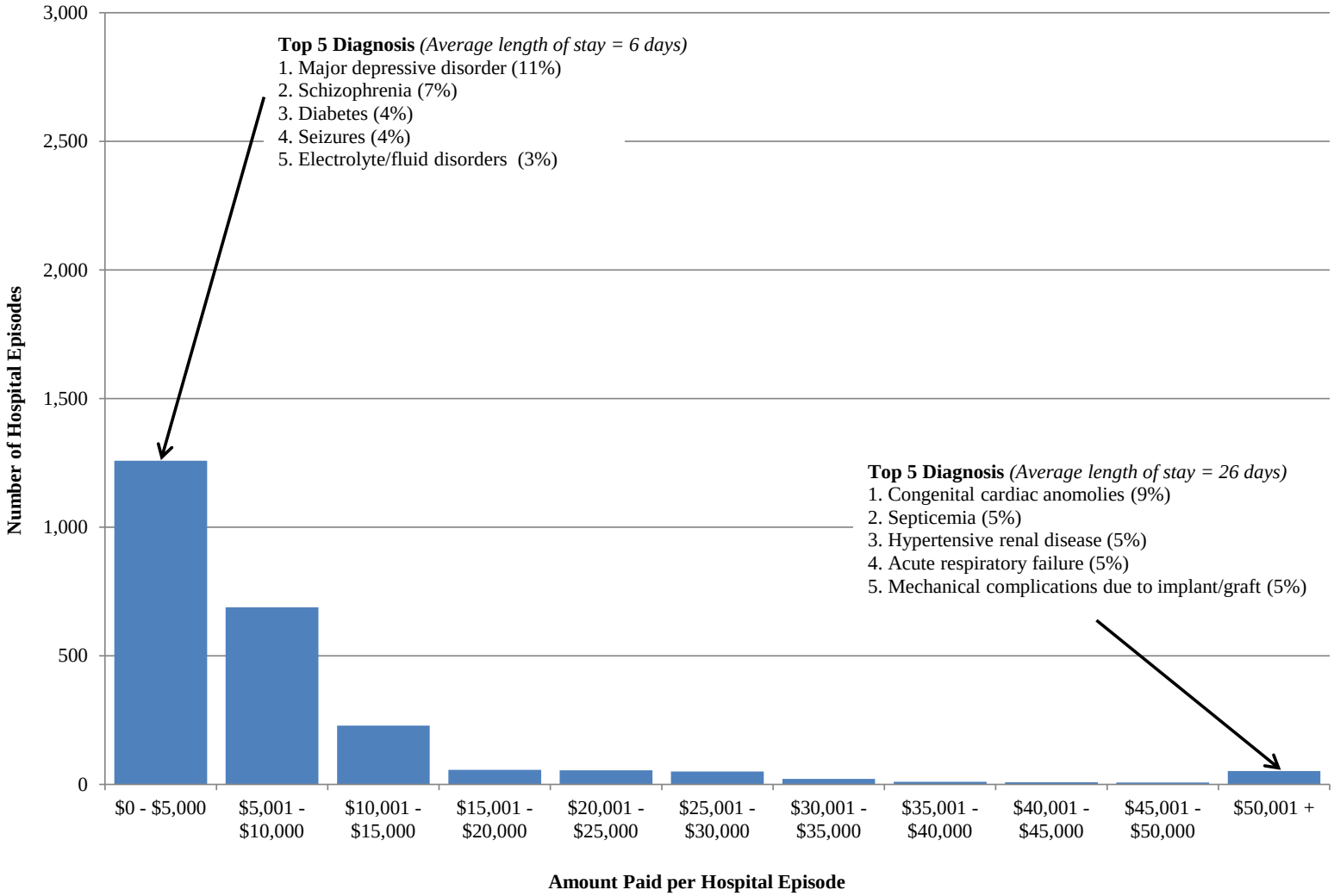


Figure 3.30. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2013: Lubbock Service Delivery Area

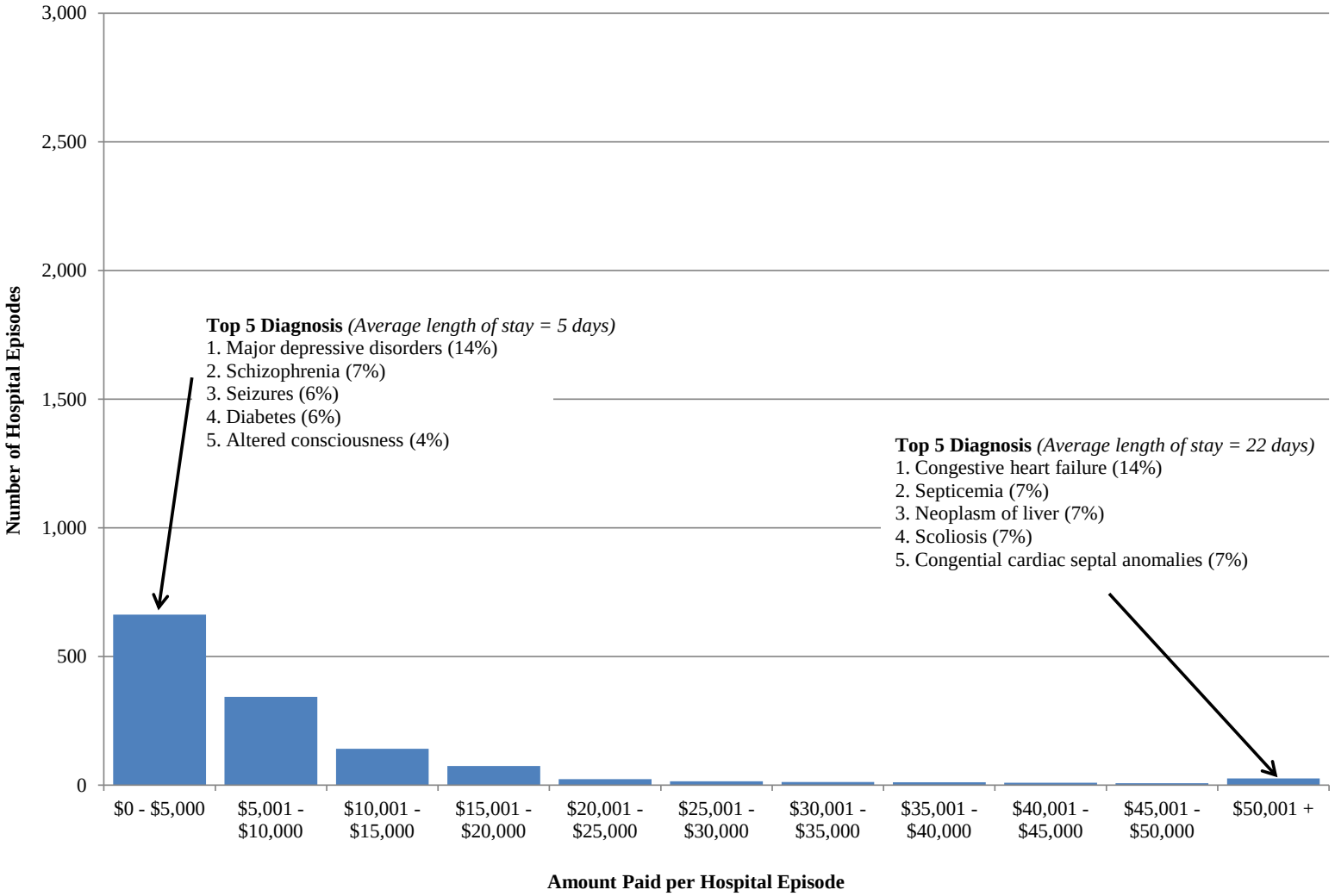


Figure 3.31. Medicaid Managed Care Inpatient Hospitalizations for Federal Fiscal Year 2012: Lubbock Service Delivery Area

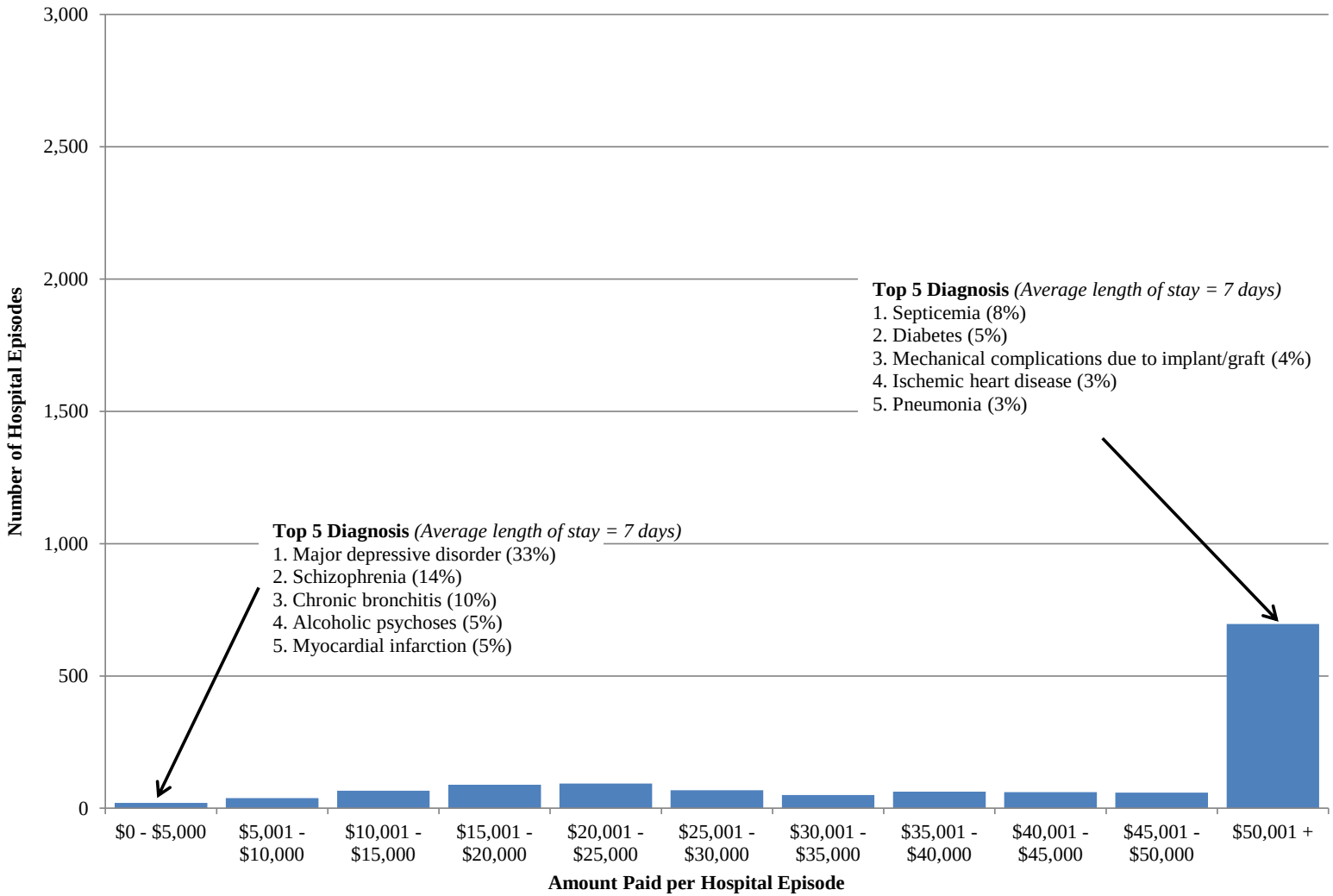
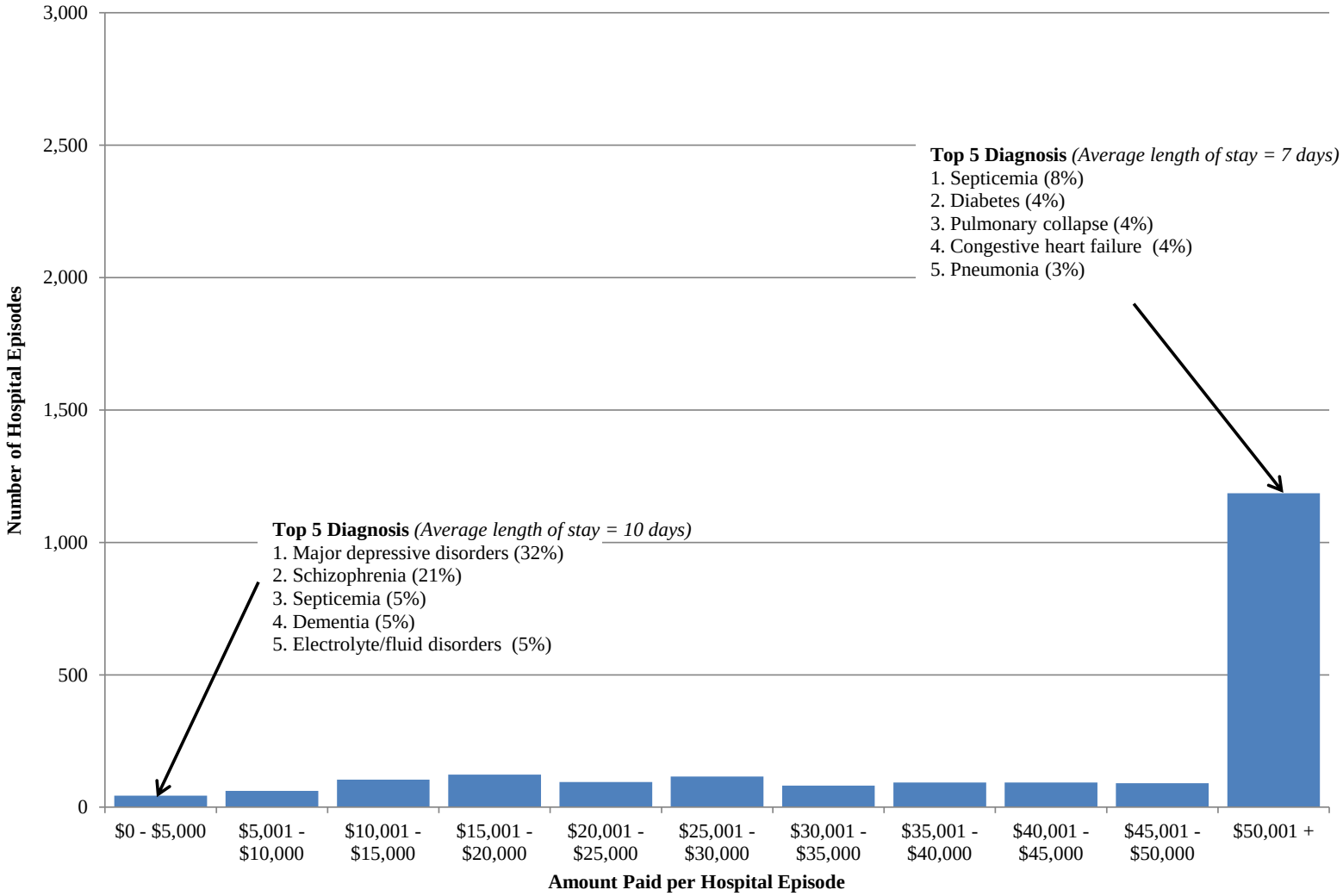


Figure 3.32. Medicaid Managed Care Inpatient Hospitalizations for Federal Fiscal Year 2013: Lubbock Service Delivery Area



Hidalgo. During the study period (FFY09–FFY13), there were 69,023 unique clients with a total of 2,374,909 member months in the Hidalgo SDA (see Table 3.3).

Medicaid FFS paid for a total of $288,786,997 for 41,723 unduplicated, non-overlapping inpatient hospital episodes. A total of 17,620 STAR+PLUS eligible and STAR+PLUS clients were admitted in the hospital. The Hidalgo SDA had 9,269 FFS clients (53 percent) with one inpatient episode and 8,351 FFS clients with more than one hospital episode. There was one client with 51 hospital inpatient episodes during the study period.

In contrast, MMC paid for a total of $1,384,574,267 for 9,922 unduplicated, non-overlapping inpatient hospital episodes. A total of 5,086 STAR+PLUS clients were admitted in the hospital. The Hidalgo SDA had 3,120 MMC clients (61 percent) with one inpatient episode and 1,966 MMC clients with more than one hospital episode. There was one client with 28 hospital inpatient episodes during the study period.

Irrespective of the healthcare delivery model (FFS or MMC), the most frequent diagnosis for the least expensive hospital episodes each FFY was major depressive disorder (see Figures 3.33–3.39).

Table 3.3. STAR+PLUS Inpatient Hospital and Outpatient Characteristics[1] by Federal Fiscal Year (FFY): Hidalgo Service Delivery Area

	Pre-Program			Post-Program	
	FFY 2009	**FFY 2010**	**FFY 2011**	**FFY 2012**	**FFY 2013**
Characterstic	Count	Count	Count	Count	Count
Number of Medicaid Clients	41,234	44,248	46,876	48,487	48,857
Member Months					
Fee-for-service (FFS)	204,588	219,387	215,150	191,691	239,146
Primary care case management	215,455	233,800	265,241	148,471	0
Medicaid Managed Care (MMC)	0	0	0	164,877	277,103
Total Member Months	420,043	453,187	480,391	505,039	516,249
FFS Hospital Episodes					
Count of Hospital Episodes	9,819	10,407	10,808	6,717	3,972
Average Length of Stay (days)	7	7	6	6	7
Average Paid per Hospital Episode	$6,819	$6,556	$6,727	$6,932	$9,089
Median Paid per Hospital Episode	$4,382	$4,064	$3,724	$3,469	$3,610
Potentially Preventable Hospitalizations	2,285	2,334	2,437	1,492	776
MMC Hospital Episodes					
Count of Hospital Episodes	0	0	0	3,666	6,256
Average Length of Stay (days)	0	0	0	5	6
Average Paid per Hospital Episode	$0	$0	$0	$135,236	$141,941
Median Paid per Hospital Episode	$0	$0	$0	$56,800	$59,583
Potentially Preventable Hospitalizations	0	0	0	749	1,180
FFS Outpatient Emergency Department (ED) visits					
Count of FFS Outpatient ED visits	9,819	10,407	10,808	6,717	3,972
FFS Potentially Preventable ED visits	3,007	3,637	3,511	2,389	1,467
MMC Outpatient ED visits					
Count of MMC Outpatient ED visits	0	0	0	29,064	52,936
MMC Potentially Preventable ED visits	0	0	0	274	620

[1] Potentially Preventable Hospitalizations and ED visits will be described in Chapter 4.

Figure 3.33. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2009: Hidalgo Service Delivery Area

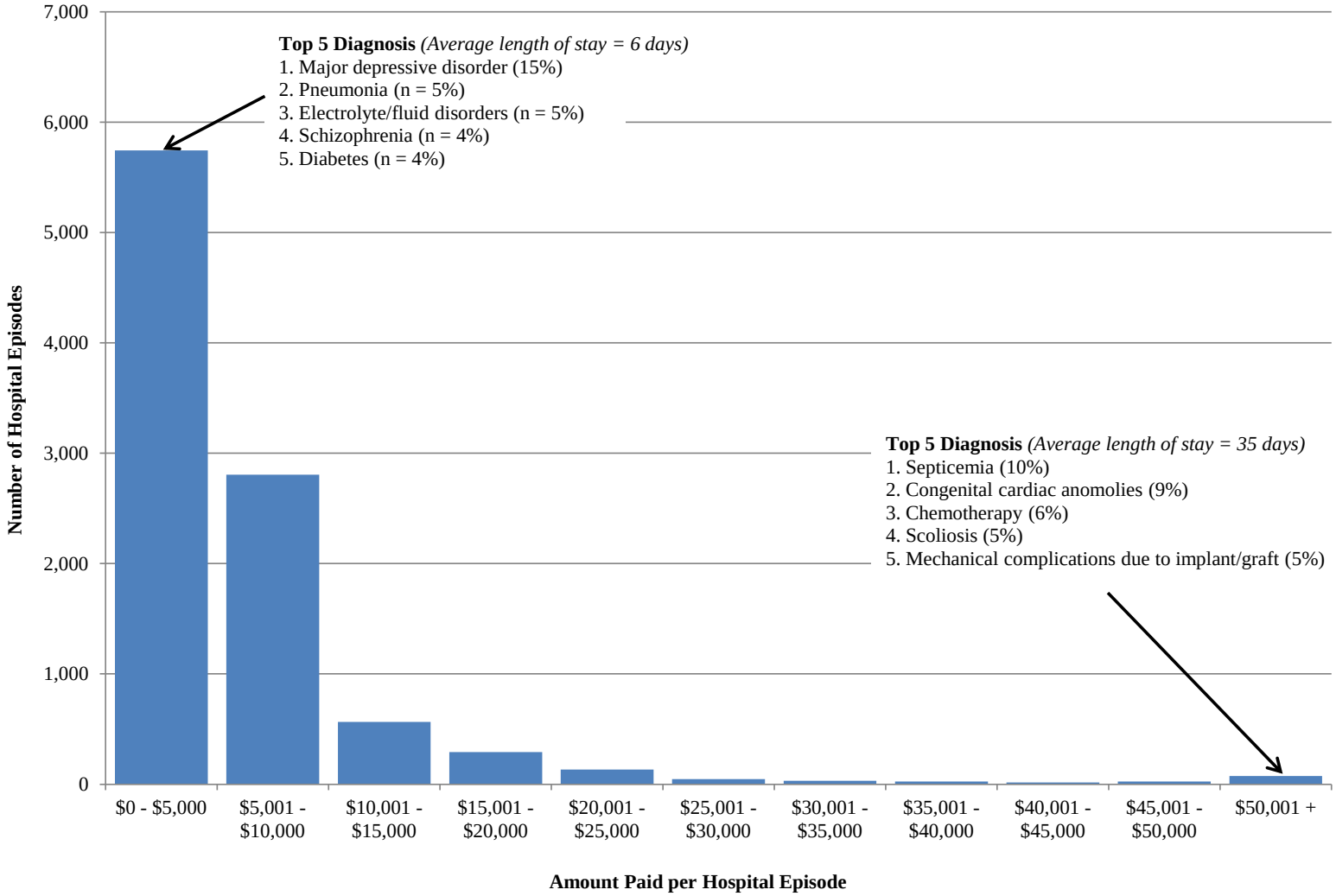


Figure 3.34. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2010: Hidalgo Service Delivery Area

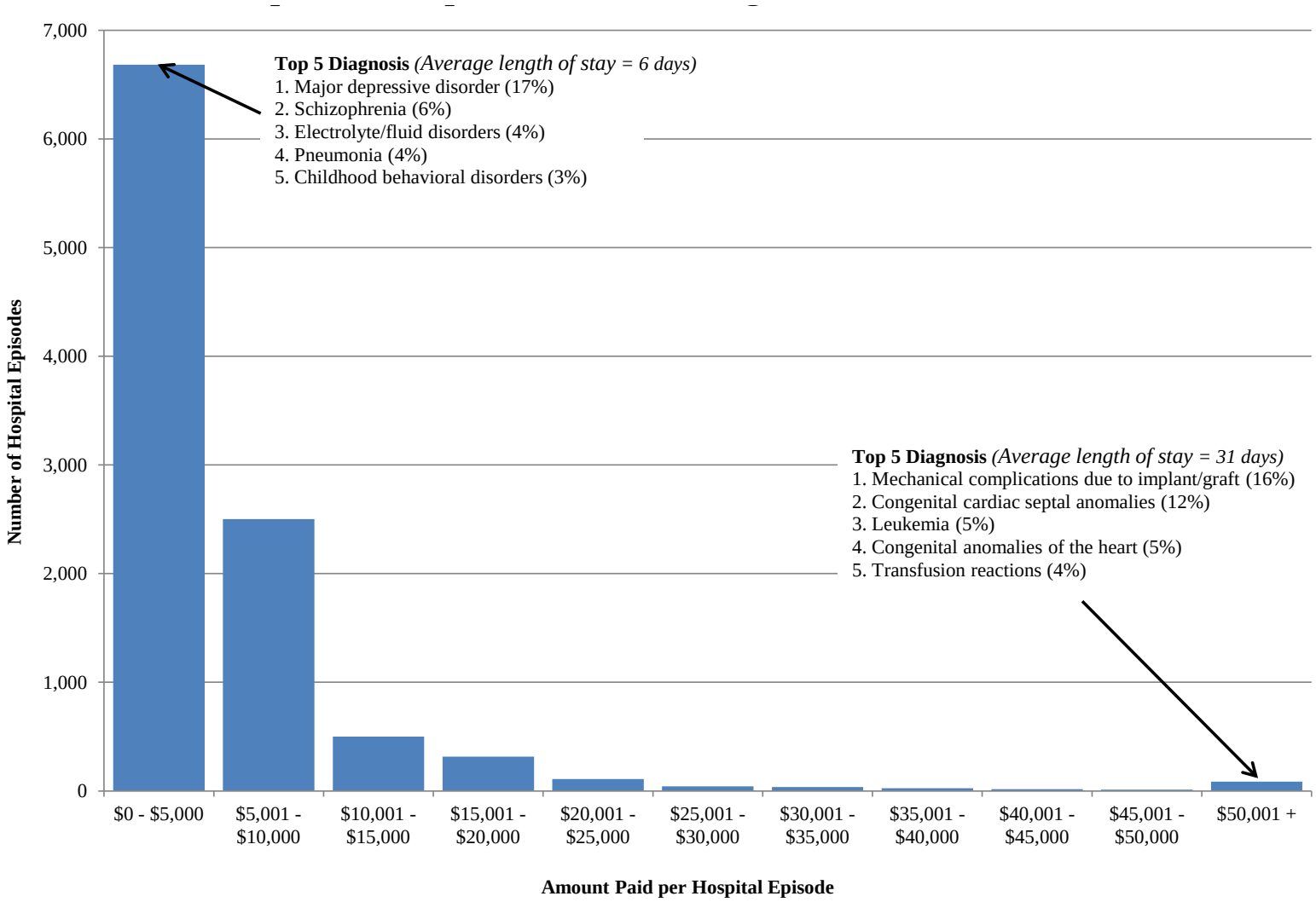


Figure 3.35. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2011: Hidalgo Service Delivery Area

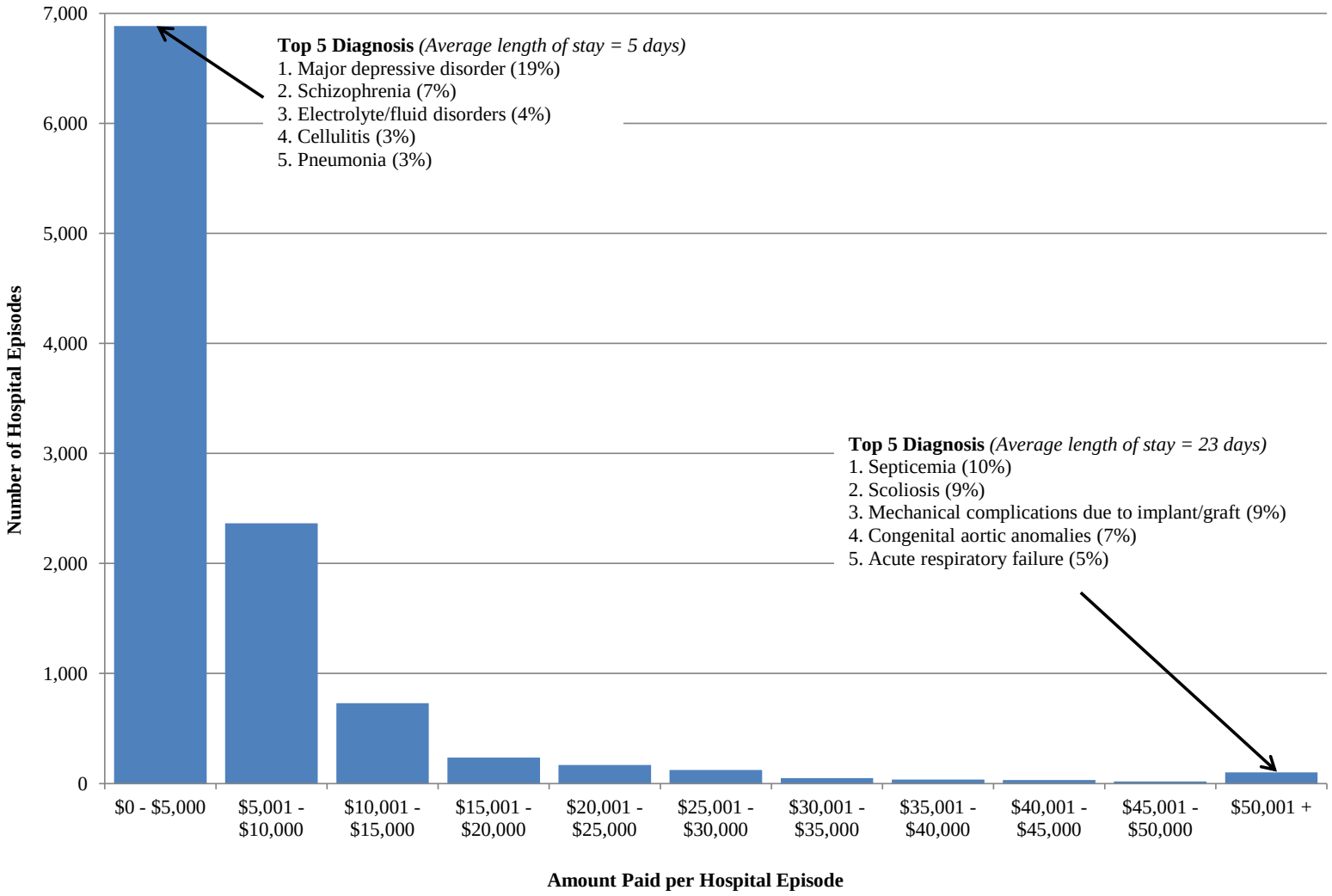


Figure 3.36. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2012: Hidalgo Service Delivery Area

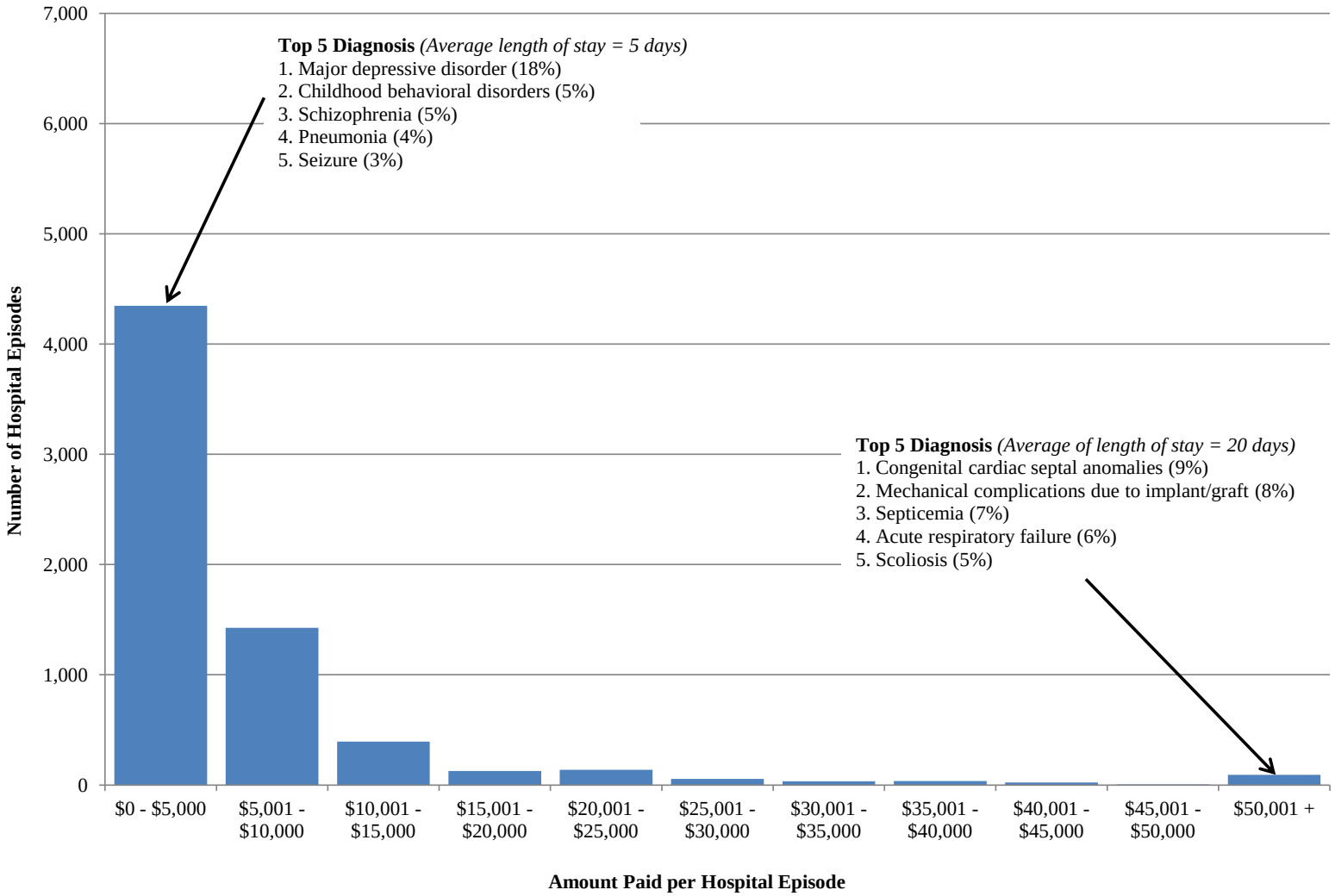


Figure 3.37. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2013: Hidalgo Service Delivery Area

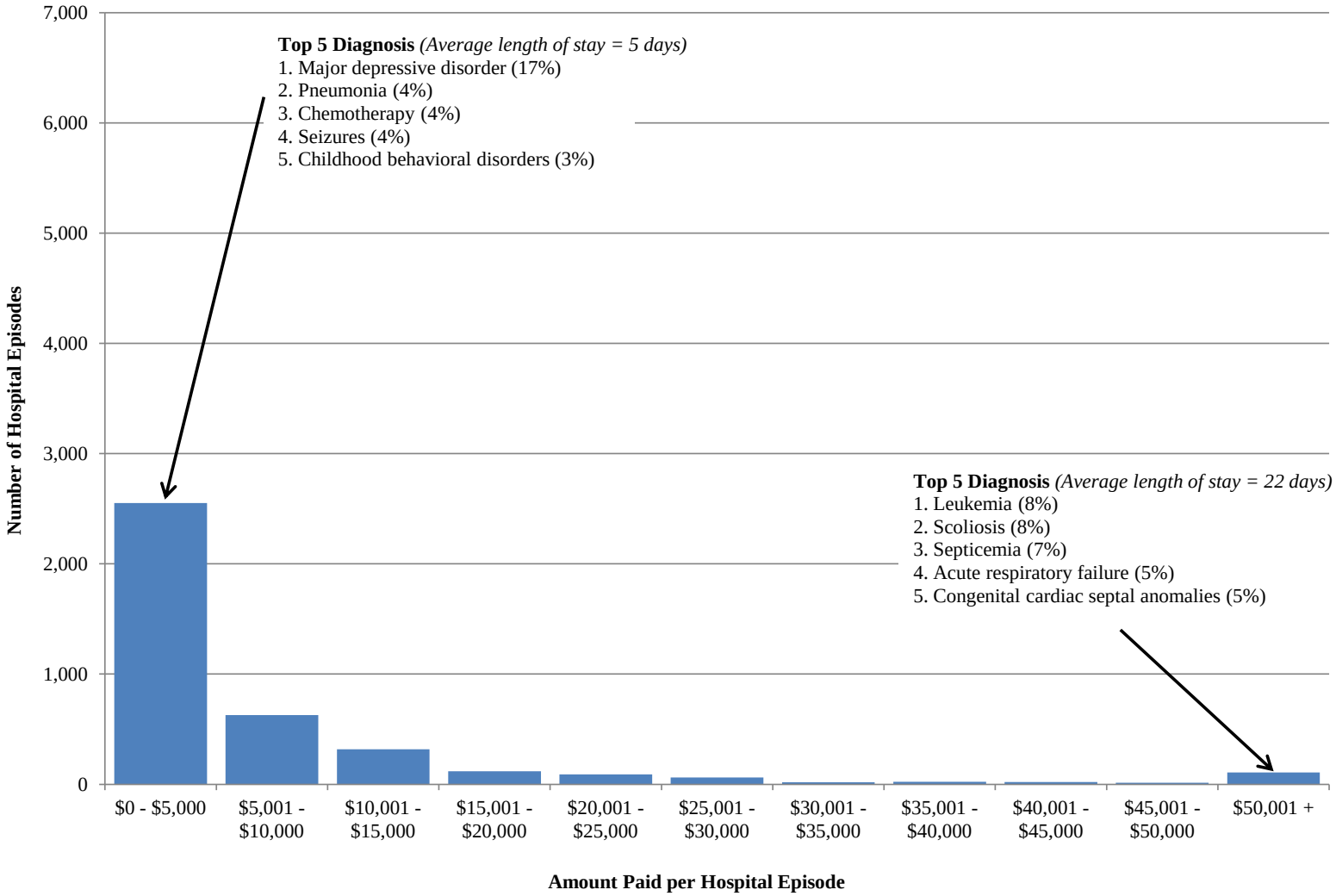


Figure 3.38. Medicaid Managed Care Inpatient Hospitalizations for Federal Fiscal Year 2012: Hidalgo Service Delivery Area

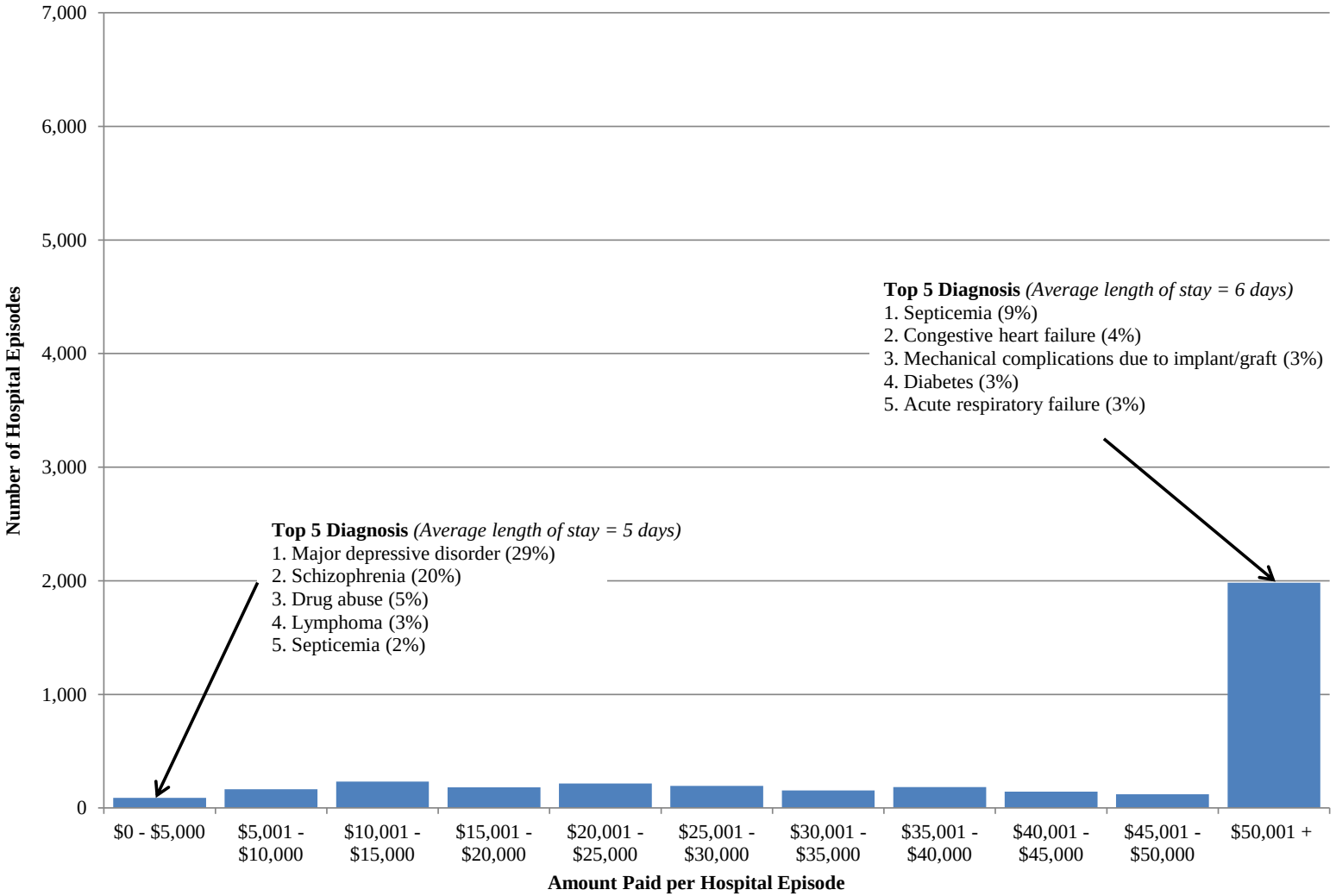
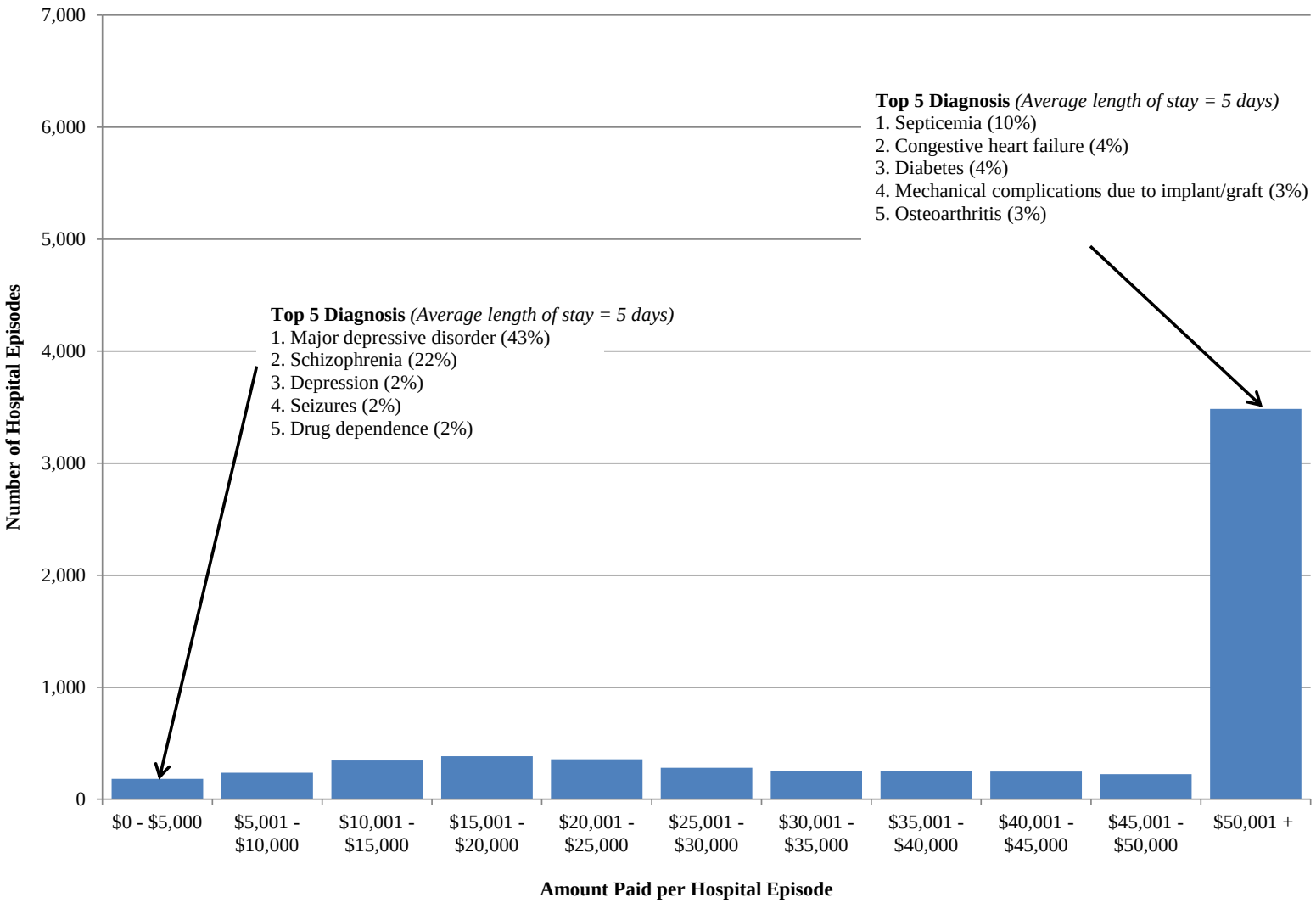


Figure 3.39. Medicaid Managed Care Inpatient Hospitalizations for Federal Fiscal Year 2013: Hidalgo Service Delivery Area



El Paso. During the study period (FFY09–FFY13), there were 24,523 unique clients with a total of 767,236 member months in El Paso SDA (see Table 3.4).

Medicaid FFS paid for a total of $117,193,442 for 14,822 unduplicated, non-overlapping inpatient hospital episodes. A total of 6,044 STAR+PLUS eligible and STAR+PLUS clients were admitted in the hospital. The El Paso SDA had 3,209 FFS clients (53 percent) with one inpatient episode and 2,835 FFS clients with more than one hospital episode. There was one client with 39 hospital inpatient episodes during the study period.

In contrast, MMC paid for a total of $575,098,256.21 for 3,639 unduplicated, non-overlapping inpatient hospital episodes. A total of 1,849 STAR+PLUS clients were admitted in the hospital. The El Paso SDA had 1,091 MMC clients (59 percent) with one inpatient episode and 758 MMC clients with more than one hospital episode. There was one client with 18 hospital inpatient episodes during the study period.

Irrespective of the healthcare delivery model (FFS or MMC), the most frequent diagnosis for the least expensive hospital episodes for most FFYs was major depressive disorder (see Figures 3.40–3.46).

Table 3.4. STAR+PLUS Inpatient Hospital and Outpatient Characteristics[1] by Federal Fiscal Year (FFY): El Paso Service Delivery Area

	Pre-Program			Post-Program	
	FFY 2009	**FFY 2010**	**FFY 2011**	**FFY 2012**	**FFY 2013**
Characterstic	Count	Count	Count	Count	Count
Number of Medicaid Clients	14,474	14,783	15,315	15,735	15,823
Member Months					
Fee-for-service (FFS)	80,367	81,678	82,176	78,886	76,502
Primary care case management	520	517	425	0	0
Medicaid Managed Care (MMC)	62,545	66,884	71,318	79,789	85,629
Total Member Months	143,432	149,079	153,919	158,675	162,131
FFS Hospital Episodes					
Count of Hospital Episodes	3,360	3,646	3,609	2,560	1,647
Average Length of Stay (days)	7	7	7	7	8
Average Paid per Hospital Episode	$7,277	$7,684	$7,554	$8,415	$10,991
Median Paid per Hospital Episode	$5,125	$5,127	$4,960	$4,583	$4,949
Potentially Preventable Hospitalizations	855	944	840	586	363
MMC Hospital Episodes					
Count of Hospital Episodes	0	0	0	1,255	2,384
Average Length of Stay (days)	0	0	0	6	7
Average Paid per Hospital Episode	$0	$0	$0	$165,084	$154,099
Median Paid per Hospital Episode	$0	$0	$0	$74,783	$57,832
Potentially Preventable Hospitalizations	0	0	0	168	320
FFS Outpatient Emergency Department (ED) visits					
Count of FFS Outpatient ED visits	8,953	10,213	11,358	8,446	5,261
FFS Potentially Preventable ED visits	1,310	1,664	1,841	1,352	919
MMC Outpatient ED visits					
Count of MMC Outpatient ED visits	2	3	2	14,029	25,649
MMC Potentially Preventable ED visits	0	0	0	79	188

[1] Potentially Preventable Hospitalizations and ED visits will be described in Chapter 4.

Figure 3.40. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2009: El Paso Service Delivery Area

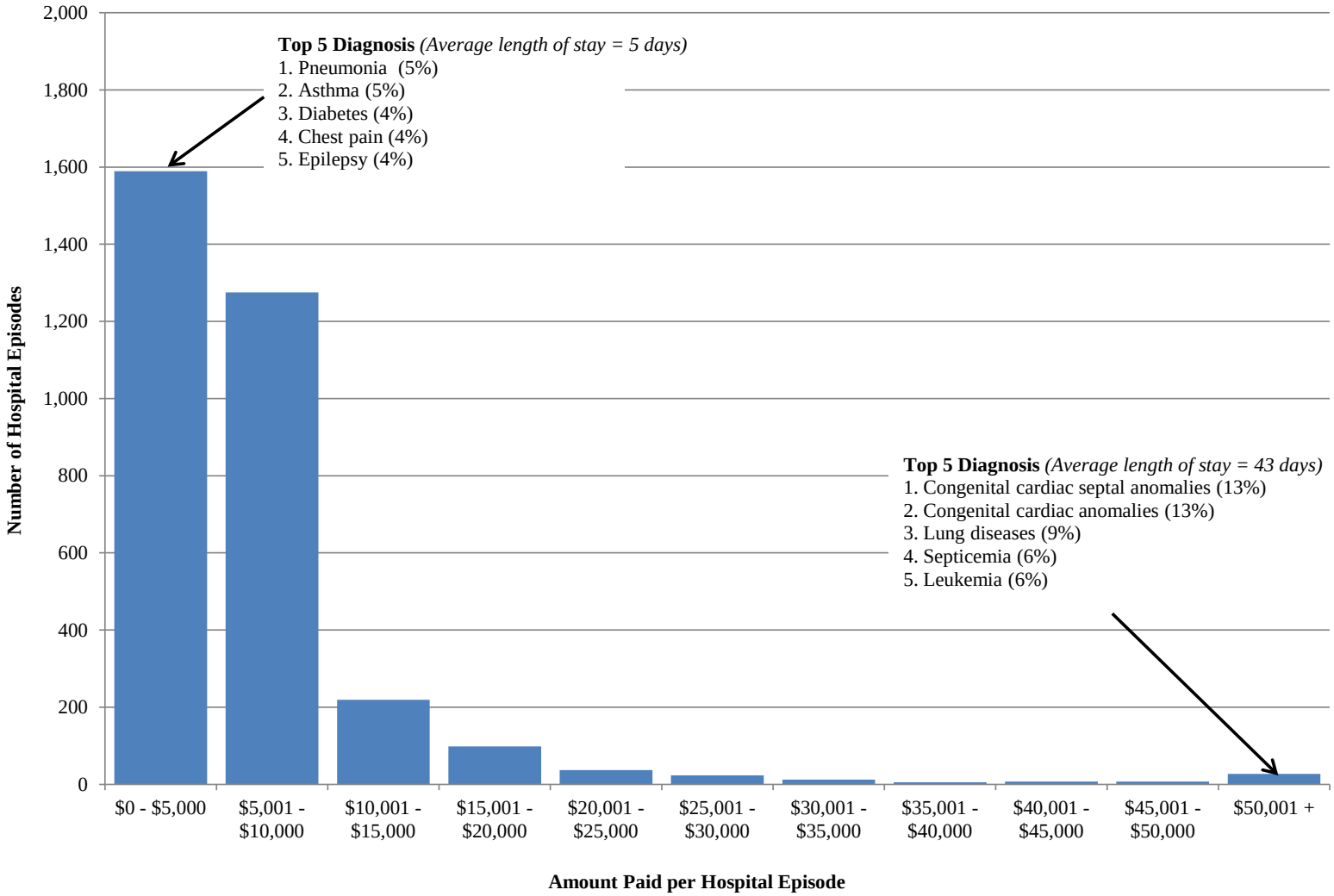


Figure 3.41. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2010: El Paso Service Delivery Area

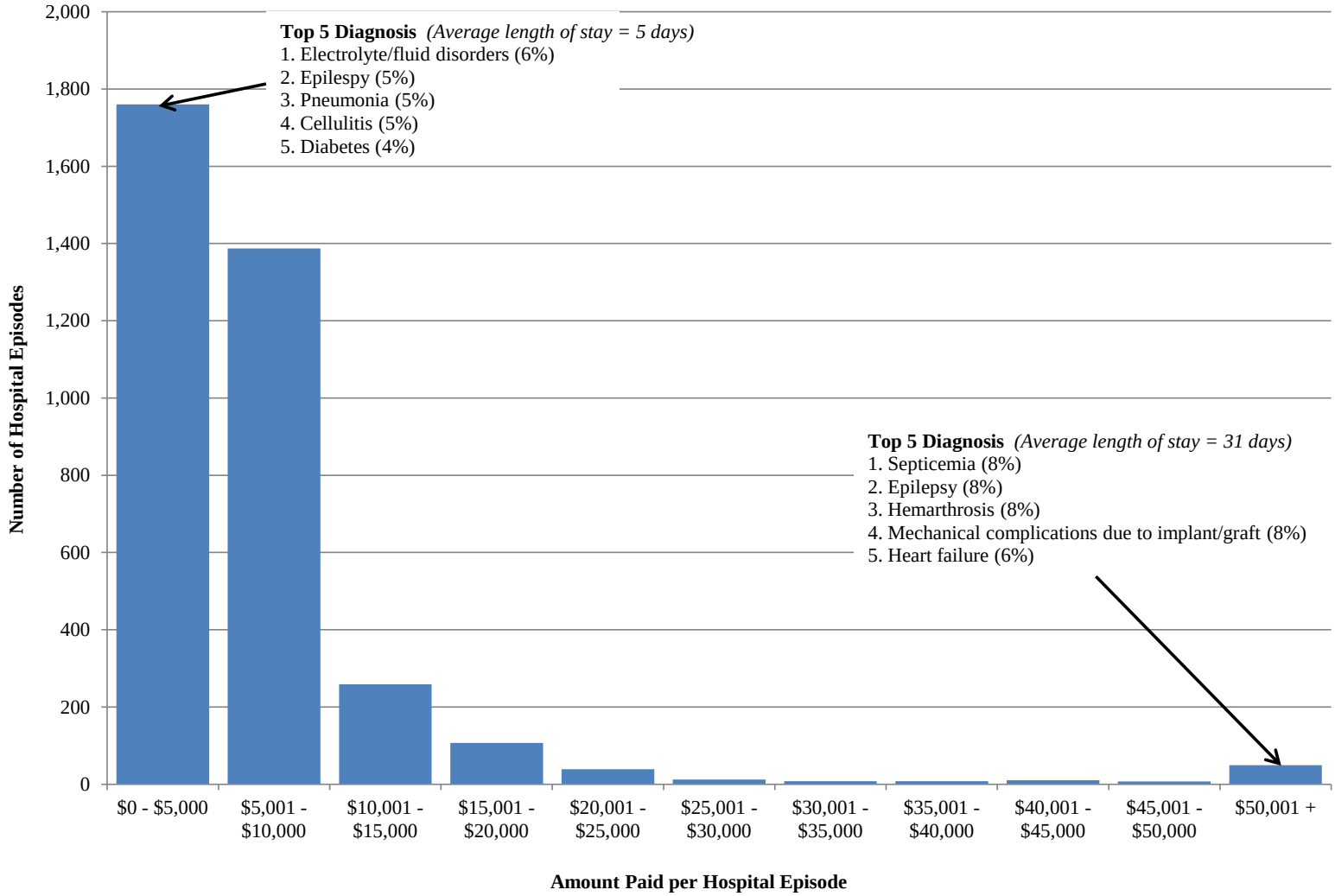


Figure 3.42. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2011: El Paso Service Delivery Area

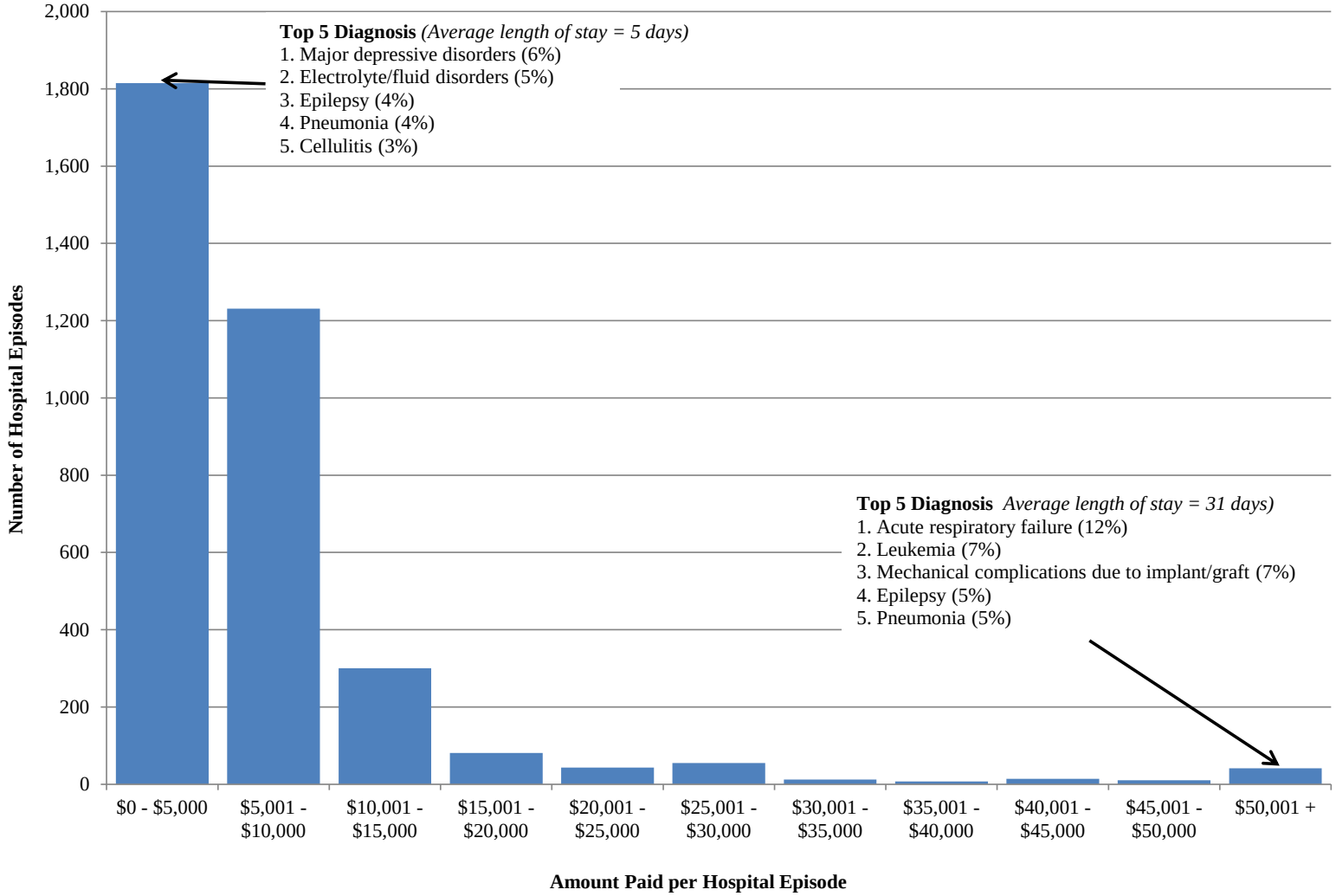


Figure 3.43. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2012: El Paso Service Delivery Area

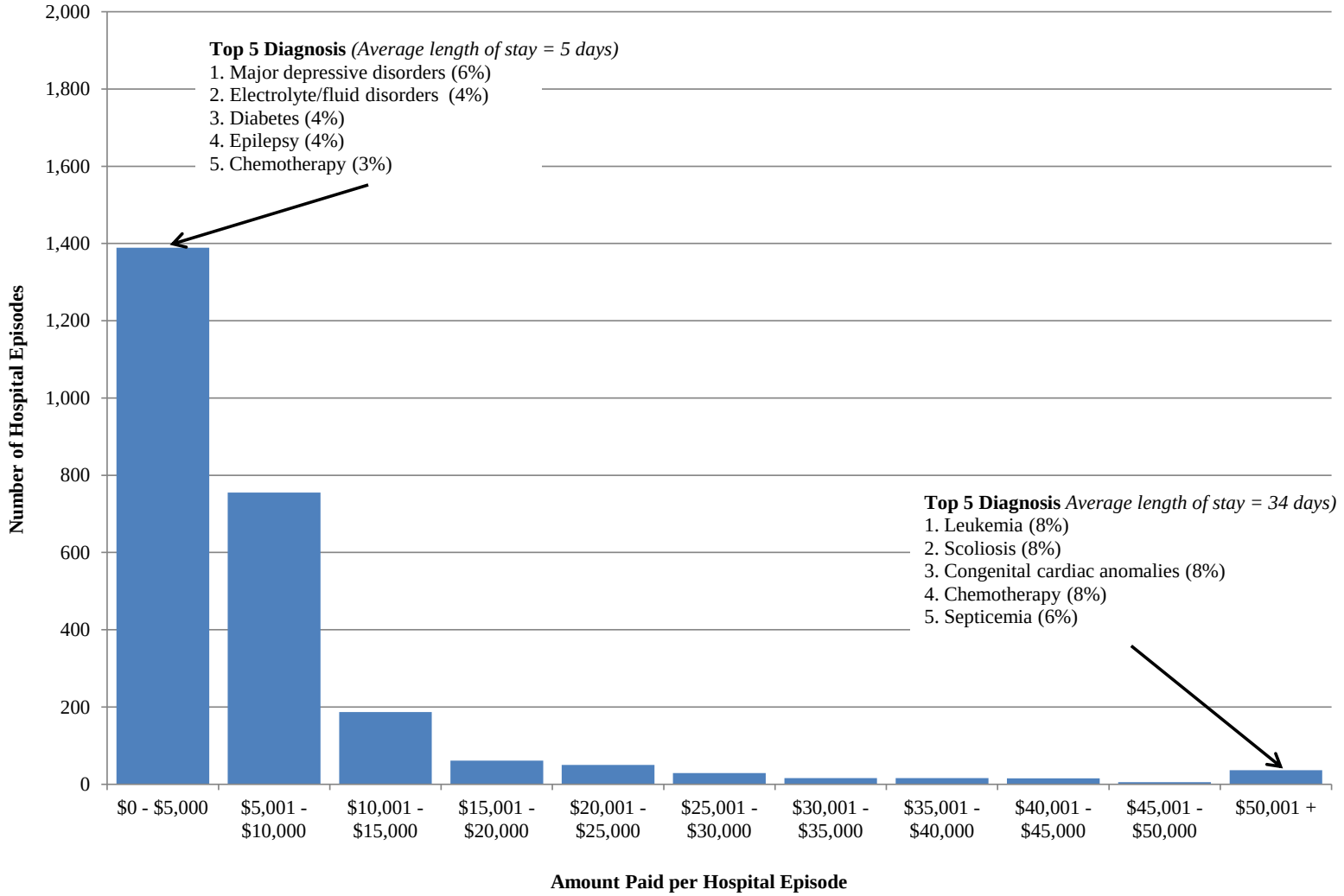


Figure 3.44. Fee-for-Service Inpatient Hospitalizations for Federal Fiscal Year 2013: El Paso Service Delivery Area

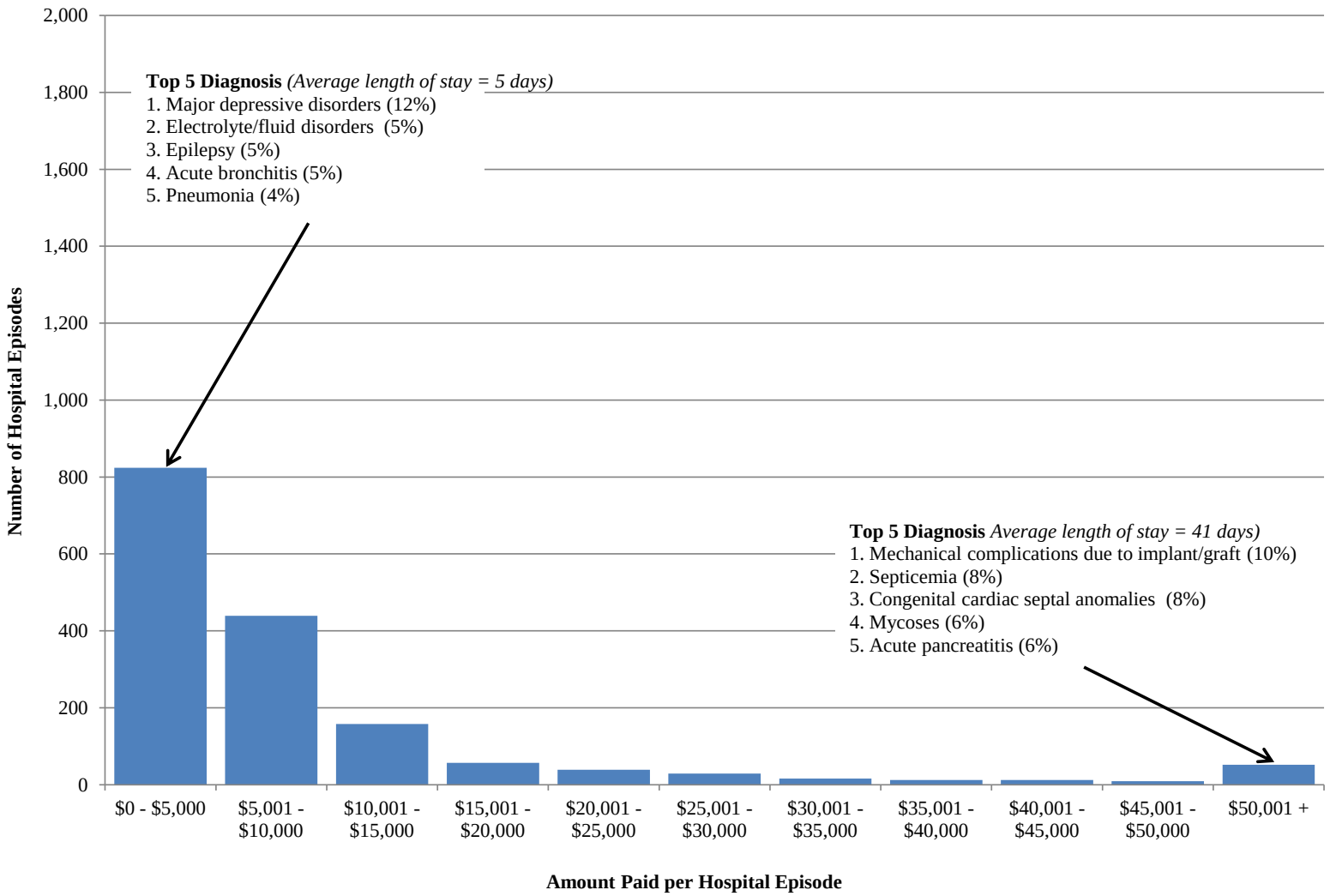


Figure 3.45. Medicaid Managed Care Inpatient Hospitalizations for Federal Fiscal Year 2012: El Paso Service Delivery Area

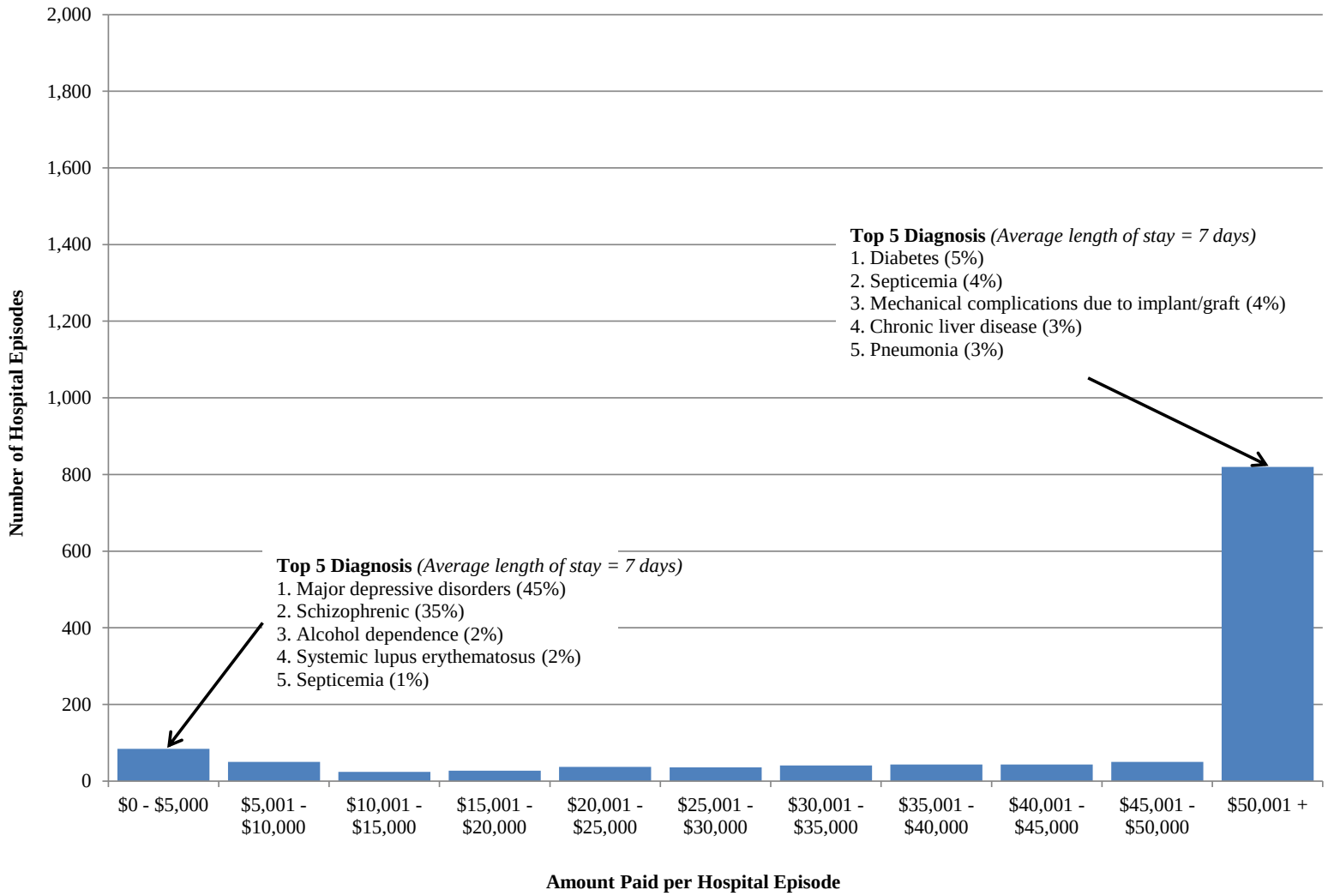
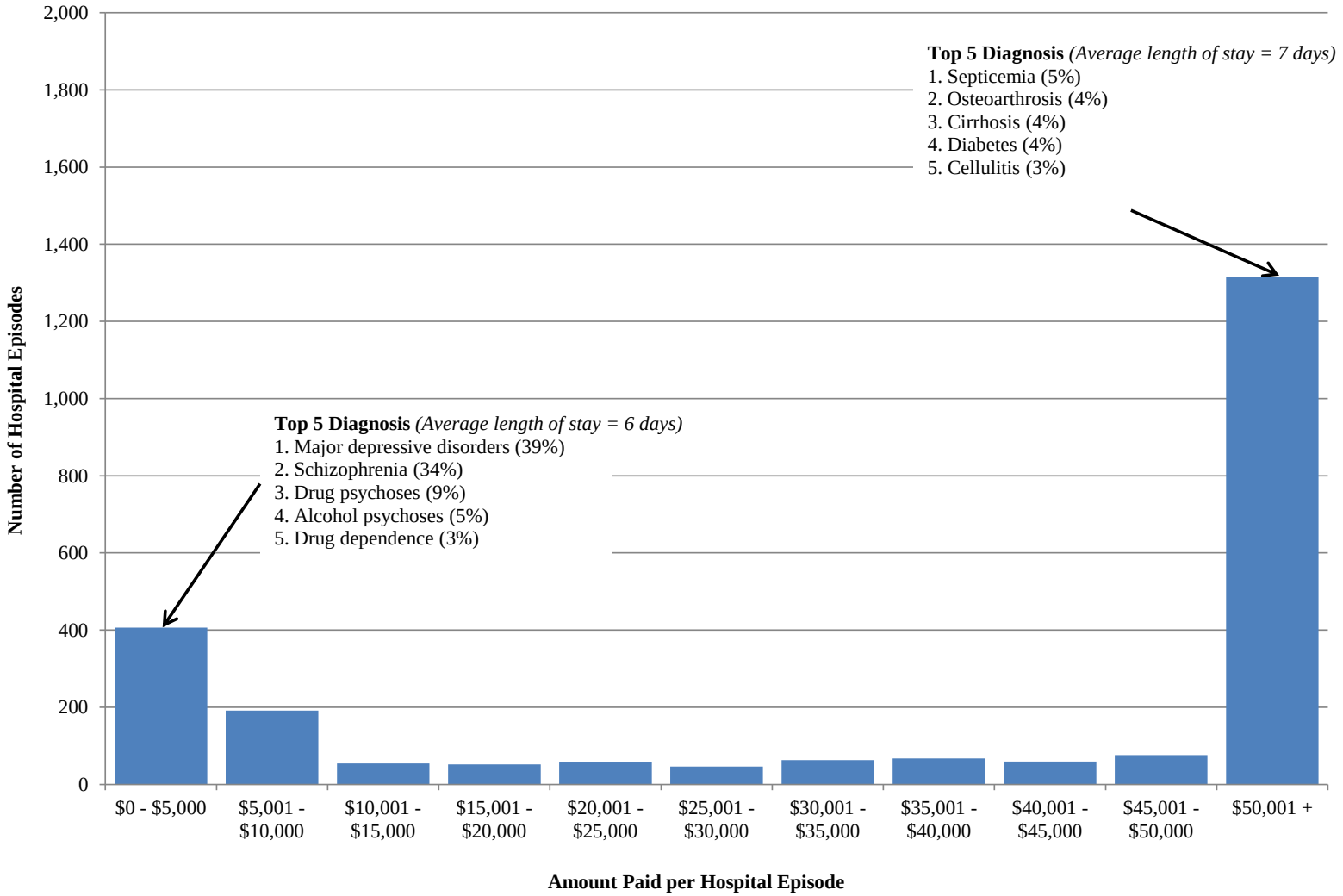


Figure 3.46. Medicaid Managed Care Inpatient Hospitalizations for Federal Fiscal Year 2013: El Paso Service Delivery Area



STAR+PLUS – Average Miles to Closest Participating Hospital

Methods

Data Sources. Acute care hospital providers were obtained from the TMHP/Texas Health and Human Services Commission (HHSC) monthly provider referent file for a pre-expansion month (September 2011). The post-expansion files of acute care hospital providers were obtained from provider roster files submitted by Texas Medicaid STAR+PLUS MCOs serving clients in El Paso, Hidalgo, and Lubbock SDAs as of February 2015.

Member data sources were obtained from Texas Medicaid Program, monthly point in time enrollment files for September 2011 and February 2015. Providers and Medicaid members were geocoded—a process transforming a mailing address to a location on the Earth's surface. The shortest distance between each member and the closest participating acute care hospital was calculated using ArcGIS® v10.2.

Acute Care Hospitals. An acute care hospital is a hospital that provides inpatient medical care and other related services for surgery, acute medical conditions or injuries (usually for a short-term illness or condition). An inpatient stay means that a client had at least a 24-hour stay in a facility licensed to provide Hospital care. Acute care hospital providers were identified by nine Standard Program Codes (see Table 3.5).

Independent t-tests were examined for each SDA to compare whether mean distances pre- and post-expansion were significantly different using SAS® v9.2. Results were compared to contractual access requirements established by HHSC for acute hospital providers.

Table 3.5. Acute Care Hospital Specialty Types

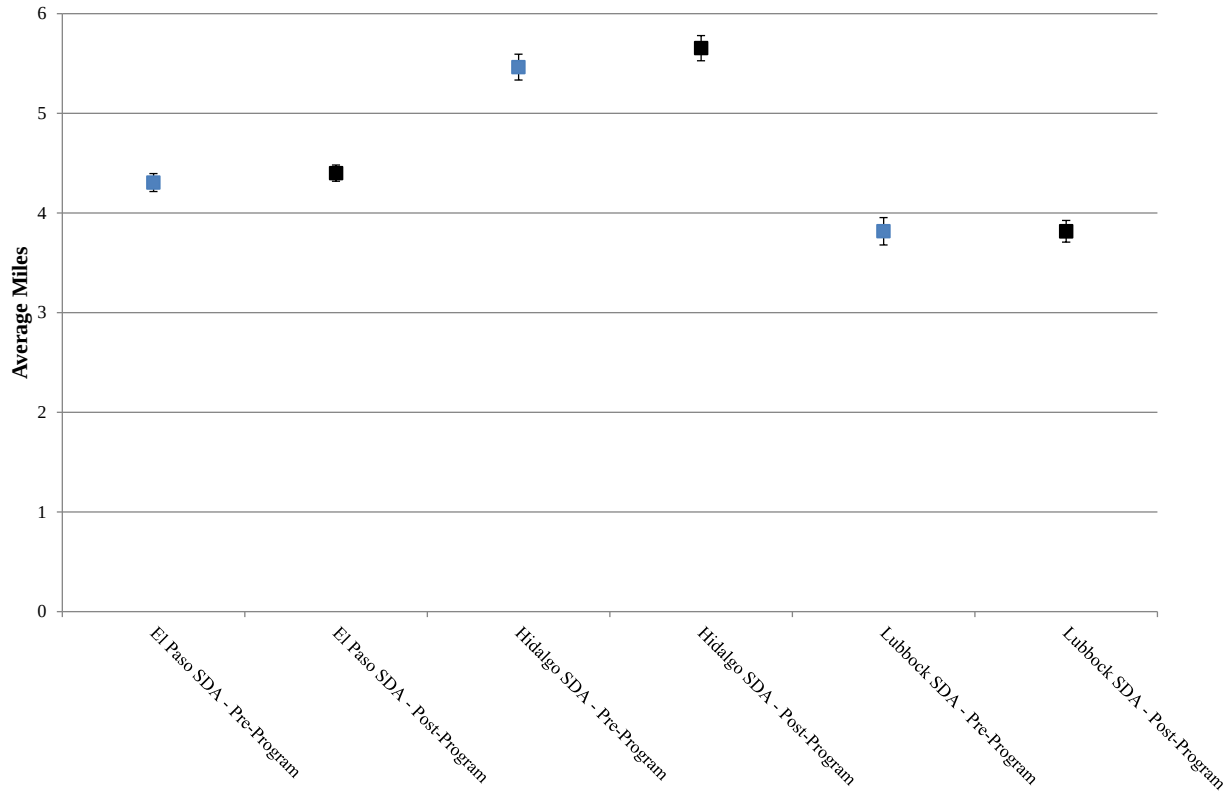
Medicaid Standard Program Code	Acute Care Hospital Specialty Type Description
80	Children's Hospital
81	Hospital – Teaching Affiliate
83	Hospital – Profit/Acute (1–50 beds)
84	Hospital – Profit/Acute (51–100 beds)
86	Hospital – Profit/Acute (101 and more beds)
89	Hospital – Nonprofit/Acute (1–50 beds)
90	Hospital – Nonprofit/Acute (51–100 beds)
91	Hospital – Nonprofit/Acute (101–250 beds)
92	Hospital – Nonprofit/Acute (251 and more beds)

Results

Overall. All STAR+PLUS expansion SDAs met the 30 mile access requirement for acute care hospitals (Section 4.3.4.1 Travel Distances in Uniform Managed Care Contract).[19] On average, Hidalgo SDA post-expansion members were 0.2 miles further from an acute care hospital than pre-expansion members (5.7 vs. 5.5 average miles, respectively; $p < 0.05$) (see Figure 3.47). There were no statistically significant differences in average miles from acute care hospitals to member's residence for the El Paso and Lubbock SDAs.

Medicaid member access did not change with the expansion of STAR+PLUS into the new SDAs.

Figure 3.47. Average Distance in Miles from Acute Care Hospitals to Medicaid Members' Residence (Pre- and Post-Texas Medicaid Managed Care Expansion), STAR+PLUS Expansion Service Delivery Areas (SDAs)



[19] https://www.hhsc.state.tx.us/medicaid/managed-care/forms.shtml

CHILDREN'S DENTAL SERVICE ACCESS AND QUALITY OF CARE

The final process measure addressed in the interim evaluation report examining MMC expansion concerns whether Program expansion activities impacted children's access to dental providers and quality of care.

Children's Access to Dental Services

Tooth decay, or dental caries, is one of the most common, yet preventable, diseases of childhood—five times more common than asthma (United States Department of Health and Human Services, 2000). Oral health has a major effect on children's health, education, and well-being. Research shows that, compared to peers that received dental care, children who do not receive dental care miss a significant number of school days, use more expensive emergency room services, and face worsened job prospects as adults (Edmunds, & Coye, 1998; Jackson, Vann, Kotch, Pahel, & Lee, 2011).

The American Dental Association, the American Academy of Pediatric Dentistry, and the American Academy of Pediatrics all recommend a child have a dental visit by 12 months of age and receive screening and preventive care visits at regular intervals thereafter (American Academy of Pediatric Dentistry, 2013). Compliance with recommended dental visits is one indicator of the quality of dental care received. Since Healthy People 2010, oral health has been included to measure and highlight the importance of preventive dental care.[20] Emphasis on preventive dental care is based on the public health principle that preventing disease is less costly in the long-term and reduces the need for future invasive treatments (Runyan, 1998).

All Medicaid-enrolled children under age 21 are entitled to dental screening, diagnostic, preventive, and treatment services under Medicaid's Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program.[21] In Texas, the EPSDT program is known as Texas Health Steps. Service costs are included in capitated managed care organization (MCO) rates for children enrolled in managed care. Children not in capitated managed care or children receiving retroactive coverage have their medical and other care costs paid through Medicaid FFS. All Texas Health Steps dental costs for children were paid through FFS until the inclusion of dental services in managed care on March 1, 2012.

Recent data from the *2014 Annual Report on Quality of Care for Children in Medicaid and CHIP* (United States Department of Health and Human Services, 2014) suggest that, while access to dental services among children in Medicaid has increased over the last decade, Texas remains among the top quartile of states for providing preventive dental services (53 percent of Texas clients ages one to 20 received at least one dental treatment service, placing the state in the

[20] http://www.healthypeople.gov/

[21] http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Benefits/Early-and-Periodic-Screening-Diagnostic-and-Treatment.html

75th national percentile) and treatment services (31 percent of Texas clients ages 1 to 20 received at least one treatment service, placing them in the 75th percentile).

History of Dental Managed Care Organizations (DMOs) in Texas

Beginning March 1, 2012, the majority of eligible Medicaid clients began receiving dental services through a capitated managed care model, rather than the traditional FFS service model. After a Request for Proposal period to obtain services from at least two statewide DMOs to provide Medicaid and Children's Health Insurance Program (CHIP), dental services three vendors were initially awarded a contract to begin operations March 1, 2012: Delta Dental, MCNA Dental, and DentaQuest.

On December 1, 2012, Delta Dental ceased providing dental services to Texas Medicaid and CHIP Dental Services Programs. HHSC cancelled the contract with Delta Dental because the company failed to establish a computer system for providers to submit claims in a timely manner. In December 2012, the 1.1M children enrolled in the Delta Dental program were transferred to one of the other two remaining managed care dental plans. Due to these contracting issues, HHSC informed clients and temporarily suspended provider requirements until February 28, 2013 in order to avoid delays in dental access.

In 2011, the Texas Legislature required an external evaluator to determine the impact of providing dental services through a managed care model based on access, quality, and cost outcomes (2012–13 General Appropriations Act, H.B.1, 82nd Legislature, Regular Session 2011, Article II, Rider 54).

During the first six months of post-expansion data, the external evaluator (Public Consulting Group, Inc., 2013) found the following.

- The number of orthodontic requests for prior authorization decreased, which seems appropriate, given the concerns of over-utilization of these services.
- The ratio of dental providers to client declined from 15:1,000 under FFS to 12:1,000 under DMOs.
- Orthodontia services decreased units by 72 percent and payments to providers for orthodontia services decreased by 81 percent.
- Preventive and diagnostic services were the least impacted by the transition from FFS to DMO.

The primary focus of the interim evaluation report was to monitor trends in access and quality, defined as the initiation and maintenance of dental service utilization, during the transition between the healthcare delivery models and to identify potential issues for the final evaluation report.

Analysis

One measure is included in the interim evaluation report examining whether Program expansion activities impacted children's access to dental providers and quality of care.

- ***Participating children's access to dental services.*** As children's dental care benefits were delivered through capitated statewide dental services (Children's Medicaid Dental services), access to dental care for plan members will be measured and monitored over the demonstration period.

Methods

In order to evaluate Program impact of the carved-in Children's Medicaid Dental program on access and quality of care, the evaluation examined dental service utilization before and after the roll-out of the capitated managed care dental program.

Data Source

Paid or partially paid fee-for-service claims and managed care encounters were collected if the date of service occurred between September 1, 2009 through August 31, 2014 (dates correspond with SFY 2010–2014). Encounter and claims were defined by CPT procedure codes by service category groups:

- ***Diagnostic.*** Includes dental services used to detect dental disease and may include X-rays (bitewing and full-mouth) and intraoral occlusal film;
- ***Preventive.*** Includes dental services that are concerned with the prevention of dental diseases through educational and protective measures and may include routine office visits, cleanings, topical fluoride, or sealants;
- ***Restorative.*** Includes dental services used to restore the function and integrity of teeth due to disease or injury and may include fillings, crowns, or replacement of missing teeth;
- ***Orthodontic.*** Includes dental services used for the treatment of irregularly aligned teeth or jaw and may include braces or oral surgery; and
- ***All Other.*** Includes service categories not included in diagnostic, preventive, restorative, or orthodontia, such as endodontics, periodontics, prosthetics, implants, and oral surgery. [22]

[22] http://dentrix.com/help/mergedProjects/Office%20Manager/desktop/ADA-CDT_Dental_Codes_list.htm

Unit of Analysis

The unit of analysis was EPSDT clients aggregated to age cohorts. Seven age cohorts were constructed:

- < 1 years old,
- 1 to 2 years old,
- 3 to 5 years old,
- 6 to 9 years old,
- 10 to 14 years old,
- 15 to 18 years old, and
- 19 to 20 years old.

These seven age cohorts are based on EPSDT age breakdowns and allow for adequate pre- and post-expansion comparisons to baseline data.

Study population

Analysis was limited to Medicaid children ages 0 through 20 years old.

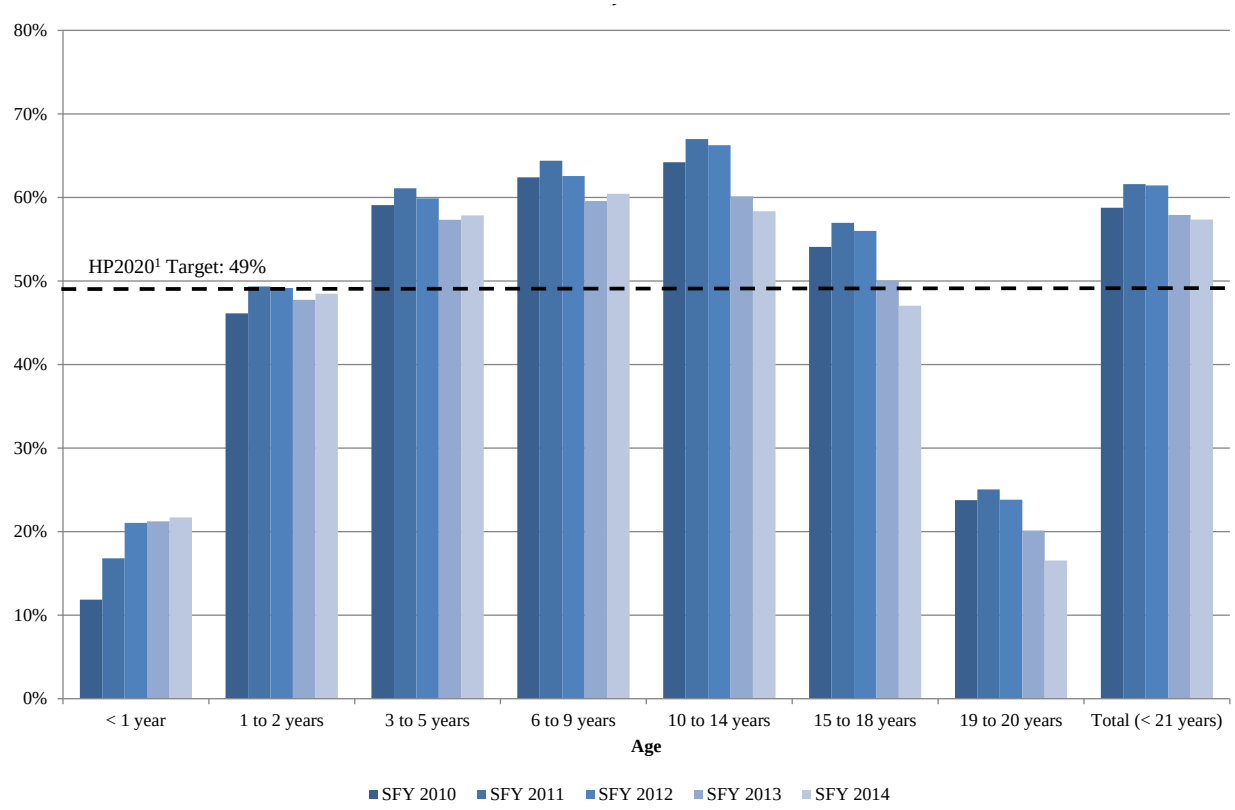
Utilization of Dental Services

Calculations regarding utilization of dental services were restricted to the unduplicated number of children who had received one dental service in one state fiscal year. Utilization was calculated as the percent of children receiving that dental service category (diagnostic, preventive, restorative, orthodontic, and all other services).

Results

Overall, almost 60 percent of Texas Medicaid children (age 0–20 years) had a dental visit in the past SFY (from 2010–2014), exceeding the Health People 2020 target of 49 percent (see Figure 3.48). However, analysis by age cohort shows a slight decrease in utilization since SFY13, especially for Medicaid children 10 years and older. Children aged 19–20 had the lowest utilization rates of any age cohort.

Figure 3.48. Proportion of Texas Medicaid Eligible Children Who Had at Least One Dental Visit in the Past Year, State Fiscal Year (SFY) 2010–2014



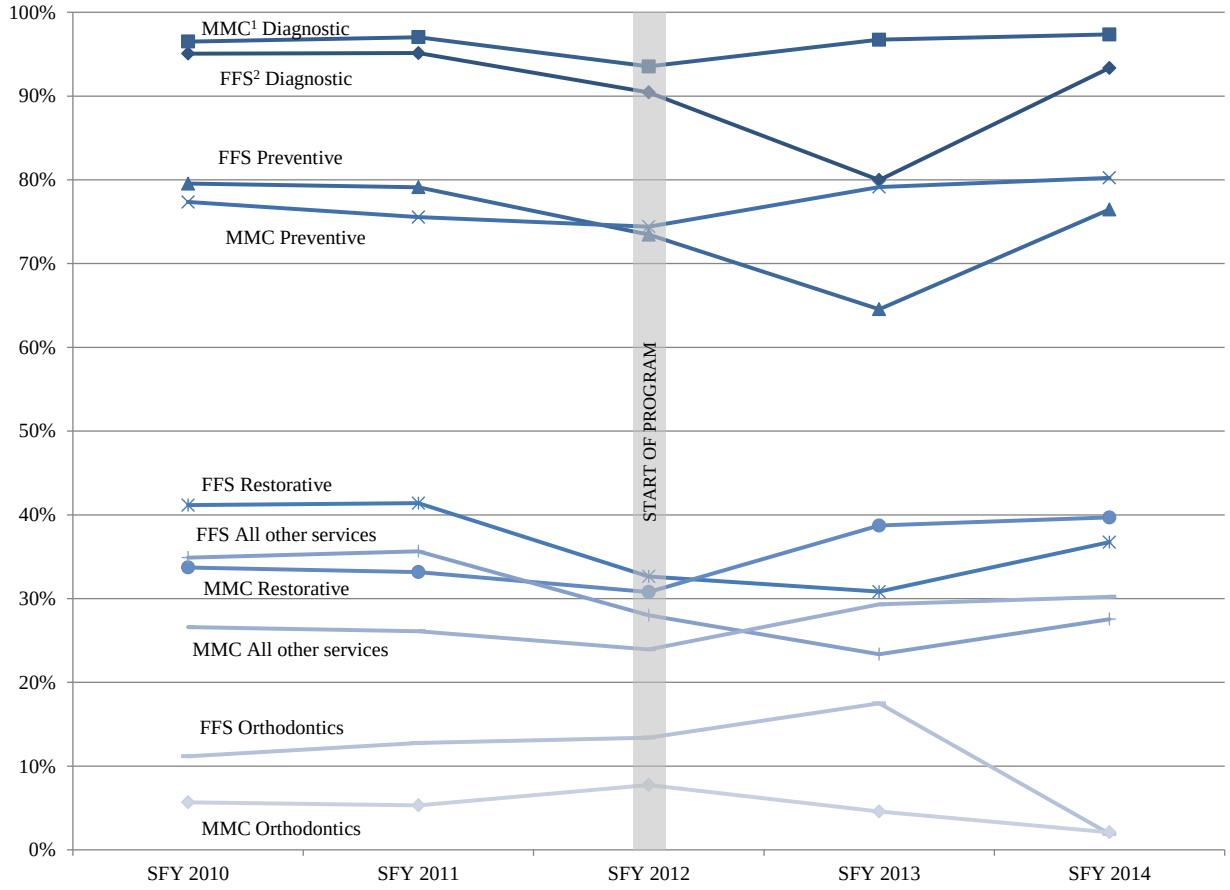
[1] Healthy People 2020 (HP2020).

As with previous findings, the first few months/year of implementation of a new service delivery model is atypical as providers and clients adapt to changes. Figure 3.49 below shows that all services declined from SFY11 to SFY12, except MMC orthodontics. Preventive and diagnostic services remained the most utilized even through the transition period. Compared to the MMC health care service delivery model, FFS experience greater declines in SFY13, before rebounding in SFY14. For example, FFS diagnostic services declined almost 5 percent from SFY11 to SFY12 before declining almost another 10 percent from SFY12 to SFY13. In SFY14, FFS diagnostic services increased to almost pre-expansion utilization rates.

A similar trend was observed for FFS preventive services. In SFY11, 79 percent of children received at least one preventive visit. In SFY13, this decreased to 65 percent, but then increased to almost pre-expansion utilization rates in SFY14.

The MMC service delivery model provided more diagnostic services compared to FFS over the study period (SFY10 to SFY14). Utilization of preventive services was similar for FFS and MMC until SFY13, when MMC surpassed pre-expansion rates.

Figure 3.49. Proportion of Texas Medicaid Children (Total < 21 years) Who Had at Least One Dental Visit by Service Category, State Fiscal Year (SFY) 2010–2014



[1] Medicaid Managed Care (MMC)
[2] Fee-for-Service (FFS)

Summary

Based on baseline data available and analysis of pre- and post-expansion, there are marked differences in access to dental services and utilization of services between FFS and MMC from SFY10-SFY14. Figure 3.48 and Figure 3.49 show an overall decline in dental access for children 10 years and older post-expansion.

CONCLUSIONS

The process measures analyzed indicate that access to care has remained steady, improved, or declined depending on the service, SDA, and age group. Access to care was measured several ways: percent/rates of ambulatory visits for the STAR and STAR+PLUS population, rates of

non-behavioral health hospitalizations, top hospital diagnoses and average costs of care, distance to hospitals, and utilization of services in the Children's Dental Program.

- Access to care, as measured by ambulatory visits, remained stable or improved in the new MMC SDAs. For the STAR population, CAP-like measures were highest in the Hidalgo SDA, but the greatest increases were found in the rural SDAs. The CAP-like measure results indicate that MMC may benefit clients in rural areas of the state; however, with only one year of MMC data, Texas cannot definitively draw that conclusion. More data is needed to determine if MMC maintains or improves access to care as compared to the FFS/PCCM healthcare service delivery model for the pediatric STAR population. Access to care for the STAR+PLUS population remained stable as clients service delivery model shifted from PCCM to MMC as measured by the rate of ambulatory visits.
- Rates of non-behavioral health hospitalizations for the STAR+PLUS population varied by service delivery model and SDA. Non-behavioral health hospitalizations peaked in FFY10 and then decreased for FFS from FFY11 through FFY13, while these services through MMC were lower in FFY12 but matched the pre-Program levels by FFY13. Hidalgo SDA had the lowest rate, while Lubbock SDA had the highest rate among the new STAR+PLUS SDAs.
- There were differences among SDAs and service delivery model with respect to all hospitalizations, including behavioral health-related episodes. The number of hospitalizations decreased in Lubbock and Hidalgo SDAs, but increased in the El Paso SDA among the STAR+PLUS population.
- The differences in payment structures between FFS and MMC limit the validity of any service delivery model comparison for hospitalization costs and length of hospital stays. FFS hospital costs are restricted by federal law, but through the MMC service delivery model, MCOs contract with hospital providers and agree on reimbursement rates for services provided to the MCO's clients. Because the State pays the MCO a capitated rate per member per month, the cost to Texas is not directly impacted by more expensive hospital payments under MMC.
- There were similarities between the two models in terms of the top diagnoses for the least expensive hospitalizations as the most frequent diagnoses were behavioral health-related. The most expensive hospitalizations differed from one another with respect to the most frequent diagnoses. Under FFS, the most frequent diagnoses for the high cost hospitalizations were congenital anomalies, cancer treatments, and mechanical complications due to implants/grafts. In contrast, under MMC the most frequent diagnoses for the high cost hospitalizations were due to septicemia, diabetes, and congestive heart failure.
- HHSC established 'distance requirements' for Medicaid measuring provider access (1 T.A.C. §353.411). Provider access from a member's residence depends on the provider type, but Medicaid clients must have access to an acute care hospital within 30 miles of their residence. On average, the distance to an acute care hospital for STAR+PLUS clients residing in an expansion SDA was less than six miles both before and after expansion. Clients must be able to access health and dental services within a reasonable amount of time.
- Finally, the shift from FFS to MMC for the Children's Medicaid Dental program resulted in differences by age group. Overall, Texas Medicaid surpassed the Healthy People 2020 goal of dental visits for 49 percent of clients, but children under 1 and those 19 to 20 years old were well below this target. The 1- to 2-year-olds were very close to the target. Despite most age groups meeting the Health People 2020 goal, there was a decrease in utilization for

MMC members ages 3 years and older. Diagnostic and preventive services were the most common service provided, while orthodontia the least common service provided.

Process measures for the STAR and STAR+PLUS population to date have not yielded consistent findings to support the hypothesis that access to care (predominantly measured by utilization) improved by shifting from PCCM or FFS to MMC service delivery model. Access and utilization increased, were maintained, or decreased, depending on the service, the SDA, and the client age group. These differences may be due to regional variation in the healthcare system (e.g., provider networks population characteristics) or MCO characteristics (e.g., recruitment and communication) not captured in these analyses.

Limitations

An important limitation to consider is the timeframe for these analyses. As with new programs, new service delivery models need time to mature in each geographic region. This interim report includes results for less than two years as MMC was expanded in March 2012 and these analyses are through September 2013 (FFY13). At this time, there is a lack of sufficient data to determine any trends, so final conclusions regarding the success of the expansion of MMC to new SDAs in Texas cannot yet be drawn.

CHAPTER 4
INTERMEDIATE HEALTH OUTCOME INDICATORS: MEDICAID MANAGED CARE EXPANSION ON POTENTIALLY PREVENTABLE EMERGENCY DEPARTMENT VISITS AND HOSPITALIZATIONS

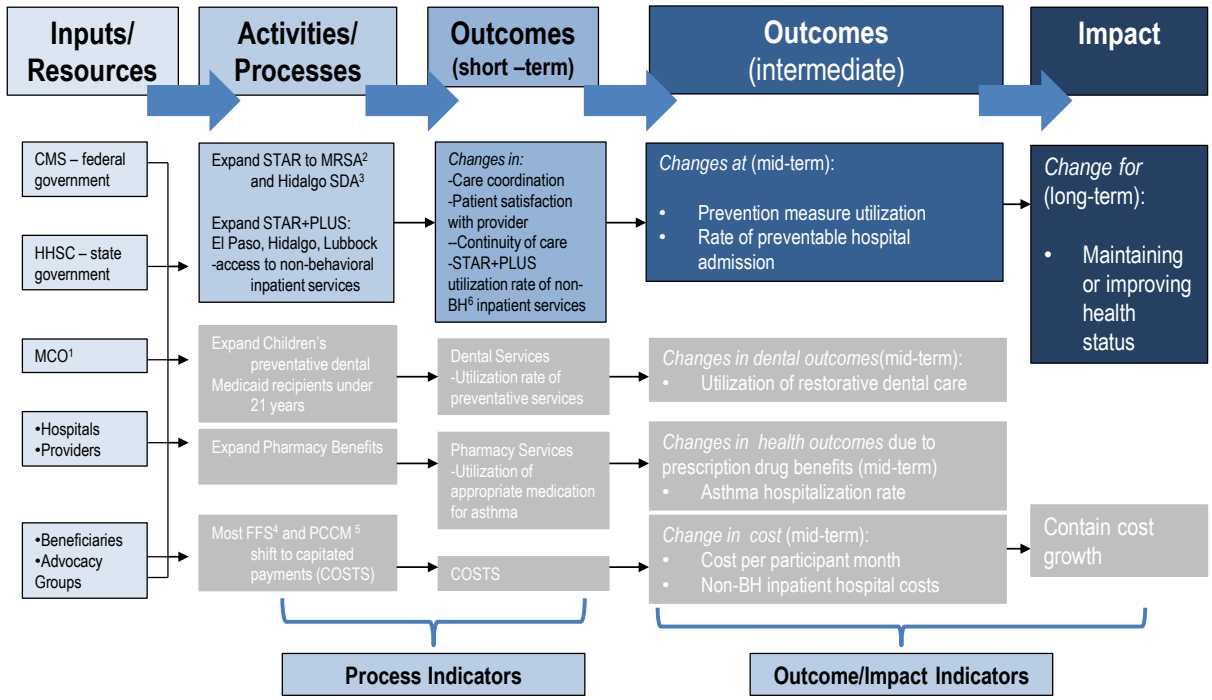
The examination of intermediate health outcome indicators in the interim report focuses on potentially preventable emergency department (ED) visits and hospital admissions for the State of Texas Access Reform (STAR)+PLUS population. Given the expansion timeline and availability of data, not all intermediate health outcome indicators described in Chapter 2 are addressed in the interim report (see Table 4.1). The final evaluation report will also include for the STAR population an examination of potentially preventable ED visits, potentially preventable hospital admissions and readmissions, further analysis on the utilization of restorative dental care by children, and hospital admissions due to an acute asthmatic event.

Table 4.1. Interim Report Process Measures

Evaluation Questions	Goal 1: Access to care	Goal 2: Coordination of Care	Goal 3: Quality of Care	Goal 4: Efficiency and Cost of Care
Did expansion of STAR to Hidalgo and Medicaid Rural Service Areas service delivery areas and STAR+PLUS to the new service delivery areas reduce preventable Emergency Department visits and hospitalizations over the demonstration period for the target population?			X	

Two measures were monitored over the interim demonstration period for STAR+PLUS members in Lubbock, Hidalgo, and El Paso service delivery areas (SDAs) to determine whether access, quality of care, and care coordination (Chapter 3 process measures) were associated with reductions in potentially preventable ED and hospitalizations. For these indicators, improvements in process measures should result in a decreasing trend in intermediate health outcomes over the demonstration period (see Figure 4.1).

Figure 4.1. Logic Model Highlighting Pathway between Improved Access and Reductions in Potentially Preventable Events



[1] MCO = Managed Care Organization, [2] MRSA = Medicaid Rural Service Area, [3] SDA = Service Delivery Area, [4] FFS = Fee-for-Service, [5] PCCM = Primary Care Case Management, [6] BH = Behavioral Health

As state governments enroll more seniors and individuals with disabilities who have complex health needs into Medicaid managed care (MMC), interest exists in whether a MMC model can impact access and quality of care. The shift from fee-for-service (FFS) or Primary Care Case Management (PCCM) to MMC is expected to increase access to care and improve care coordination through improved provider networks and value added components not available in FFS or PCCM. One measure of quality is the prevention of visits to the ED and admissions to the hospital that were potentially avoidable with better access to care in the outpatient setting (Agency for Healthcare Research and Quality). Chronic medical conditions deemed "ambulatory care sensitive conditions" (ACSC), such as asthma and diabetes, are considered relatively controllable with effective and timely outpatient management. An acute medical condition, such as cellulitis, may also be avoided with appropriate outpatient care. Prior research has shown greater access to primary care is associated with fewer hospitalizations for ACSCs (Falik, Needleman, & Wells, 2001; Bindman, Chattopadhyay, Osmond, Huen, & Bacchetti, 2005).

The Agency for Healthcare Research and Quality (AHRQ) considers ACSCs as "conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease."[23] Analysis of preventable hospitalization has become an established tool for assessment of primary care access and quality.

[23] http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx

Higher utilization or rates may reflect inadequacies in the healthcare provided to the patient in multiple settings, including inpatient and outpatient facilities and clinics.

The ACSC specifications used to calculate these measures are adapted from AHRQ's Prevention Quality Indicators (PQIs) version 5.0 which measure potentially avoidable hospitalizations for ACSCs. Diagnoses were coded using the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM). Additional ACSC measures were added to the list of AHRQ PQIs in order to maintain consistency with other Texas HHSC healthcare quality reports. A detailed list of conditions and related ICD-9-CM codes can be found in Appendix G.

Percentages of ACSC visits were calculated by dividing the number of potentially preventable ED or hospital episodes by the total number of ED or hospital episodes. Rates of ACSC were calculated by dividing the number of potentially preventable ED or hospital episodes by the number of member months in the SDA. For most conditions, rates are calculated out of 1,000 member months. Results are reported by federal fiscal year (FFY) and SDA.

Unlike most other measures provided in this report, low rates for PQIs are desired as they suggest a better quality healthcare system outside the hospital setting.

For the purposes of this study, potentially preventable conditions include:

- Diabetes short-term complications,
- Perforated appendix,
- Diabetes long-term complications,
- Chronic obstructive pulmonary disease (COPD) or asthma in older adults,
- Hypertension,
- Heart failure,
- Dehydration,
- Bacterial pneumonia,
- Urinary tract infection,
- Angina,
- Uncontrolled diabetes,
- Cellulitis,
- Common cold,
- Epilepsy,
- Gangrene,
- Hypoglycemia,
- Hypokalemia,
- Immunization-related and preventable conditions,
- Nausea and vomiting,
- Tuberculosis,
- Otitis media, acute,
- Pelvic inflammatory disease, and
- Perforated ulcer.

STAR+PLUS – POTENTIALLY PREVENTABLE EMERGENCY DEPARTMENT VISITS

The first intermediate health outcome measure addressed in the evaluation of MMC expansion concerns whether the expansion of STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs reduced potentially preventable ED visits over the demonstration period for the target population.

Measures and Hypotheses

- ***Percent of potentially preventable emergency department visits.*** It is expected that the percent of emergency department visits deemed potentially preventable will show a decrease in new managed care SDAs.
- ***Number of potentially preventable emergency department visits per 1,000 member months.*** It is expected that members who receive regular preventative services through their primary care physician will show a decrease in potentially preventable ED visits in new managed care SDAs.

Methods

All ED-related claims and encounters were defined using the following Current Procedural Terminology (CPT) codes, revenue codes, and place of service codes. The CPT codes included the ED physician services (99281–99285). The revenue codes included ED facility charges (revenue codes 450–452, 456, 459, and 981). The place of service (POS) code included ED (POS code 23) for managed care organization encounters only (there is no equivalent place of service code for FFS claims).[24] Primary ICD-9-CM diagnosis codes and five secondary diagnoses were obtained for all ED claims.

ED visits for ACSC were included in the analysis. An algorithm based on CPT and diagnosis codes was used to identify ED claims for ACSC. ACSC procedure codes included ED physician services for minor, low, and moderate severity (procedure codes 99281–99283). ICD-9-CM codes used to identify ACSCs are detailed in Appendix G.

After ED visits were identified in the Texas Medicaid and Healthcare Partnership (TMHP) system, FFS claims and MMC encounters were matched again by each SDA member's unique identifier (i.e., patient control number) and eligibility month and year. The analytic dataset for each SDA contained claims or encounters for Medicaid members who were eligible to receive services in a specific service delivery area for the eligibility period. The dataset contained one record for each ED episode with a unique identifier, outpatient from date of service, outpatient to

[24] Centers for Medicare and Medicaid Services Place of Service codes for Professional Claims. http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/Downloads/Website-POS-database.pdf

date of service, and principal diagnosis codes and five secondary diagnoses. This dataset was used to report results on the percent of potentially preventable ED visits and rate of potentially preventable ED visits per 1,000 member months for each new service delivery area before and after MMC expansion.

Data Source. MMC encounter and FFS claims data have been processed by TMHP since January 1, 2004. Outpatient ED-related claims with paid or partially paid status were pulled if the date of service occurred between October 1, 2008 and September 30, 2013.

Unit of Analysis. The unit of analysis was the Medicaid member. A list of Medicaid enrollees was linked to the claims and encounter system so that ED visits involving STAR+PLUS eligible and STAR+PLUS clients were selected. Member-level data were aggregated and results reported at the SDA-level over FFY.

Results

Overall

Among the SDAs there was some variation in rates of potentially preventable ED visits. From FFY12 to FFY13, the number of outpatient ED visits increased under MMC as compared to FFS, however for most SDAs the percent of ED visits deemed potentially preventable was less than FFS (see Figures 4.2, 4.4, and 4.6). Lubbock SDA had the highest rate of ED visits pre-expansion (20 visits per 1,000 member months in FFY09 for FFS) and post-expansion (60 visits per 1,000 member months in FFY13 for MMC) (see Figure 4.3). Conversely, Hidalgo SDA had the lowest rate of potentially preventable ED visits pre-expansion (7 visits per 1,000 member months in FFY09 for FFS) and post-expansion (27 visits per 1,000 member months in FFY13 for MMC).

Lubbock

Figure 4.2 shows the percent of potentially preventable ED visits for Lubbock SDA. FFS potentially preventable ED visits remained steady over the study period (FFY09–FFY 13) at around 21 percent, meaning that one out of five ED visits was potentially preventable. While MMC had more ED visits than FFS in FFY12 or FFY13 (13,263 versus 8,662 and 22,781 versus 4,730, respectively), the percentage of visits with a principal diagnosis of an ACSC for MMC was less than FFS (17 percent versus 21 percent in FFY12, and 17 percent versus 22 percent in FFY13, respectively).

Lubbock SDA FFS rate of potentially preventable ED visits pre-expansion was 20 visits per 1,000 member months in FFY09 and post-expansion 18 visits per 1,000 member months in FFY13 (see Figure 4.3). MMC had almost double the FFS rate of potentially preventable ED visits in FFY12 at 44 visits per 1,000 member months (compared to 27 visits per 1,000 member months for FFS) and triple the FFS rate in FFY13 (60 visits per 1,000 member months for MMC compared to 18 visits per 1,000 member months for FFS).

Irrespective of the healthcare delivery model (FFS/MMC), the most frequent ACSC was COPD or asthma in older adults (AHRQ PQI Measure #5).

Figure 4.2. Percent of Potentially Preventable Emergency Department Visits by Federal Fiscal Year: Lubbock Service Delivery Area

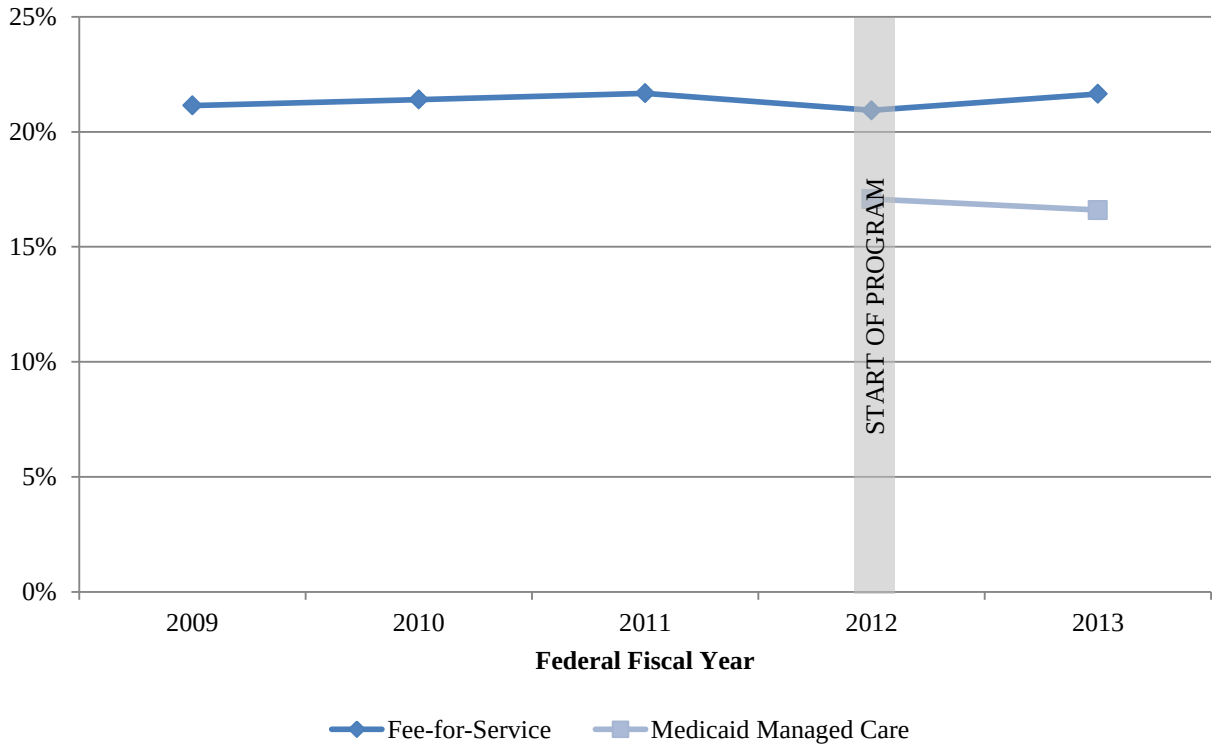
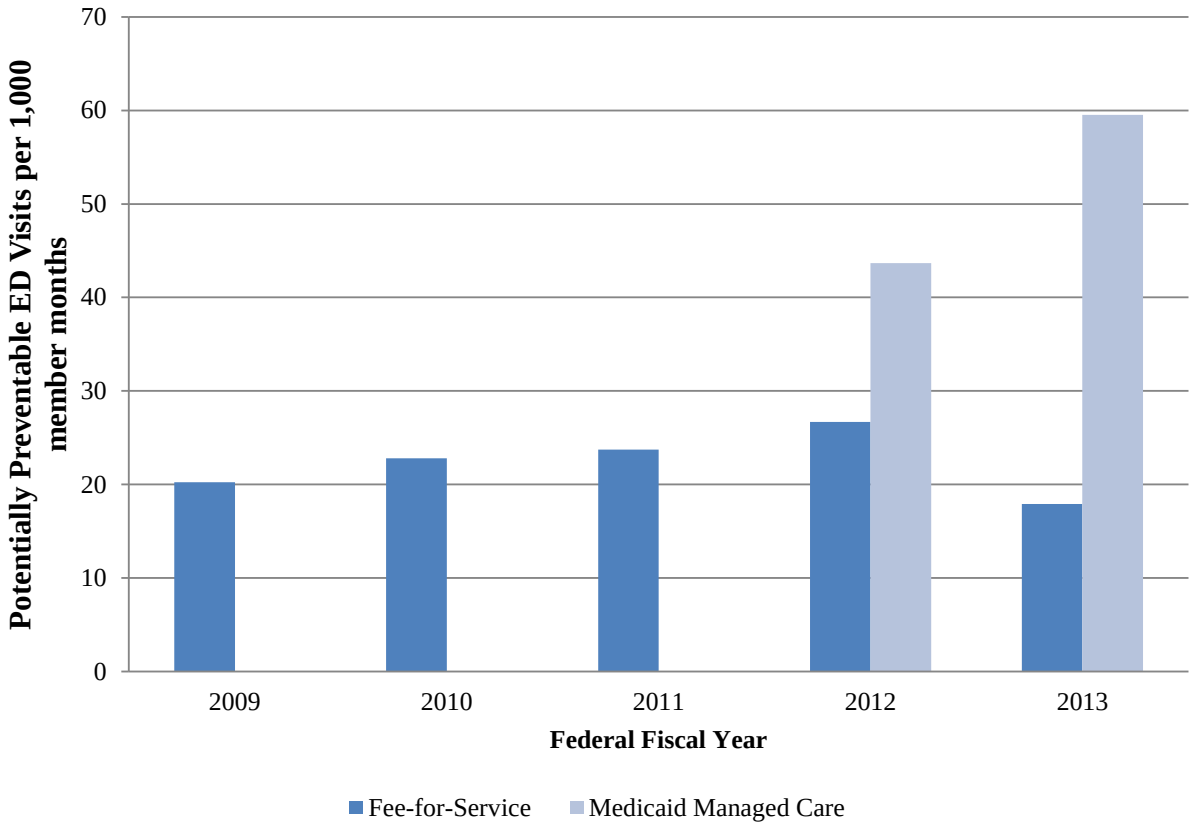


Figure 4.3. Potentially Preventable Emergency Department (ED) Visits per 1,000 Member Months by Federal Fiscal Year: Lubbock Service Delivery Area



Hidalgo

Hidalgo SDA FFS potentially preventable ED visits declined over the study period (FFY09 – FFY 13) from 17 percent in FFY09 to 14 percent in FFY13 (see Figure 4.4), while MMC increased slightly from 13 percent in FFY12 to 14 percent in FFY13. Although, MMC had more ED visits than FFS in FFY12 or FFY13 (29,064 versus 6,717 and 52,936 versus 3,972, respectively), the percentage of visits with a principle diagnosis of an ACSC for MMC was less than FFS in FFY12 (13 percent versus 15 percent) and the same as FFS in FFY13 (14 percent).

Hidalgo SDA FFS rate of potentially preventable ED visits pre-expansion was 7 visits per 1,000 member months in FFY09 and post-expansion 6 visits per 1,000 member months in FFY13 (see Figure 4.5). MMC had triple the FFS rate of potentially preventable ED visits in FFY12 at 23 visits per 1,000 member months (compared to 7 visits per 1,000 member months for FFS) and quadruple the FFS rate in FFY13 (27 visits per 1,000 member months for MMC compared to 6 visits per 1,000 member months for FFS).

Irrespective of the healthcare delivery model (FFS/MMC), the most frequent ACSC was COPD or asthma in older adults (AHRQ PQI Measure #5).

Figure 4.4. Percent of Potentially Preventable Emergency Department Visits by Federal Fiscal Year: Hidalgo Service Delivery Area

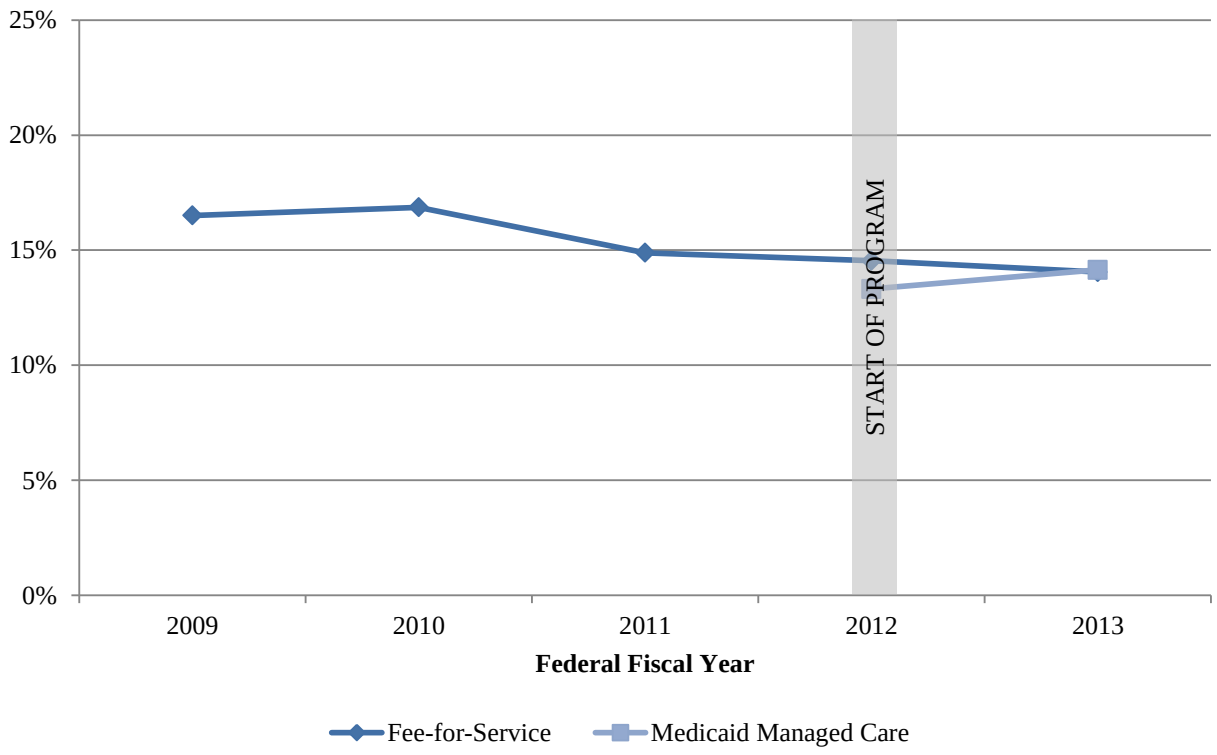
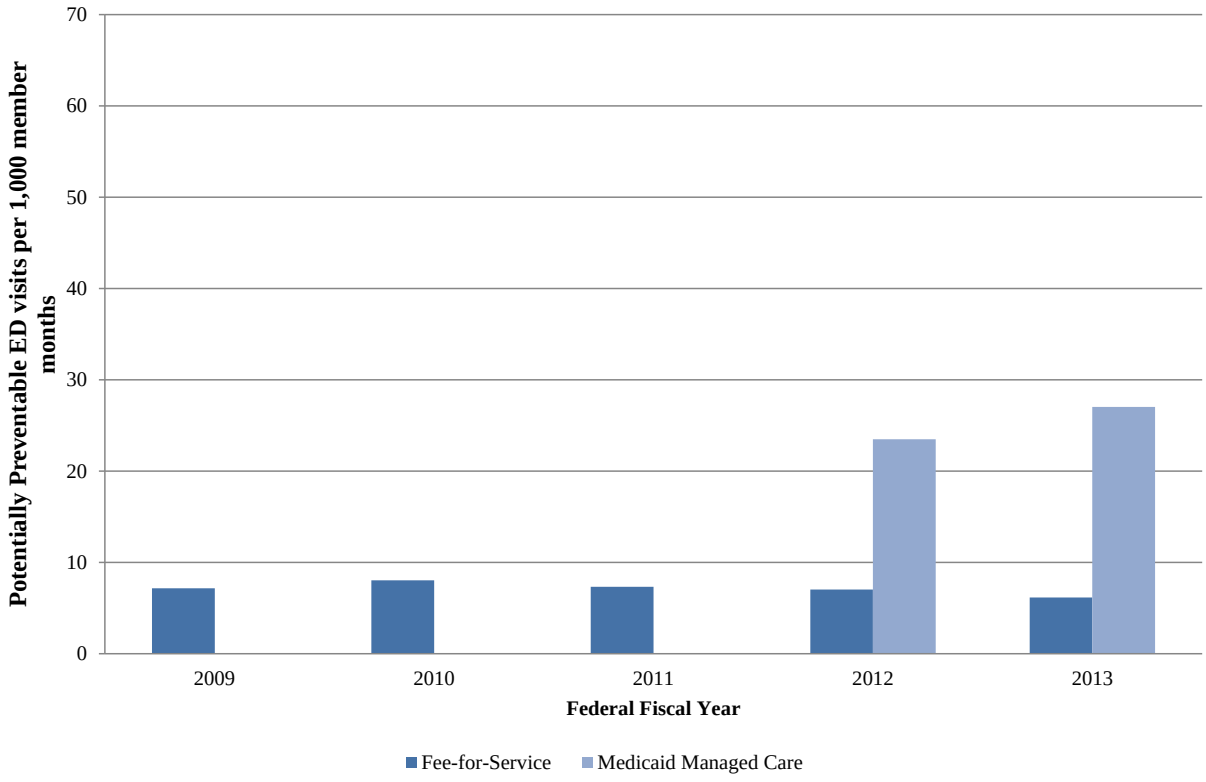


Figure 4.5. Potentially Preventable Emergency Department (ED) Visits per 1,000 Member Months by Federal Fiscal Year: Hidalgo Service Delivery Area



El Paso

El Paso SDA FFS potentially preventable ED visits increased over the study period (FFY09 – FFY 13) from 15 percent in FFY09 to 17 percent in FFY13 (see Figure 4.6), while MMC increased slightly from 14 percent in FFY12 to 16 percent in FFY13. Although, MMC had more ED visits than FFS in FFY12 or FFY13 (14,029 versus 8,446 and 25,649 versus 5,261, respectively), the percentage of visits with a principal diagnosis of an ACSC for MMC was less than FFS (14 percent versus 16 percent in FFY12 and 16 percent versus 17 percent in FFY13, respectively).

El Paso SDA FFS rate of potentially preventable ED visits pre-expansion was 9 visits per 1,000 member months in FFY09 and post-expansion 12 visits per 1,000 member months in FFY13 (see Figure 4.7). MMC had double the FFS rate of potentially preventable ED visits in FFY12 at 25 visits per 1,000 member months (compared to 17 visits per 1,000 member months for FFS) and almost quadruple the FFS rate in FFY13 (47 visits per 1,000 member months for MMC compared to 12 visits per 1,000 member months for FFS).

There were differences between the healthcare delivery models (FFS/MMC) regarding the most frequent ACSC: FFS was COPD or asthma in older adults (AHRQ PQI Measure #5), but MMC was Urinary Tract Infection (AHRQ PQI Measure #12).

Figure 4.6. Percent of Potentially Preventable Emergency Department Visits by Federal Fiscal Year: El Paso Service Delivery Area

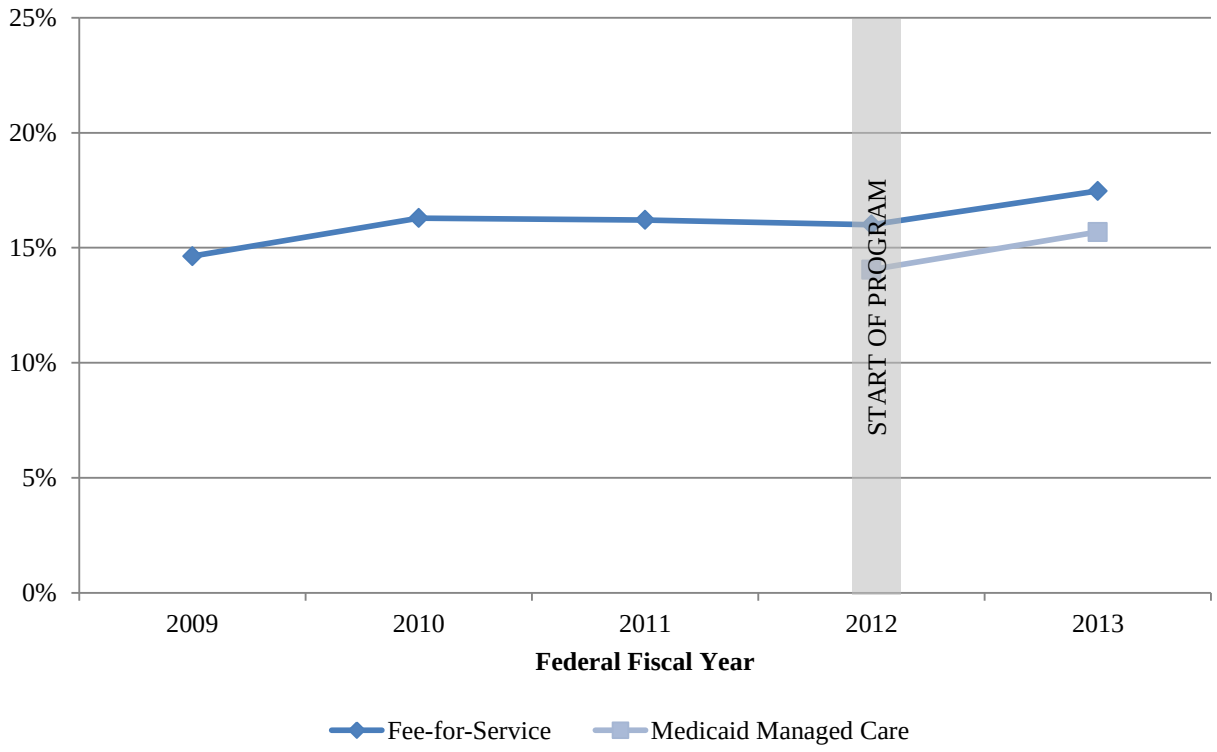
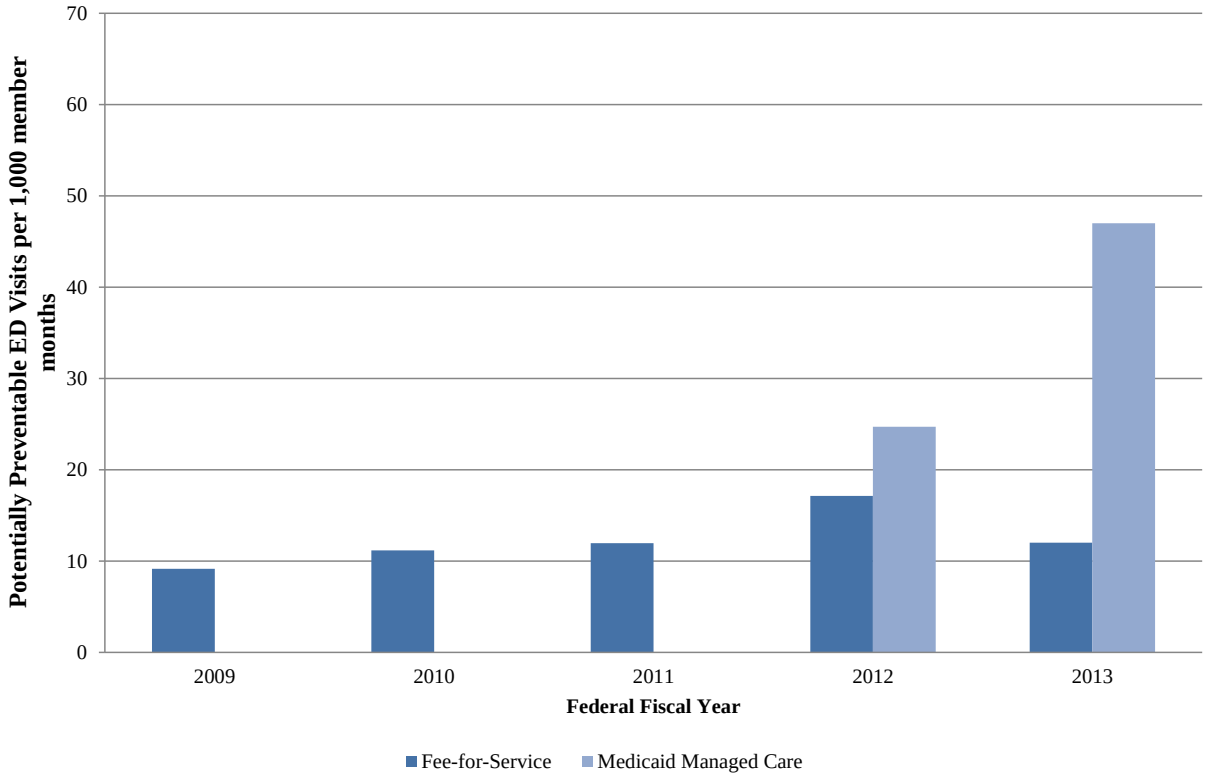


Figure 4.7. Potentially Preventable Emergency Department (ED) Visits per 1,000 Member Months by Federal Fiscal Year: El Paso Service Delivery Area



Summary

Potentially preventable ED visits account for conditions that could be treated effectively with adequate patient monitoring and follow-up in a primary care setting.

High numbers of potentially preventable events can indicate deficiencies in quality of care, conversely low rates for ACSC are desired, as they suggest a better quality healthcare system outside the hospital setting.

In all SDAs the percent (or proportion) of potentially preventable ED visits was lower in MMC as compared to FFS, but the rate of potentially preventable ED visits per 1,000 member months was higher in MMC.

STAR+PLUS – POTENTIALLY PREVENTABLE HOSPITALIZATIONS

The second intermediate health outcome measure addressed in the evaluation of MMC expansion concerns whether the expansion of STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impacted potentially preventable hospitalizations by reducing preventable hospitalizations over the demonstration period for the target population.

Methods

The standard definition of hospital inpatient is a person who is provided room, board, and continuous general nursing service in an area of the hospital where patients generally stay at least overnight (42 U.S.C. § 1395x (b)).

After inpatient hospitalizations for each Medicaid member were identified in the TMHP system, FFS claims and MMC encounters were matched again by each SDA member's unique identifier (i.e., PCN) and eligibility month and year. The resultant dataset for each SDA contained claims or encounters for Medicaid members who were eligible to receive services in a specific service delivery area for the eligibility period. The dataset contained one record for each hospital inpatient episode with a unique identifier, inpatient from date of service, inpatient to date of service, and principal diagnosis codes. This dataset was used to report results on the percent of potentially preventable hospitalizations and rate of potentially preventable hospitalizations per 1,000 member months for each new service delivery area before and after MMC expansion.

Ambulatory care sensitive hospitalizations were identified using an algorithm based on procedure codes and diagnoses codes. ACSC diagnoses codes included ICD-9-CM diagnosis codes are detailed in Appendix G.

Measures and Hypotheses

- ***Percent of potentially preventable hospitalizations.***. It is expected that the percent of hospital admissions deemed potentially preventable will show a decrease in new managed care SDAs.

- ***The number of potentially preventable hospitalizations per 1,000 member months***. It is expected that members who receive regular preventative services through their primary care physician will show a decrease in potentially preventable ED visits in new managed care SDAs.

Data Source. MMC encounter and FFS claims data have been processed by TMHP since January 1, 2004. Inpatient claims with paid or partially paid status were pulled if the date of service occurred between October 1, 2008 and September 30, 2013.

Unit of Analysis. The unit of analysis was the Medicaid member. A list of Medicaid enrollees was linked to the claims and encounter system so that hospitalizations involving STAR+PLUS eligible and STAR+PLUS clients were selected. Member-level data were aggregated and results reported at the SDA-level over FFY.

Results

Overall

Patterns of use and rates of potentially preventable hospitalizations were similar to potentially preventable ED visits (see Figures 4.8, 4.10, and 4.12). Rates varied among SDAs, where Lubbock SDA had the highest rate of potentially preventable hospitalizations pre-Program (7.7 hospitalizations per 1,000 member months in FFY09) and post-Program (4.8 hospitalizations per 1,000 member months in FFY09). Conversely, Hidalgo SDA FFS had the lowest rate of potentially preventable hospitalizations pre-Program (5.4 hospitalizations per 1,000 member months in FFY09) and post-Program (3.2 hospitalizations per 1,000 member months in FFY13). El Paso SDA MMC had the lowest rates of potentially preventable hospitalizations among all SDA MMC expansion areas (3.7 hospitalizations per 1,000 member months versus Hidalgo SDA 4.3 hospitalizations and Lubbock SDA 7.7 hospitalizations).While Hidalgo and El Paso SDA rates declined over the study period (FFY09–FFY13), Lubbock SDA rates remained steady.

Lubbock

The percent of potentially preventable of hospitalizations for Lubbock SDA remained stable over the study period (FFY09–FFY 13) at around 21 percent (see Figure 4.8), meaning that one out of five hospitalizations was potentially preventable. While MMC had a higher percent of potentially preventable hospitalizations than FFS in FFY12 or FFY13, the percent for MMC had declined from 25 percent in FFY12 to 23 percent in FFY13. Rates for potentially preventable hospitalization remained stable over the study period (FFY09–FFY13) for both FFS and MMC health service models (see Figure 4.9). Lubbock SDA FFS had higher rates compared to MMC for potentially preventable hospitalizations in FFY12 (8 hospitalizations per 1,000 member months versus 6 hospitalizations per 1,000 member months), but a lower rate than MMC in FFY13 (5 hospitalizations per 1,000 member months versus 8 hospitalizations per 1,000 member months in FFY13, respectively).

There were differences between the healthcare delivery models (FFS/MMC) regarding the most frequent ACSC: FFS was diabetes short-term complications (AHRQ PQI Measure #1), but MMC was congestive heart failure (AHRQ PQI Measure #11).

Figure 4.8. Percent of Potentially Preventable Hospitalizations by Federal Fiscal Year: Lubbock Service Delivery Area

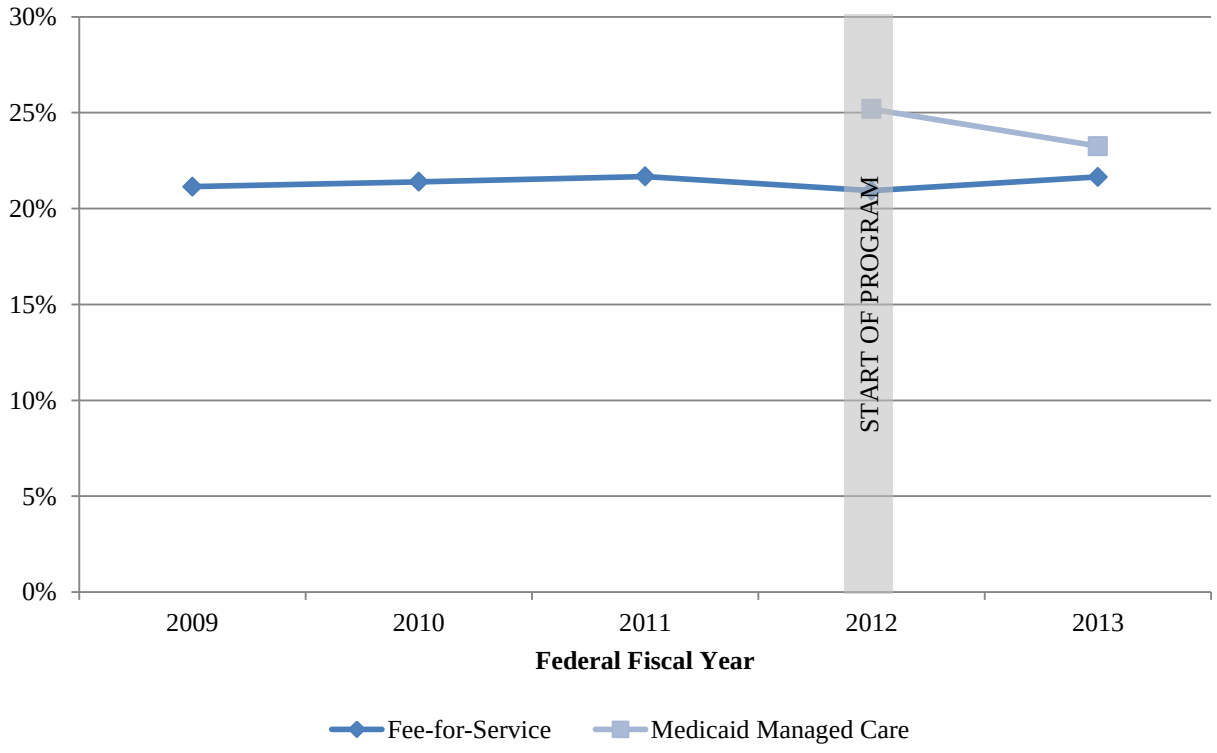
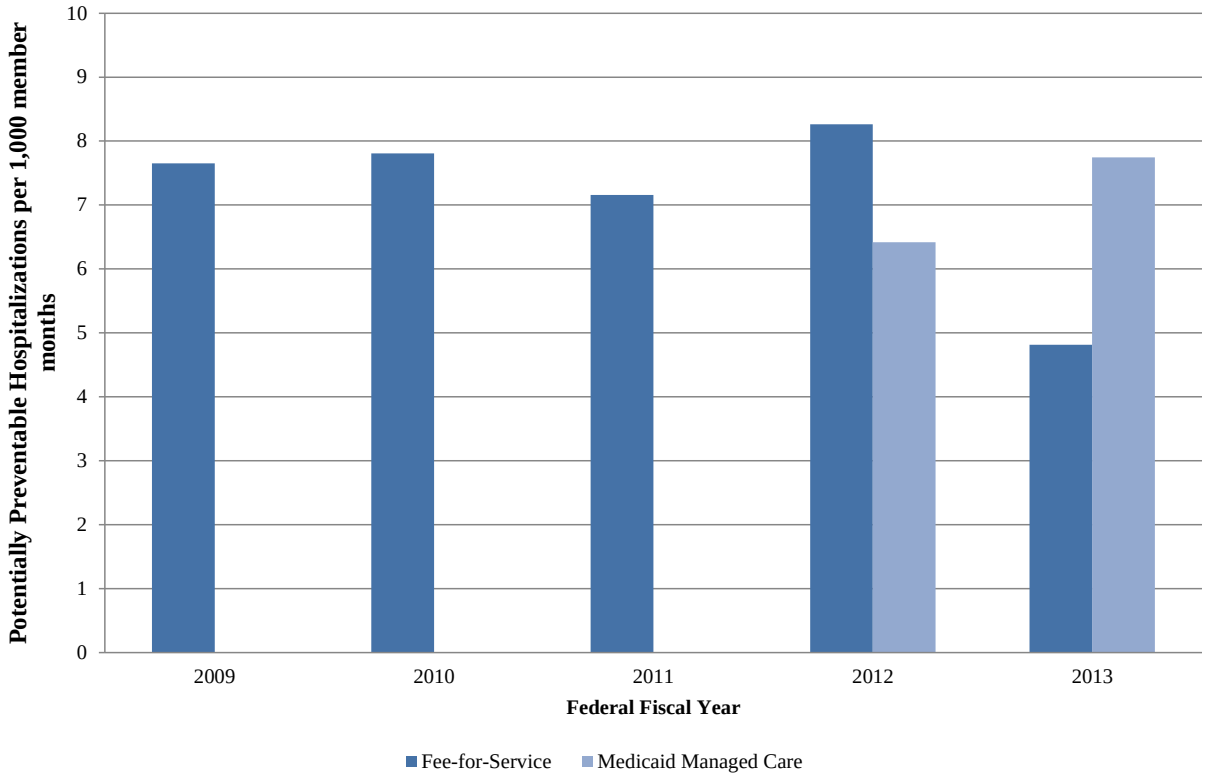


Figure 4.9. Potentially Preventable Hospitalizations per 1,000 Member Months by Federal Fiscal Year: Lubbock Service Delivery Area



Hidalgo

In Hidalgo SDA, the FFS percent of potentially preventable hospitalizations declined over the study period (FFY09–FFY 13) from 23 percent in FFY09 to 20 percent in FFY13 (see Figure 4.10). MMC has also declined from 20 percent in FFY12 to 19 percent in FFY13. Although, MMC had more hospital episodes than FFS in FFY13 (6,256 versus 3,972, respectively), the percentage of visits with a principle diagnosis of an ACSC for MMC was less than FFS (19 percent versus 20 percent).

Rates for potentially preventable hospitalization also declined over the study period (FFY09–FFY13) for both FFS and MMC health service models (see Figure 4.11). Hidalgo SDA MMC had slightly higher rates compared to FFS for potentially preventable hospitalizations for FFY12 and FFY13 (5 hospitalizations per 1,000 member months versus 4 hospitalizations per 1,000 member months in FFY12 and 4 hospitalizations per 1,000 member months versus 3 hospitalizations per 1,000 member months in FFY13, respectively).

There were differences between the healthcare delivery models (FFS/MMC) regarding the most frequent ACSC: FFS was diabetes short-term complications (AHRQ PQI Measure #1), but MMC was congestive heart failure (AHRQ PQI Measure #11).

Figure 4.10. Percent of Potentially Preventable Hospitalizations by Federal Fiscal Year: Hidalgo Service Delivery Area

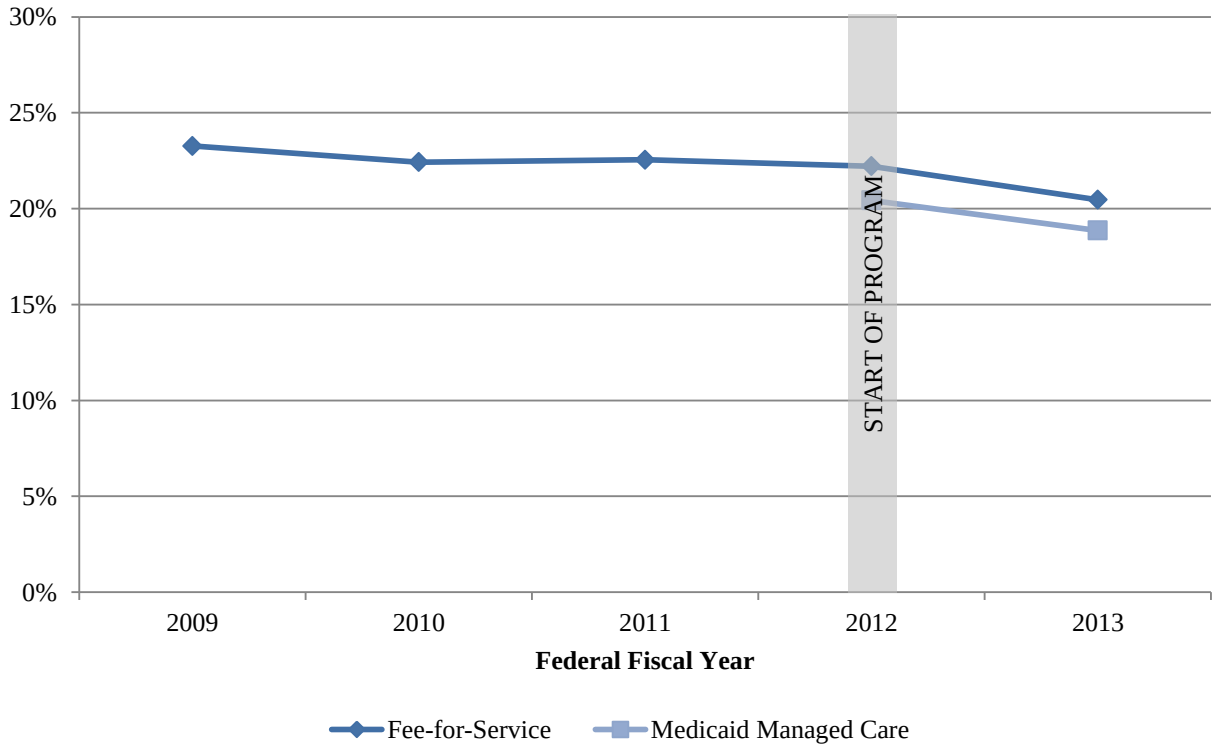
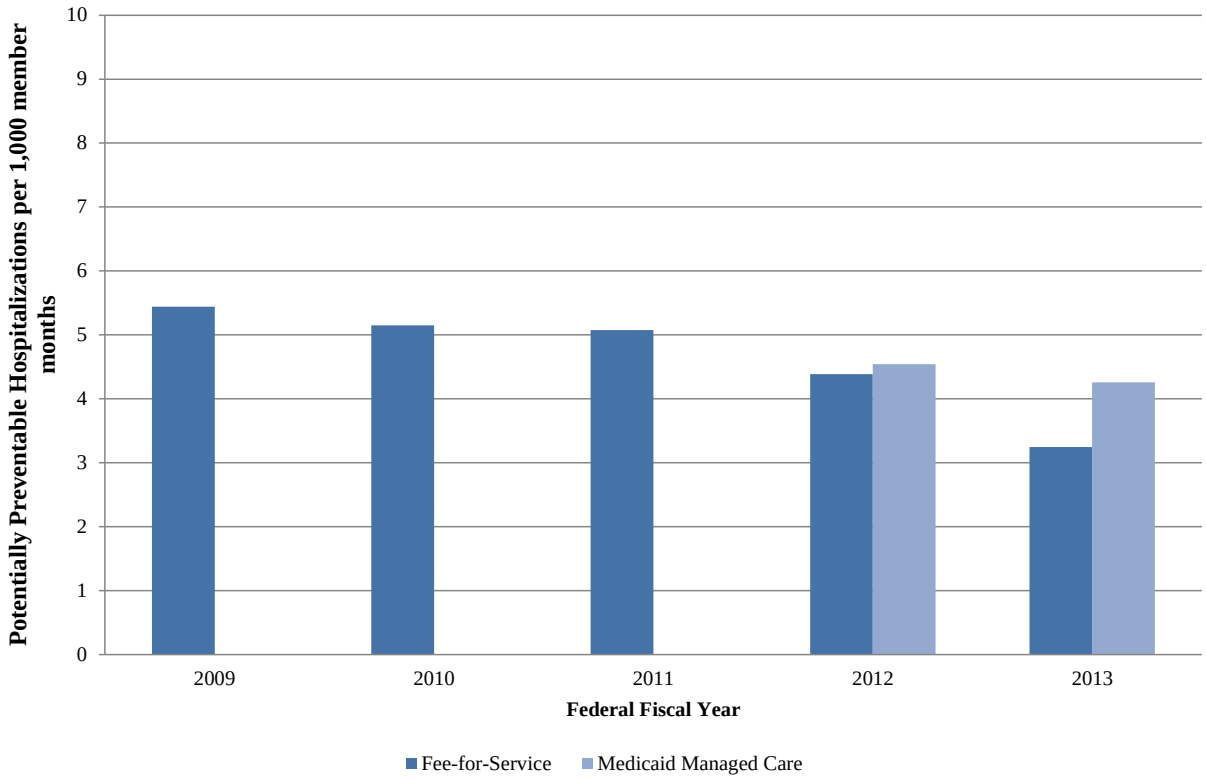


Figure 4.11. Potentially Preventable Hospitalizations per 1,000 Member Months by Federal Fiscal Year: Hidalgo Service Delivery Area



El Paso

El Paso SDA FFS potentially preventable hospitalizations declined over the study period (FFY09–FFY 13) from 25 percent in FFY09 to 22 percent in FFY13 (see Figure 4.12), while MMC remained constant at 13 percent in FFY12 and FFY13. Although, MMC had more hospital episodes than FFS in FFY13 (2,384 versus 1,647, respectively), the percentage of visits with a principal diagnosis of an ACSC for MMC was less than FFS (13 percent versus 22 percent).

El Paso SDA MMC had lower rates compared to FFS for potentially preventable hospitalizations for FFY12 and FFY13 (2 hospitalizations per 1,000 member months versus 7 hospitalizations per 1,000 member months in FFY12 and 4 hospitalizations per 1,000 member months versus 5 hospitalizations per 1,000 member months in FFY13, respectively) (see Figure 4.13).

There were differences between the healthcare delivery models (FFS/MMC) regarding the most frequent ACSC: FFS was COPD or asthma in older adults (AHRQ PQI Measure #5), but MMC was diabetes short-term complications (AHRQ PQI Measure #1).

Figure 4.12. Percent of Potentially Preventable Hospitalizations by Federal Fiscal Year: El Paso Service Delivery Area

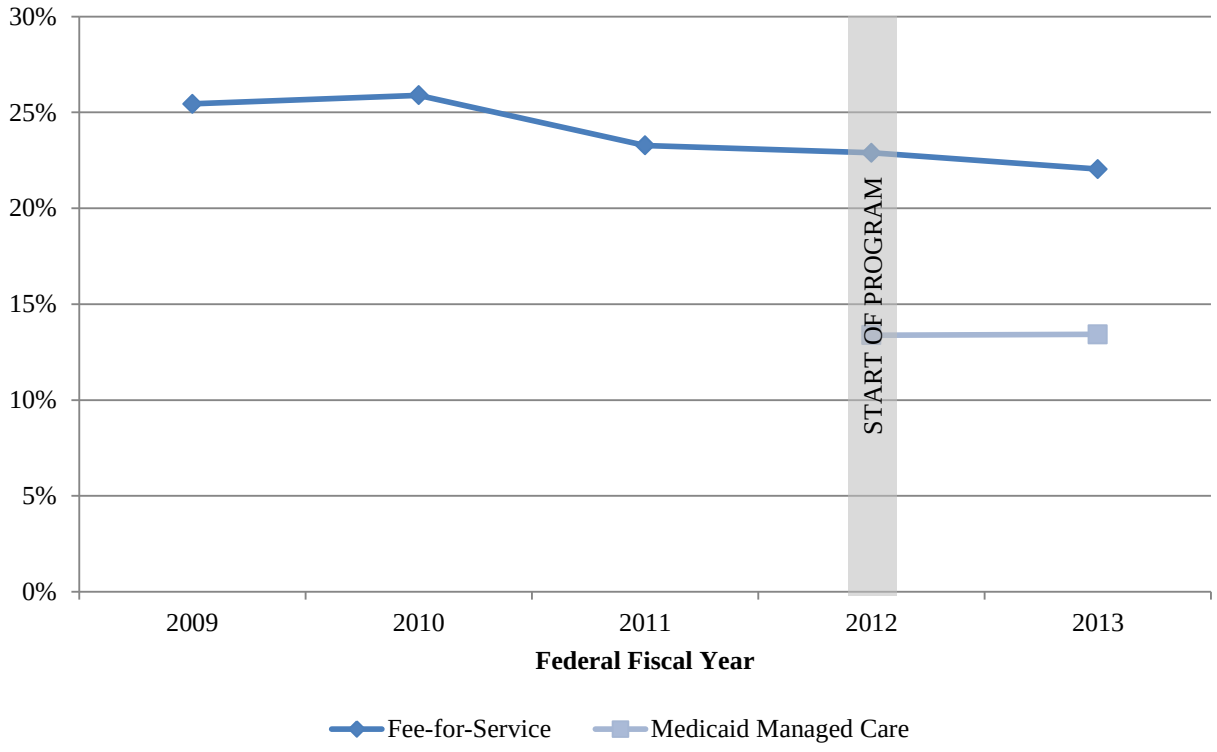
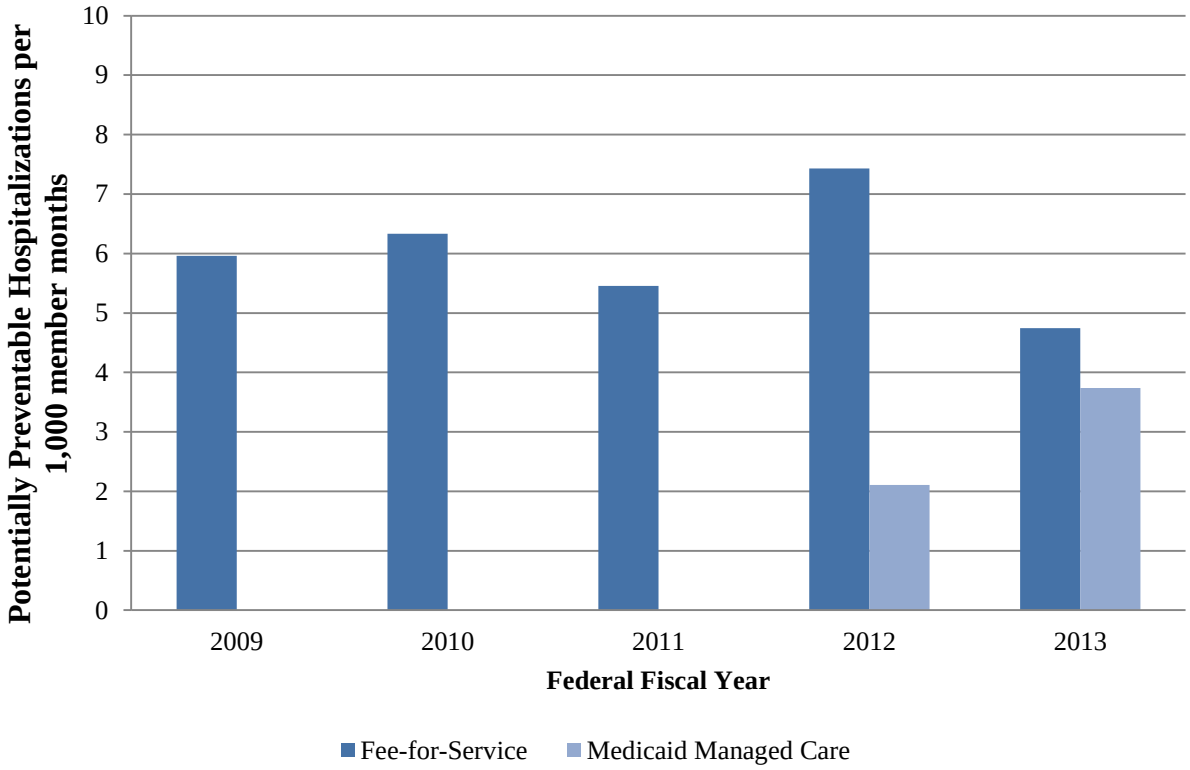


Figure 4.13. Potentially Preventable Hospitalizations per 1,000 Member Months by Federal Fiscal Year: El Paso Service Delivery Area



***Summary*.** Transition among health service models differed depending on SDA. In FFY12, El Paso and Lubbock SDA experienced increases in rates for potentially preventable ED and hospitalizations, while Hidalgo SDA rates remained steady.

While ACSC were similar for potentially preventable ED visits between the healthcare delivery models (FFS/MMC), there were differences among potentially preventable hospitalization among SDAs and service delivery models.

CONCLUSIONS

Based on process outcomes (see Chapter 3), data available and analysis of pre- and post-expansion, there are marked differences in intermediate health outcomes that requires further investigation. Overall, the Hidalgo SDA experienced higher rates of ambulatory visits (see Chapter 3) and lower rates of potentially preventable ED/hospitalization than SDAs with lower rates of ambulatory visits. The analyses included in this report are descriptive and do not indicate causation.

There were no consistent findings to support the hypothesis that one healthcare delivery model (FFS, PCCM, or MMC) is the best healthcare delivery model for the avoidance of potentially preventable ED/Hospitalizations for the STAR+PLUS population, suggesting there may be regional differences in and among SDAs (e.g., provider networks, population characteristics) not captured in these analyses. However, these results reflect less than two full years of Program implementation. More time is needed to determine if one service delivery model is preferred over another.

Limitations

Three important limitations of this analysis must be noted.

- The adapted ACSCs used in the analyses are the same as AHRQ PQI measures, but include additional indicators.
- Potentially preventable ED visits and hospitalizations may need to be examined for more than several years after the expansion of MMC to capture the effects on intermediate health outcomes that increased access to care might provide.
- Potentially preventable ED visits and hospitalizations are reported overall, so potential differences by age and other related factors are not captured.

CHAPTER 5
INTERMEDIATE COST INDICATORS EXAMINING THE DIFFERENCE IN MONEY RETURNED UNDER THE EXPERIENCE REBATE VS. THE MEDICAL LOSS RATIO

Managed Care Organizations (MCOs) receive a capitated payment for each member each month that includes, across all members, the moneys necessary to provide direct care, cover administrative expenses, and include a moderate amount of profit. MCOs are required to use most of the capitated payments on medical services (direct care and health care quality improvement activities) (45 C.F.R. § 158.210). This requirement is designed to ensure that MCOs do not sacrifice patient care over increased profits and improved revenue. The Medical Loss Ratio (MLR) provision of the Patient Protection and Affordable Care Act (ACA) (2010) requires MCOs to return excess profits based on the percent of direct care provided to their members (45 C.F.R. § 158.210). An MLR is widely used in the commercial sector to represent the portion of the premium dollar that is used to pay for the cost of providing medical care. However, while the MLR methodology may be effective in the private insurance industry, it may be less effective in Medicaid managed care (MMC). As a component of the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program"), Texas proposed an alternate methodology, the Experience Rebate (ER), as the financial model for recovering from the Medicaid MCOs a portion of their excess profits.

MEDICAL LOSS RATIO

The MLR provision of ACA requires small-sized insurance companies to spend at least 80 percent of their premium income on healthcare claims and quality improvement activities, leaving the remaining 20 percent for administration, marketing, and profit (45 C.F.R. § 158). The MLR threshold is higher for large group plans, which are required to spend at least 85 percent of premium dollars on healthcare and quality improvement. However, the MLR does not cap administrative expenses.[25]

A potential unintended consequence of using an MLR target is that it may not provide enough incentive to the MCOs to contain costs by investing in additional infrastructure. For example, investment in a new utilization review program designed to identify incidences of fraud, waste, and abuse would have the effect of increasing administrative cost and reducing unnecessary medical expense. Because of the decreased medical expense, the effect of the investment could change the ratio of direct versus indirect costs, which might result in a lower MLR. This lower MLR could then lead to a financial penalty for the MCO.

[25] (http://kff.org/health-reform/fact-sheet/explaining-health-care-reform-medical-loss-ratio-mlr/)

EXPERIENCE REBATE

In comparison, the ER model was designed to maximize the amount of excess profits returned to the State while ensuring that MCOs provide a high level of direct care to their members. Texas uses historical Texas Medicaid claims and encounters data over several rate periods to set an actuarially sound capitation rate for each of its managed care programs which includes a two percent risk margin (profit) target. When an MCO's profit exceeds three percent, the MCO is required to return a portion of those profits to the State under the ER model.

Texas requires the MCOs to develop a network of providers and an administrative infrastructure to support the needs of their members. The administrative funds included in the calculated capitation rate should provide sufficient funding for the administrative infrastructure.

In a MLR provision, when calculating the proportion of the capitated rate used on direct care, the MCOs can deduct from their net revenue calculation the MCOs total administrative expenses. Under the ER model, Texas limits the allowable administrative costs for each MCO. MCOs are free to spend above the cap, but only administrative expenses up to the cap will be deducted when determining the percent of profit earned by the MCO. Texas proposed in the Program that by setting a limit on the amount of money spent on administrative expenses, the ER model increases the calculated profit and therefore requires Texas Medicaid MCOs to return more profit to Texas than would have been returned under the MLR.

METHOD

In order to test the difference between the two methodologies, the evaluation examined how the ER model compared to MLR regulations as a strategy for ensuring that MCOs spend an appropriate amount of premium revenue on direct care. Specifically, the evaluation examined the amount of premium dollars returned by each MCO to Texas under the ER provision compared to what would have been returned under the MLR provision during the first three (3) years of the demonstration (State Fiscal Years (SFY) 2012–2014). MLR was calculated for each MCO using the same data used to calculate the ER.

The data for the analysis are available by SFY which runs from September 1st through August 31st of each year. Demonstration year (DY) follows the Federal Fiscal Year (FFY) calendar which runs from October 1st through September 30th of each year. Because managed care expanded statewide in the middle of DY1 (March 2012), the first 18 months of data that include SFY12 and SFY13 are grouped together in the analysis.

The MCO contracts are risk-based capitation arrangements which provide a targeted two percent profit (Uniform Managed Care Terms and Conditions, version 2.15). Each MCO submits to the Texas Health and Human Services Commission (HHSC) a quarterly income statement, known as the Financial Statistical Report (FSR), which provides the basis for evaluating the MCO's

profitability (see Table 5.1 for an example). The revenue and net income reported on the FSR is used to calculate the ER and MLR.

Table 5.1. Example of a Financial Statistical Report (Amerigroup State Fiscal Year 2014)

		Dollar Amounts in Thousands	Description
Revenues			
A	Total Gross Revenues	$2,784,008	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$48,945	Premium and maintenance taxes
C	**Total Net Revenue**	**$2,735,063**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses			
D	Medical and prescription expenses	$2,228,532	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual-medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$215,365	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$2,443,897**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Profit			
G	**Net Profit Before Taxes**	**$291,167**	Total net revenue minus total expenses (C-F=G)
Profit and Medical Loss Ratio			
I	**Pre-Tax Profit as a Percent of Revenues**	10.6%	Percent of revenue that is income (G/C=I)
J	**Medical Loss Ratio Percent**	81.5%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)

[1] Incurred But Not Reported (IBNR)
[2] Pharmacy Benefit Manager (PBM)

Medical Loss Ratio Calculation

The MLR was calculated by dividing the MCO's reported medical and prescription expenses by the total net revenue received (see Table 5.1). Direct care costs include fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, incurred but not reported accrual- medical, prescription expenses (excluding pharmacy benefit manager admin), and the cost of quality improvement programs. Total net revenue includes medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue paid to the MCO (excluding premium and maintenance taxes).

Experience Rebate Calculation

At the end of each quarter, Texas uses the information provided in the FSR to calculate the pre-tax profit as a percent of the MCO's total revenue (see Table 5.1). Texas requires MCOs to pay an ER for the Texas Medicaid and Children's Health Insurance Program (CHIP) if the MCO's net income before taxes is greater than the percentage set forth in the graduated ER sharing method (see Table 5.2). Any losses incurred are the responsibility of the MCO. MCOs can retain profits earned up to three percent. Any profit over three percent are shared with Texas and CMS.

Table 5.2. Graduated Experience Rebate Sharing Method

Pre-Tax Profit as a Percent of Revenues	MCO[1] Share	Texas Share[2]
< 3%	100%	0%
3% to 4.99%	80%	20%
5% to 6.99%	60%	40%
7% to 8.99%	40%	60%
9% to 11.99%	20%	80%
> 12%	0%	100%

[1] Managed Care Organization (MCO).
[2] Texas returns some of this revenue to CMS.

RESULTS

Table 5.3 provides the detailed and annotated calculations for Amerigroup for SFY14. In SFY14 Amerigroup's total net revenue was $2.7B, the total expenses were $2.4B, and the total net income was $291M.

- **Experience Rebate:** A net income of $291M equals 11 percent of the total net revenue and was well over the three percent allowed under the ER model. Therefore, Amerigroup was required to pay Texas back $100M of this revenue.
- **Medical Loss Ratio:** Amerigroup spent 81.5 percent on direct care. Under the MLR provision Amerigroup was required, as a large insurer, to spend 85 percent on direct care. Under the MLR provision, due to the difference of 3.5 percent, Amerigroup would have had to have returned $98M to Texas.
- **Difference:** Under the ER model, Amerigroup returned $2.23M more than they would have returned under the MLR provision.

Appendix H provides the detailed calculations for all 19 Medicaid MCOs in Texas for SFY12–13 and SFY14.

Table 5.3. Summarized Amerigroup State Fiscal Year 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio Calculations

Financial Statistical Report			
		Dollar Amounts in Thousands	**Description**
Revenues			
A	Total Gross Revenues	$2,784,008	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$48,945	Premium and maintenance taxes
C	**Total Net Revenue**	**$2,735,063**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses			
D	Medical and Prescription Expenses	$2,228,532	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative Expenses	$215,365	Total administrative dollars reported by Managed Care Organization (MCO)
F	**Total Expenses**	**$2,443,897**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income			
G	**Net Income Before Taxes**	**$291,167**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation			
H	Administrative Percent	7.9%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	10.6%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:		
	< 3%	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$11,136	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$22,272	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$33,408	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$33,408	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	MCO Share: 0%; Texas Share: 100%
	Experience Rebate	**$100,224**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)			
J	MLR Percent	81.5%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	
L	MLR under target	3.5%	Target less calculated MLR percent (K-J=L)
M	**MLR Rebate**	**$97,994**	Percent of MLR under target times the total gross revenue (L*A=M)
Difference between Experience Rebate and MLR			
	Difference	**$2,230**	Experience Rebate – MLR Rebate

[1] Incurred But Not Reported (IBNR) [2] Pharmacy Benefit Manager (PBM) [3] National Association of Insurance Commissioners (NAIC)

Across all MCOs, the amount of money returned under the ER model was greater than what would have been returned under the MLR provision for both SFY12–13 and SFY14 (see Figure 5.1).

- **SFY12–SFY13.** The MCOs returned $34.5M to Texas under the ER model. Under the MRL provision the MCOs would have returned $14.9M.
- **SFY14.** Under the ER model, the MCOs returned $302M. Under the MLR provision the MCOs would have returned $243M.

The period SFY12–SFY13 included the expansion of the Texas MMC. This expansion to new geographic areas also included the carve-in of prescription benefits and the carve-in of the Children's Medicaid Dental program. During previous expansions, Texas has found that due to increased administrative burden related to the expansion, MCOs do not generate excess profits that would have resulted in an ER. As expected, overall MCO profitability during SFY12–SFY13 was nominal.

For the combined state fiscal years (SFY12–SFY14) the amount returned under the ER model was $336M and for the same period $258M would have been returned under the MLR provision. Using the ER model, MCOs returned $78M more than they would have returned under the MLR provision.

In addition, more MCOs were required to return money under the ER model than would have been required under the MLR provision (see Table 5.4). Of the 19 Texas Medicaid MCOs, only El Paso First, Aetna Better Health, Community First, Christus, and Parkland would have returned more money under the MLR provision compared to the ER model during either SFY12–SFY13 or SFY14. There were eight MCOs in SFY12–SFY13 and seven in SFY14 that did not return any money under the ER model and would not have returned money under the MLR provision.

Figure 5.1. Experience Rebate (ER) vs. Medical Loss Ratio (MLR) for all Managed Care Organizations
State Fiscal Years 2012–2014

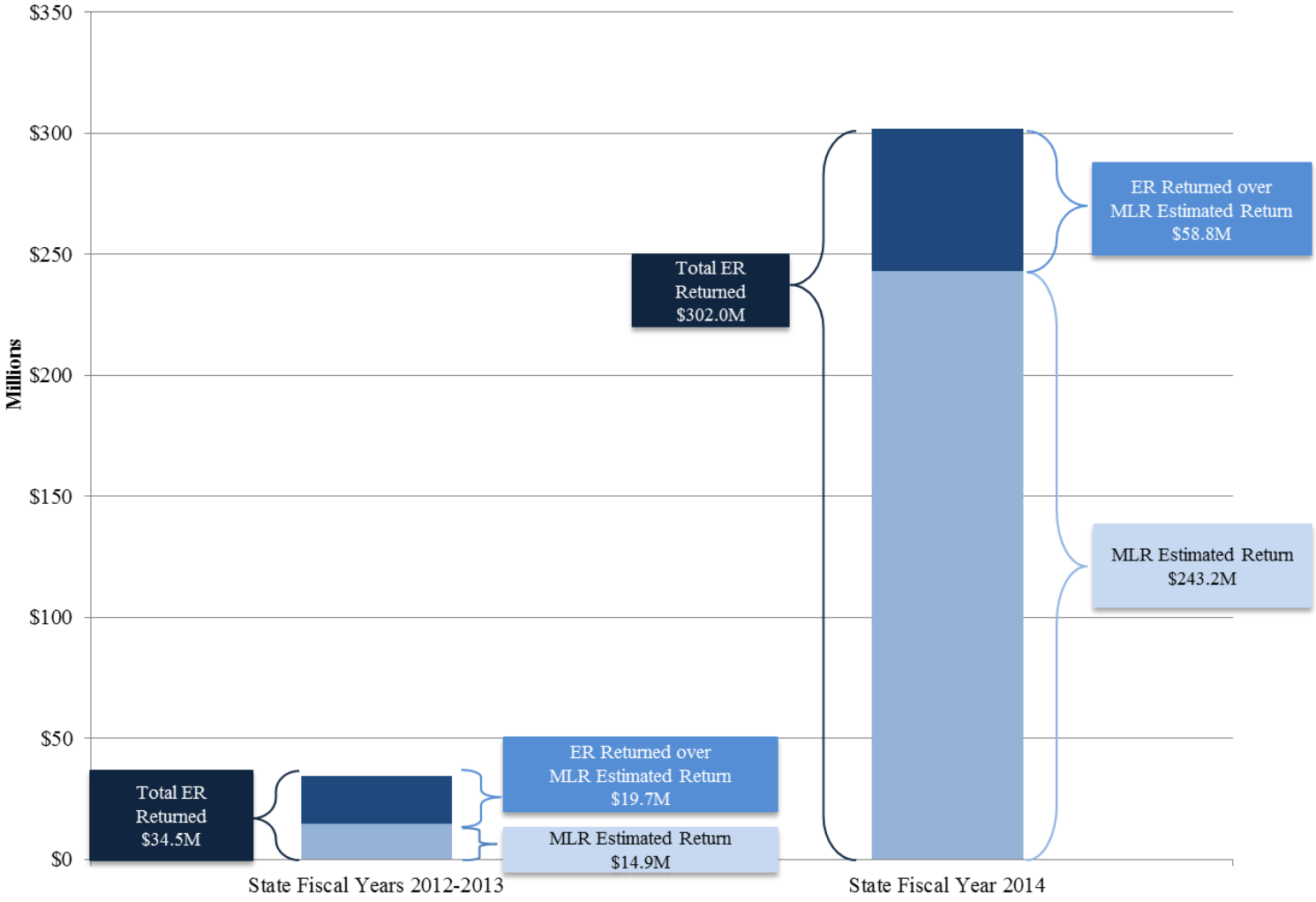


Table 5.4. Experience Rebate vs. Medical Loss Ratio for Each Managed Care Organization
State Fiscal Years 2012–2014

Managed Care Organizations (MCOs)	State Fiscal Years 2012-2013 (March 2012–September 2013) (in thousands)			State Fiscal Year 2014 (in thousands)		
	Experience Rebate	Medical Loss Ratio	Difference	Experience Rebate	Medical Loss Ratio	Difference
Aetna Better Health	$3,594	$1,170	$2,424	$22,575	$23,409	($835)
Amerigroup	$5,690	$0	$5,690	$100,224	$97,995	$2,229
Blue Cross/Blue Shield of Texas	$943	$0	$943	$24	$0	$24
Community First	$0	$0	$0	$10,123	$10,654	($531)
Community Health Choice	$0	$0	$0	$0	$0	$0
Christus	$5,969	$6,227	($258)	$1,488	$611	$877
Cook Children's	$0	$0	$0	$1,846	$0	$1,846
Driscoll Children's	$6,058	$4,764	$1,294	$0	$0	$0
El Paso First	$1,300	$2,691	($1,391)	$0	$0	$0
FirstCare	$0	$0	$0	$0	$0	$0
HealthSpring	$1,321	$0	$1,321	$1,867	$0	$1,867
Molina Healthcare	$4,030	$0	$4,030	$26,610	$14,140	$12,470
Parkland	$944	$0	$944	$17,096	$24,591	($7,497)
Scott & White	$0	$0	$0	$0	$0	$0
Sendero	$0	$0	$0	$0	$0	$0
Seton	$226	$0	$226	$1,235	$0	$1,235
Superior	$0	$0	$0	$74,304	$37,171	$37,134
Texas Children's Health Plan	$0	$0	$0	$0	$0	$0
UnitedHealthcare	$4,428	$0	$4,428	$44,576	$34,611	$9,965
ALL MCOs	**$34,503**	**$14,852**	**$19,650**	**$301,968**	**$243,180**	**$58,787**

SUMMARY

Results suggest that the ER model is a valid model for containing costs not related to direct care by MCOs. It is important to note that the focus of the MLR provision is on insuring that MCOs provide a sufficient amount of direct care to their members. In contrast, the ER model focuses on cost containment. Adding in a profit containment measure into the MLR would significantly increase the amount returned.

In addition, quality improvement costs are not currently included in the MLR calculation. Those costs are included as administrative cost. Proposed new CMS rules will require that, beginning in SFY17, quality improvement costs be included as medical expenses. It is expected that, if this rule takes effect, the removal of quality improvement costs from administrative costs will result in a MLR increase between one and two percent. The proposed change will have little effect on the ER since that method focuses on recovering excess profits and does not rely on the MLR percentage.

For the final report, Texas will add to the analysis SFY15 and, if available in time for submission, SFY16. It is expected that the trend will continue to show that more money is returned under the ER model than would have been returned under the MLR provision.

CHAPTER 6
FINAL EVALUATION REPORT

The purpose of the interim evaluation report is to present preliminary findings and provide plans for submitting the final evaluation report to the Centers for Medicare and Medicaid Services on January 31, 2017. The interim report focuses its managed care expansion results on select processes, intermediate health outcomes, and cost indicators. The final evaluation report will cover all required evaluation questions included in the approved evaluation plan as required in the Special Terms and Conditions (STCs).[26] In addition to examining the questions presented in this interim evaluation report, the final evaluation report will examine the following questions.

PROCESS INDICATORS

A. Has the utilization of preventive and care coordination of dental services for children age 20 years and younger changed as a result of the expansion?

   Measure: Proportion of members receiving all recommended preventive dental services compared to before expansion and national averages

B. Has the carve-in of pharmacy benefits into capitated managed care impacted access to care for the target populations?

   Measure: Number of members who use appropriate medications for people with asthma (according to National Committee for Quality Assurance (NCQA) standards)

   Measure: Number of members who use appropriate medications for people with diabetes (according to NCQA standards)

C. Did expansion of STAR and STAR+PLUS to new service delivery areas impact care coordination for the target populations?

   Measure: Percent of STAR and STAR+PLUS members in each new service delivery area (SDA) who felt their doctor was informed about the care they received from other providers

[26] https://www.hhsc.state.tx.us/1115-docs/DSRIP-Protocols.pdf

INTERMEDIATE HEALTH OUTCOME INDICATORS

A. Did expansion of STAR to the Hidalgo SDA and the Medicaid Rural Service Areas (MRSAs) reduce preventable ER visits and hospitalizations over the demonstration period for the target population?

Measure: The number of potentially preventable hospital readmissions per 1,000 members in each new SDA

B. Have dental managed care organizations (MCOs) reduced restorative dental care to the target population over the demonstration?

Measure: Number of members who received restorative dental services per 1,000 members

C. Has the carve-in of pharmacy benefits into STAR and STAR+PLUS reduced the number of hospital admissions due to an acute asthmatic event?

Measure: The number of asthma hospital admissions per 100,000 members in each new SDA

Measure: The number of diabetic hospital admissions per 100,000 members in each new SDA

NEW INDICTORS ADDED TO EVALUATION DUE TO PROGRAM AMENDMENTS

In addition to the questions included in the approved evaluation plan, the evaluation will also include the following research questions relating to amendments to the Program.

A. What is the impact of carving in behavioral health services to STAR and STAR+PLUS as compared to the carving out of behavioral health services in the service area of the NorthSTAR 1915(b) waiver on coordination and quality of care?

Measure: Percent of carved-in members with schizophrenia or bipolar disorder using antipsychotic medications who receive diabetes screening compared to NorthSTAR members.

Measure: Percent of carved-in members who felt their doctor was informed about the care they received from other providers.

B. What is the impact of the STAR+PLUS nursing facility carve-in on quality of care?

Measure: The number of potentially preventable hospital admissions per 1,000 members in each new SDA.

CHAPTER 7
INTERVENTION II INTRODUCTION
NEW MODEL FOR DISTRIBUTION OF UNCOMPENSATED CARE FUNDS

The overarching goal of the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") is to support the development and maintenance of a coordinated healthcare delivery system, thereby maintaining or improving health outcomes while containing cost growth. This goal is consistent with the Centers for Medicare and Medicaid Services' (CMS) "triple aim" approach to improve the experience of care, improve the health of populations, and reduce the cost of healthcare without compromising quality (Berwick, Nolan, & Whittington, 2008).

Specifically, the Program used two integrated interventions aimed to improve access to healthcare, increase quality of care, and reduce costs of care: expand Medicaid managed care (MMC), and revise the upper payment limit (UPL) supplemental payment program by creating two new pools to fund healthcare system improvement.

Given the federal limitations related to UPL supplemental payments for non-behavioral health inpatient hospitalizations under MMC, Texas established two new funding pools designed to preserve UPL supplemental payments: the uncompensated care (UC) pool to assist providers with UC costs, and the Delivery System Reform Incentive Payment (DSRIP) pool to promote health system transformation.

GENESIS

Historically, Texas has used flexibility in its Medicaid program to provide supplemental payments to hospitals for their provision of UC. These supplemental payments came in the form of disproportionate share hospital (DSH) and UPL payments (42 C.F.R. § 447.253(b) (1) and 42 C.F.R. § 447.321).

While in-patient hospital services have always been part of the STAR Medicaid program for pregnant women, children with parents of limited income, and Temporary Assistance for Needy Families with children, when Texas implemented MMC in five service areas in 2005 for its STAR+PLUS population it carved out in-patient hospital services in order to preserve UPL supplemental payments.

However, carving in STAR+PLUS in-patient hospital services into MMC would greatly impact hospital revenue because of the potential decrease in UPL payments due to two factors. First, UPL payments are based, in part, on the number of Medicaid fee-for-service hospital days (Medicaid and CHIP Payment and Access Commission, 2012). Second, federal regulations prohibit UPL payments under a capitated MMC model because federal regulations require MMC rates to account for the full cost of services under the managed care contract (42 C.F.R. § 438.60).

The 2012–2013 General Appropriations Act, House Bill (H.B.) 1, 82nd Legislature, Regular Session, 2011 (Article II, Health and Human Services Commission, Rider 51) and Senate Bill (S.B.) 7, 82nd Legislature, First Called Session, 2011 required the Texas Health and Human Services Commission (HHSC) to expand MMC to include additional Medicaid clients and improve budget efficiency, thereby adding in-patient hospital services to the STAR+PLUS program. Additionally, S.B. 7 authorized Texas to apply for a Medicaid waiver that would safeguard the amount of federal money provided under the DSH and UPL supplemental payment programs, given the move to MMC.

Through the Program, Texas was able to carve in inpatient hospital services into MMC, preserve the hospital revenue made through the former UPL supplemental payments, and provide an incentive to providers to improve healthcare delivery in Texas.

California "Bridge to Reform" Demonstration Waiver

Texas chose to apply for a Medicaid 1115 waiver that incentivizes system transformation and quality improvements in hospitals and other providers that serve high volumes of low-income patients. Since 2010, eight states have negotiated with the federal government to implement DSRIP programs, providing states with a unique opportunity to redesign delivery systems within the context of state needs and goals.[27]

The Texas Program was modeled after the California *Bridge to Reform* Section 1115(a) Medicaid waiver by expanding MMC and implementing a DSRIP program. However, the Program deviated from the California Demonstration based on the evolution of DSRIP programs since 2010 and adaptation to meet the needs of Texas Medicaid. Each state negotiates with CMS to adapt DSRIP to meet the specific Medicaid program needs, but programs share common characteristics: types of DSRIP innovations, the balance of risk and payment for states and providers, and alignment of DSRIP programs with other state quality improvement and delivery reform initiatives.

- Texas is one of the few states (besides New York) that requires providers to form regional coalitions. Texas' Regional Healthcare Partnerships (RHPs) are comprised of performing providers who are individually responsible for projects. Given the geographic vastness of the State of Texas, as well as the diversity of the populations in different areas of the state, HHSC elected to implement the UC and DSRIP portions of the Program by facilitating the creation of 20 RHPs. The RHPs serve as a mechanism to plan, implement, and track DSRIP projects. In many cases, the counties and subsequent agencies and providers comprising these RHPs have worked together previously in varying capacities; however, as the RHP regions do not reflect exact boundaries of other service region designations (e.g., health and human service regions, educational service regions, council of government regions), new stakeholders were likely introduced as well.

[27] http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ca/ca-bridge-to-health-reform-fs.pdf

- Even though hospitals are the focus, Texas' DSRIP program included projects implemented by a range of providers including public and private hospitals, nursing facilities, and provider groups.
- Texas greatly expanded the number and categories of projects compared to the California DSRIP program.
- The DSRIP project categories in Texas are similar but not identical to those in California. However, both have the same early focus on infrastructure development and then shift to focus on health outcomes in the final years of the demonstration waiver.
- Since DSRIP funding is closely associated with UC pool and managed care, quality alignment strategies focus on how to translate preliminary findings from DSRIP projects to MMC.

INTERVENTION II EVALUATION GOALS

The evaluation goals for Intervention II relate to the RHPs' ability to show quantifiable improvements in collaboration among diverse provider types, quality of care, lower cost, and health of the population; the amount of funds disbursed through the UC pool; and stakeholder perceptions of MMC expansion, the RHPs, and the UC and DSRIP pools.

When the evaluation plan was originally submitted to CMS in November 2012 the evaluation goals were ordered 1–11. After approval of the evaluation plan and subsequent analysis, the sequence of results for Evaluation Goals 5–11 was changed in order to better reflect the Program's implicit theory of change: from system restructuring to delivery innovation to improved health and cost outcomes. However, the legacy goal numbers were retained so that the evaluation goals in the report matched those in the evaluation plan.

Specifically, Intervention II had the following seven goals.

Evaluation Goals 10 and 11:
- Assess stakeholder-perceived *strengths and weaknesses*, and successes and challenges of the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.
- Assess stakeholder-recommended *changes* to the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.

Evaluation Goal 9: Evaluate the extent to which the establishment of RHPs increased collaboration among health care organizations and stakeholders in each region.

Evaluation Goal 6, 7, and 8:
- Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the quality of care.
- Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the health of the population served.

- Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the cost of care.

Evaluation Goal 5: Evaluate whether uncompensated costs, based on service type, remain stable or decrease over time for hospitals participating in the Program.

The following chapters provide initial findings and plans for the final report for each of the evaluation goals listed above.

CHAPTER 8
THE DELIVERY SYSTEM REFORM INCENTIVE PAYMENT PROGRAM

The Delivery System Reform Incentive Payment (DSRIP) program is intended to incentivize hospitals and other providers to transform their healthcare service delivery practices. These payments motivate hospitals and other providers to develop programs or strategies to enhance access to healthcare, increase the quality of care, the cost-effectiveness of care provided, and the health of the patients and families they serve. Projects eligible for incentive payments must be selected from a menu of Centers for Medicare and Medicaid Services (CMS) and the Texas Health and Human Services Commission (HHSC) approved project options, be included in the Regional Healthcare Partnership's (RHP) plan, and have corresponding metrics and milestones.

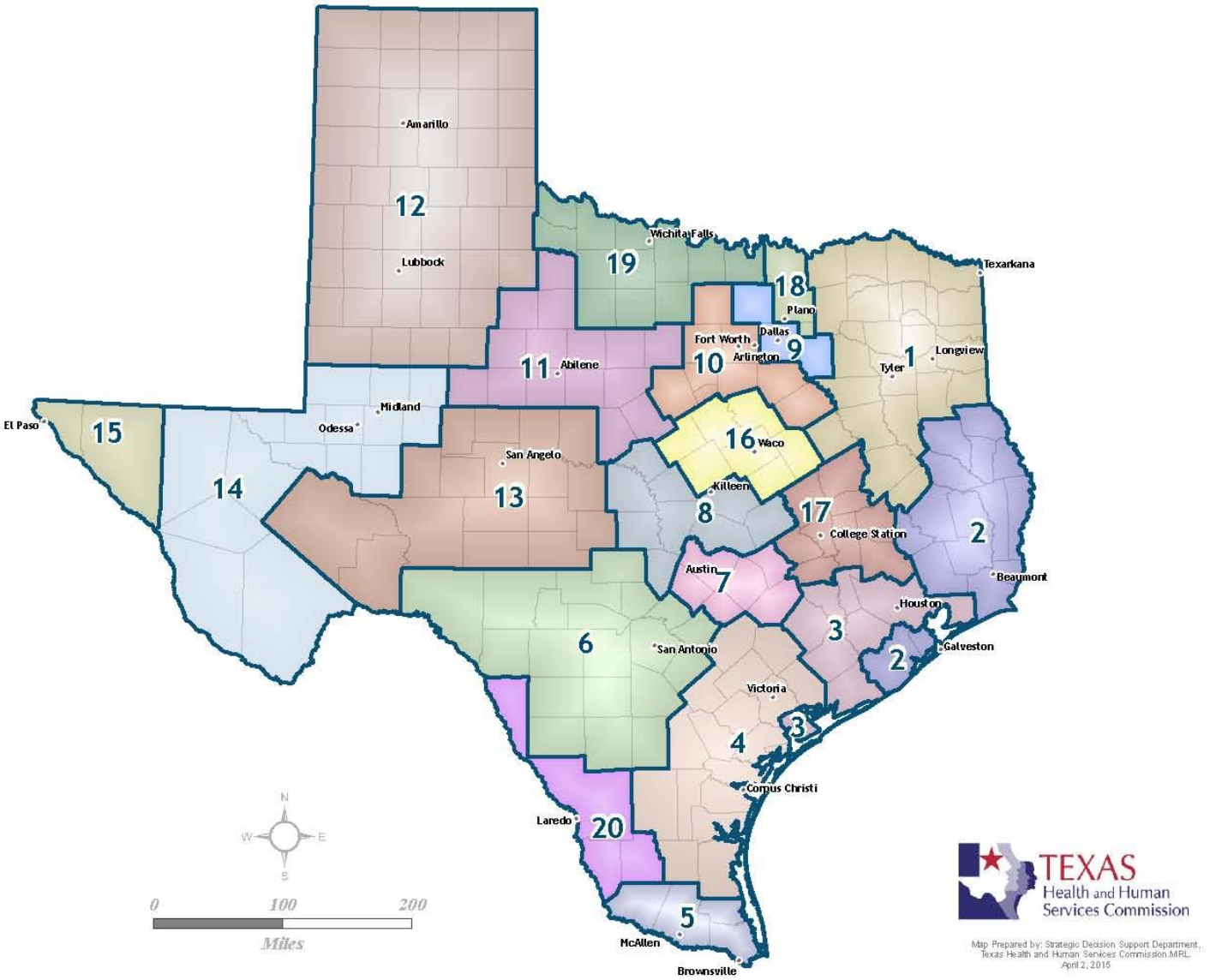
The Texas DSRIP program was modeled after the DSRIP program implemented through the California *Bridge to Reform* section 1115(a) Medicaid waiver approved by CMS on November 1, 2010. The California $10B waiver expanded Medicaid coverage, expanded Medicaid managed care (MMC), and dedicated $3.3B in federal funding for DSRIP incentive payments. The California waiver built upon the experiences of a previous 1115(a) Medicaid waiver approved from 2005–2010, as well as pilot projects tested by providers through the California Health Care Safety Net Institute (California Health Care Safety Net Institute, 2013). The California DSRIP program was implemented through 21 designated public hospital systems (DPHs). The DPHs developed system-wide projects, including outpatient, inpatient, primary, and specialty care that corresponded with four project categories: infrastructure development, innovation and redesign, population-focused improvement, and urgent improvements in care.

Across the five-year demonstration, the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") made available $11.4B in federal funds for DSRIP projects. In order to distribute these funds, HHSC and CMS required hospitals, stakeholders, and performing providers to collaborate to form RHPs. These RHPs administer the Program at the local level and facilitate system transformation.

REGIONAL HEALTHCARE PARNERSHIPS

After approval of the Program, HHSC worked with community leaders, stakeholders, and state leadership to develop the geographic framework of the 20 RHPs in Texas (see Figure 8.1).

Figure 8.1. Texas Regional Healthcare Partnerships



Each RHP is anchored by a public hospital or other public entity and includes all organizations participating in the Program including hospitals and performing providers (see Table 8.1). As of June 2015, across all RHPs there were 298 DSRIP performing providers. These included 221 hospitals (123 non-state owned public, 11 state-owned public, and 87 private), 17 physician groups, 39 community mental health centers, and 21 local health departments. Some performing providers provide services in multiple RHPs and are included in the totals for each RHP below.

Table 8.1. Regional Healthcare Partnership (RHP) Anchors, Number of Performing Providers, and Major RHP Cities

RHP	Anchor	Number of Performing Providers	Major cities in the RHP
1	University of Texas Health Science Center at Tyler	24	Tyler, Longview, Texarkana
2	University of Texas Medical Branch	14	Beaumont, Galveston
3	Harris Health System	26	Houston
4	Nueces County Hospital District	20	Victoria, Corpus Christi
5	Hidalgo County	12	McAllen
6	University Health System	25	San Antonio
7	Travis County Healthcare District (Central Health)	9	Austin
8	Texas A&M Health Science Center	12	Killeen
9	Dallas County Hospital District (Parkland Health and Hospital System)	26	Dallas
10	Tarrant County Hospital District (JPS Health Network)	29	Fort Worth, Arlington
11	Palo Pinto General Hospital District	18	Abilene
12	Lubbock County Hospital District -University Medical Center	38	Amarillo, Lubbock
13	McCulloch County Hospital District	17	San Angelo
14	Ector County Hospital District (Medical Center Health System)	10	Odessa, Midland
15	University Medical Center of El Paso (El Paso Hospital District)	8	El Paso
16	Coryell County Memorial Hospital Authority	8	Waco
17	Texas A&M Health Science Center	11	College Station
18	Collin County	7	Plano
19	Electra Hospital District (Electra Memorial Hospital)	14	Wichita Falls
20	Webb County	8	Laredo

In December 2012, each RHP submitted a plan to HHSC that included a data-driven community needs assessment (CNA), a description of RHP stakeholder engagement, and a DSRIP project narrative, including valuation, for each four-year project proposed by a participating performing provider. All DSRIP projects were required to address one or more of the community needs identified in the RHP plan and had to be selected from the approved DSRIP project menu. The

projects included in the RHP plans were reviewed and either approved, approved pending revisions, or denied by HHSC and CMS.

COMMUNITY NEEDS ASSESSMENTS

The CNAs provided the background that justified the need for the DSRIP projects in that RHP. CNAs were based on local data and identified gaps in coverage, at-risk populations, health disparities, community needs, and key challenges. Each RHP identified its own community needs and was not given a menu of needs. On average, RHPs included 15.35 community needs in their CNAs (Range: 6 to 38 community needs). Each project was required to identify the community needs addressed by the project. On average, projects included 2.27 community needs (Range: 1 to 4 community needs). Table 8.2 provides, for each RHP, the community need that has the greatest percent of projects addressing that need. It also provides the percent of the total combined demonstration year (DY)2 and DY3 valuation for the projects that plan to address that need. Most projects aimed at addressing multiple needs, so the values provided are for the projects and not the values associated with addressing that community need.

Table 8.2. Most Commonly Selected Community Need by Regional Healthcare Partnership (RHP) Projects[1]

RHP	Most Commonly Selected Community Need by Projects in each RHP	Number of Projects Addressing Need	Percent of RHP Projects Addressing Need	Percent of Demonstration Year (DY) 2 & DY3 Valuation Going to Projects Addressing Need[2]
1	Insufficient access to primary and specialty health care services	52	56%	64%
2	High Emergency Department (ED) utilization rates	40	48%	50%
3	Inadequate access to treatment and services designed for special needs populations, including disabled, homeless, children, and elderly	63	35%	31%
4	Inadequate provision and coordination of health care services for person with chronic conditions	43	48%	39%
5	Shortage of primary and specialty care providers and inadequate access to primary or preventive care	43	55%	63%
6	A high prevalence of chronic disease and related health disparities require greater prevention efforts and improved management of patients with chronic conditions. Leading causes of death in RHP 6 include cardiovascular disease, cancer, and diabetes.	59	46%	49%
7	Inadequate access to behavioral healthcare	33	43%	41%
8	Limited access to primary care for preventive services with same or next day appointments and extended hours.	4	12%	15%
9	ED usage and readmissions	57	44%	46%
10	Need for more care coordination. All counties identified it as a system cap and need. Barriers include complexity of coordination, lack of staff, lack of financial integration, fragmented system service, and practicing in silos. There was a need for care coordination between primary care providers, hospitals, and specialists.	79	63%	68%
11	Shortages of healthcare professionals, including mental health care providers.	17	39%	49%
12	Severe primary care shortage, wait time, expense, lack of insurance, access to care.	66	66%	62%
13	Mental health issues related to access, shortage of mental health professionals, lack of insurance and transportation, need for coordination between providers	11	29%	14%
14	High rates of chronic disease, including cancer, diabetes, heart disease, cardiovascular disease, respiratory diseases, Alzheimer's, and obesity.	27	47%	48%
15	Secondary and specialty care	33	55%	60%
16	Mental health issues related to access, shortage of mental health professionals, lack of insurance and transportation, need for coordination between providers	15	43%	29%
17	Limited access to chronic disease management programs and services in all RHP 17 counties.	6	21%	14%
18	Behavioral health–all components–all ages	14	61%	56%
19	Need to overcome patient access to care barriers.	23	62%	54%
20	Capacity - primary and specialty care	16	64%	64%

[1] Based on RHP community needs assessments as of March 26, 2015.

[2] Most projects aimed at addressing multiple needs so the values provided are for the projects and not the values associated with addressing that community need.

Methods for Community Needs Assessment Analysis

As with the Category 3 outcome measures, community needs were grouped into related public health topics or themes. The public health topics were created for the purpose of the evaluation in order to more easily discuss statewide public health needs. Texas did not provide each RHP with a list of possible community needs, and so each RHP created their own RHP specific list. Some RHPs were general with their community needs (e.g., inadequate access to behavioral healthcare) whereas other RHPs were very specific with their community needs (e.g., limited access to primary care for residents without a usual source of care in Washington County). This inconsistency made it difficult to easily group community needs across RHPs.

Content analysis was performed utilizing an iterative process to code the community needs. A primary reviewer coded the list of community needs as designated by each RHP. A secondary reviewer participated in coding and development of the finalized list of codes and served as a consultant throughout the rest of the process. Through the process of coding and recoding, themes represented by the community needs were created with up to three levels of sub-themes to capture more detailed information. An overall count was then obtained to determine how many RHPs identified community needs in each overall theme. The most significant in terms of overall RHP representation were identified and are described in the next section.

It is important to note that the community needs were coded according to the designated community need *as written by the RHP*. For example, a community need of "inadequate access to primary care" with no additional detail was coded under the theme of "limited access" in the sub-theme of "primary care". The reviewers did not have sufficient resources to go beyond the list of community needs to provide further interpretations or linkages, for example, to determine if limited access was perhaps due to shortages or poor care coordination. This was a limitation of the analysis.

It is also important to note that as the RHPs designated their own lists of community needs, they *varied in description and write-up*. Some were very general while others were descriptive. Some clearly addressed a single area of public health while others addressed several. Therefore, this was reflected in the coding. Some community needs were single-barreled and were clearly coded as one major theme, while other community needs were double-barreled and were coded as multiple major themes. For example, the community need "Addressing cost/waste through LEAN process: Improve efficiencies, streamline admin[istrative] costs, and reduce readmissions and preventable admissions" was included in the theme potentially preventable hospitalizations, as well the theme of healthcare delivery system. There were also community needs that were clearly coded into one major theme but several sub-themes. For example, a community need of "High rates of chronic disease, including cancer, heart disease, cardiovascular disease, respiratory diseases, and obesity" fell into the major theme of chronic disease and the sub-themes of cancer, heart disease/cardiovascular disease, respiratory/pulmonary disease, and obesity.

Major Themes of Community Needs

Ultimately, twenty-nine (29) themes were created through coding, capturing the diversity of community needs identified throughout the state. Six of those major themes were clearly more widespread in terms of RHP representation than the others. The six major themes with the greatest number of RHPs and projects addressing that theme were:

- Access to care,
- Shortages,
- Care coordination,
- Emergency Department (ED) utilization,
- Chronic disease, and
- Potentially preventable hospitalizations.

While not a limitation, it is important to note that most projects intended to address multiple community needs and therefore the project examples included below could easily have been used for many of the needs.

Access to Care

The access to care theme included community needs relating to a person's ability to obtain affordable medical care in a timely basis (Dickstein & Gehring, 2014) and includes, but is not limited to, barriers to care, chronic disease management, access to emergent care, access in rural areas, and access to primary and specialty care. This theme was directly identified by all but three RHPs (9, 15, and 18) in their project plan descriptions. Seven hundred and sixty-two (762) projects indicated a goal of addressing access to care. RHP 3 had the greatest number (141) of projects focusing on this theme. RHPs 1, 4, 5, and 12 also had a high number of projects addressing this theme (see Table 8.3).

Table 8.3. Number of Projects Relating to Access to Care by Regional Healthcare Partnership (RHP)[1]

RHP	Access to Care Projects[2]	Total Projects
1	69	93
2	41	84
3	141	181
4	62	89
5	60	78
6	56	128
7	49	77
8	41	41
9	0	131
10	35	126
11	12	44
12	86	100
13	14	38
14	17	57
15	0	60
16	15	35
17	25	29
18	0	23
19	23	37
20	16	25
TOTAL	**762**	**1476**

[1] Based on active project narratives as of March 26, 2015.
[2] Most projects aimed at addressing multiple needs.

Examples of projects addressing the access to care theme of needs include the following.

- RHP 3 Project 2967606-01 2.4 – Created a cooperative project with local health care providers to provide colonoscopy screening to uninsured and underinsured populations who meet the criteria for this procedure. For individuals identified with colorectal cancer through this project, the appropriate continuum of care will be provided through cooperative

agreements. The program will cover up to $30,000 of eligible medical care per year for individuals who qualify for the program, approximately 1,000 per year. Neither the Indigent Health Care program nor the Federally Qualified Health Center can provide screening colonoscopies at this time.

- RHP 5 Project 111810101.2.102 – Expanded proactive, ongoing chronic care management to keep patients with chronic diseases healthy. This project included elements of the Chronic Care Model for ambulatory care that have been shown to lead to the greatest improvements in health outcomes. It also empowered individuals to self-manage their conditions. The ultimate goal is to prevent worsening health, precipitating the need for ED or inpatient care. The initial focus of the project is diabetes management.
- RHP 8 Project 126844305.1.5 – Established outpatient substance abuse treatment sites in Georgetown and Marble Falls to meet the needs of a growing population, especially the poor, under or uninsured. The sites are located in current facilities and will be licensed for supportive outpatient and intensive outpatient services. The project intends to reduce inappropriate use of the ED by this population thereby improving the individuals' lives through stable services in a medical home, and to improve community health by reducing inappropriate ED utilization and increasing access for those who truly need an ED.

Shortages

The shortages theme included community needs relating to the lack of a sufficient number of providers to adequately serve the population (Health Resources and Services Administration, n.d.). It includes shortages of providers and services for geographic areas and for specific populations. This theme does not specifically refer a Health Professional Shortage Area (HPSA) or a Medically Underserved Area (MUA). This theme was directly identified by all but two RHPs (1 and 15) in their project plan descriptions. Six hundred and fifty-three (653) projects indicated that it aimed at addressing shortages. RHP 6 had the greatest number (94) of projects focusing on this theme (see Table 8.4).

Table 8.4. Number of Projects Relating to Shortages by Regional Healthcare Partnership (RHP)[1]

RHP	Shortages Projects[2]	Total Projects
1	0	93
2	65	84
3	3	181
4	12	89
5	60	78
6	94	128
7	42	77
8	10	41
9	45	131
10	68	126
11	17	44
12	93	100
13	20	38
14	29	57
15	0	60
16	20	35
17	25	29
18	9	23
19	16	37
20	25	25
TOTAL	**653**	**1476**

[1] Based on active project narratives as of March 26, 2015.
[2] Most projects aimed at addressing multiple needs.

Examples of projects addressing the shortages theme of needs include the following.

- RHP 6 Project 085144601.1.6 – Established the "Sustained Treatment Is an Outpatient Priority" project as the treatment training program designed to translate evidence-based science interventions for substance use disorders into enhanced access for underserved community patient populations. The implementation of this project:

  - Directly added specialty care capacity by increasing the breadth and depth of evidence-based treatment services in the community;
  - Provided evidence-based training to future specialty care professionals and mid-level care providers, and did so within HPSA designated areas and in such a way as to promote the likelihood that trainees will serve HPSA designated areas; and
  - Trained staff in the Screening, Brief Intervention, and Referral to Treatment practice at community clinics of non-behavioral medical providers.
- RHP 4 Project 020973601.1.1 – Added two primary care providers to a community health center to replace two physicians who recently left. Increasing the primary care capacity at the community health center intended to:
  - Provide a medical home for patients currently using EDs for primary care, and
  - Reduce costly hospital admissions and ED care through proper management of chronic conditions.
- RHP 11 Project 133339505.1.2 – Implemented a telemedicine model to provide clinically appropriate treatment as indicated by a psychiatrist or other qualified provider throughout the area. There was limited access to psychiatric or other mental health care providers in this region. The project should reduce unnecessary ED and service use and improve consumer satisfaction/access were previously limited or unavailable.

Care Coordination

The care coordination theme included community needs relating to the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of health care services (McDonald et al., 2014). It includes the coordination of care for individuals with a chronic disease, behavior or mental health diseases, and/or complex medical conditions. This theme was directly identified by 13 RHPs in their project plan descriptions. Four hundred and six (406) projects indicated that their aim was to address care coordination. RHP 10 had the greatest number (95) of projects focusing on this theme (see Table 8.5).

Table 8.5. Number of Projects Relating to Care Coordination by Regional Healthcare Partnership[1]

RHP	Care Coordination Projects[2]	Total Projects
1	0	93
2	0	84
3	60	181
4	60	89
5	34	78
6	45	128
7	46	77
8	0	41
9	21	131
10	95	126
11	0	44
12	0	100
13	11	38
14	0	57
15	0	60
16	15	35
17	8	29
18	10	23
19	0	37
20	1	25
TOTAL	**406**	**1476**

[1] Based on active project narratives as of March 26, 2015.
[2] Most projects aimed at addressing multiple needs.

Examples of projects addressing the care coordination theme of needs include the following.

- RHP 5 Project 085144601.2.3 – Expanded the use of an existing Mobile Clinic in a customized van providing primary care in underserved rural areas by enhancing and expanding the impact with locally based patient navigators to support early screening and

detection of chronic conditions and navigation for care coordination. The project added patient navigators and community health workers to the staff of the mobile van clinic to help patients navigated the fragmented healthcare system, payment systems, support organizations and other components of the healthcare system. The community health workers also identified other needs and navigate patients to community resources and other programs that can provide assistance and services that respond to these needs.

- RHP 18 Project 084434201.2.2 – Developed and provided a comprehensive treatment modality that includes 12 different community-based intervention options to substantially stabilize the mentally ill, functionally impaired, and homeless individuals in Grayson County in order to reduce unnecessary use of EDs, physical and psychiatric hospitals, and the criminal justice system. The organization provided these services by engaging area stakeholders and cooperating with other providers.
- RHP 10 Project 135036506.2.5 – Identified and connected underserved patients in the hospital to a primary care provider/patient centered medical home, created a care plan for frequently admitted patients, and provided comprehensive follow-up calls to patients to ensure they have an appointment and necessary transportation. This project was designed to create a care navigation program for ED patients without a primary care physician/patient-centered medical home to address their post-acute care needs. Staff provided patients with real-time assistance to resolve barriers that may stop patients from attending follow-up appointments. Finally, care plans were developed for patients with high hospital utilization and complex needs.

Emergency Department Utilization

The ED utilization theme included community needs relating to the use (or misuse) of the ED for non-emergent conditions (Goodell, DeLia, & Cantor, 2009). This theme was directly identified by 14 RHPs in their project plan descriptions. Three hundred and eighty-four (384) projects indicated that it aimed at addressing ED utilization. RHP 10 had the greatest number (59) of projects focusing on this theme (see Table 8.6).

Table 8.6. Number of Projects Relating to Emergency Department (ED) Utilization by Regional Healthcare Partnership[1]

RHP	ED Utilization Projects[2]	Total Projects
1	49	93
2	40	84
3	52	181
4	23	89
5	0	78
6	0	128
7	31	77
8	4	41
9	57	131
10	59	126
11	0	44
12	35	100
13	8	38
14	0	57
15	0	60
16	11	35
17	3	29
18	6	23
19	6	37
20	0	25
TOTAL	**384**	**1476**

[1] Based on active project narratives as of March 26, 2015.
[2] Most projects aimed at addressing multiple needs.

Examples of projects addressing the ED utilization theme of needs include the following.

- RHP 4 Project 020973601.1.5 – Implemented a chronic disease management registry for one or more targeted chronic diseases to help identify at-risk patients and manage chronic disease across the entire continuum of healthcare providers. Care coordination across the market is fragmented and inadequate, leading to increased costs and hospital admissions, conflicting care protocols, and suboptimal patient outcomes and satisfaction. Chronic diseases, if poorly managed, can lead to unnecessary admissions and inappropriate ED utilization.

- RHP 12 Project 127374005.2.1 – Provided services through a whole-health approach in a single treatment environment where behavioral health and physical health services are co-located instead of the traditional separate treatment locations. By doing so, the project intended to reduce the number of people utilizing emergency room services inappropriately. In addition to co-locating services, the project also provided behavioral health services in the emergency room, including brief therapeutic services and screening/referrals.
- RHP 9 Project 138910807.1.100 – Expanded community-based health services cost-effectively through a telemedicine program involving community-based nurses and pediatric clinical personnel to better accommodate the needs of the pediatric population during the school day (reduce unnecessary use of ED services).

Chronic Diseases

The chronic diseases theme included community needs relating to non-communicable diseases that cannot be passed from person to person (World Health Organization, 2015). Chronic diseases typically are for a long duration and generally progress slowly. The four main types of chronic diseases include cardiovascular disease, cancer, chronic respiratory diseases, and diabetes. This theme was directly identified by 18 RHPs in their project plan descriptions. Three hundred and seventy-five (375) projects indicated that it aimed at addressing chronic disease. RHP 6 had the greatest number (59) of projects focusing on this theme (see Table 8.7). RHPs 1 and 9 also had a high number of projects addressing this theme.

Table 8.7. Number of Projects Relating to Chronic Diseases by Regional Healthcare Partnership[1]

RHP	Chronic Disease Projects[2]	Total Projects
1	45	93
2	31	84
3	35	181
4	9	89
5	0	78
6	59	128
7	23	77
8	0	41
9	44	131
10	18	126
11	6	44
12	29	100
13	7	38
14	29	57
15	12	60
16	7	35
17	1	29
18	5	23
19	8	37
20	7	25
TOTAL	**375**	**1476**

[1] Based on active project narratives as of March 26, 2015.
[2] Most projects aimed at addressing multiple needs.

Examples of projects addressing the chronic diseases theme of needs include the following.

- RHP 6 Project 112676501.2.3 – Implemented a Patient Navigator Program to assist patients in controlling their chronic diseases by helping patients and their families navigate the healthcare system, including primary care physician offices, specialists, preventive

screenings, diagnostic testing, inpatient admissions, payment systems, and community resources. Patient Navigation is most predominant in cancer programs, but this project will expand it to other diseases, like diabetes or chronic obstructive pulmonary disease.

- RHP 2 Project 109372601.1.1 – Expanded specialty care capacity for Galveston and Brazoria Counties by increasing service availability through extended office hours, increased number of specialty clinic locations, and implementing a transparent, standardized referral system.
- RHP 2 Project 131030203.1.3 – Implemented a functional chronic disease management registry to improve primary and preventative care to the Medicaid and underserved populations of Nacogdoches County. The registry was implemented in four primary care clinics in Nacogdoches County serving clients diagnosed with diabetes, pre-diabetes or related risk factors. By tracking key patient information, a disease registry helps physicians and other members of a patient's care team identify and reach out to patients who may have gaps in their care in order to prevent complications, which often lead to more costly care interventions.

Potentially Preventable Hospitalizations

The potentially preventable hospitalizations theme included community needs relating to admissions to a hospital for certain acute illnesses (e.g., dehydration) or worsening chronic conditions (e.g., diabetes) that might not have required hospitalization had these conditions been managed successfully by primary care providers in outpatient settings (Moy, Chang, & Barrett, 2013). This theme was directly identified by 15 RHPs in their project plan descriptions. Three hundred and thirty-three (333) projects indicated that it aimed at addressing potentially preventable hospitalizations. RHP 9 had the greatest number (57) of projects focusing on this theme (see Table 8.8).

Table 8.8. Number of Projects Relating to Potentially Preventable Hospitalizations by Regional Healthcare Partnership (RHP)[1]

RHP	Potentially Preventable Hospitalization Projects[2]	Total Projects
1	50	93
2	25	84
3	50	181
4	37	89
5	0	78
6	0	128
7	31	77
8	3	41
9	57	131
10	0	126
11	9	44
12	0	100
13	5	38
14	21	57
15	0	60
16	15	35
17	2	29
18	7	23
19	20	37
20	2	25
TOTAL	**333**	**1476**

[1] Based on active project narratives as of March 26, 2015.

[2] Most projects aimed at addressing multiple needs.

Examples of projects addressing the potentially preventable hospitalizations theme of needs include the following.

- RHP 2 Project 096166602.1.6 – The city of Spindletop developed a longer-term crisis intervention and stabilization service capability designed to improve access to behavioral health care in the most appropriate, cost-effective setting. This intervention included identifying available beds for patients requiring behavioral health treatment longer than the typical 3–7 days; developing an assessment protocol to determine appropriate candidates for longer term treatment based on prior inpatient admissions, high risk factors, and history of prior non-compliance with treatment; and developing a specialized treatment protocol for extended crisis stabilization. A high percentage of behavioral health clients who are in crisis need longer than the typical 3–7 day stay in an inpatient setting in order to stabilize and prevent "revolving door" hospital and ED admissions. While hospitalization provides a high degree of safety for the person in crisis, it is very expensive and is often more than what is needed to address the crisis.
- RHP 9 Project 121790303.2.3 – Identified and connected underserved patients in the hospital to a Primary Care Provider (PCP) or Primary Care Medical Home (PCMH), created a multi-disciplinary care plan for frequently admitted patients, and provided comprehensive follow-up calls to patients to ensure that they have an appointment and transportation. The project added staff to serve more Medicaid and uninsured patients, added coverage on nights and weekends, and created care plans for high-risk patients. Connecting patients to a PCP/PCMH will reduce ED utilization and provide outpatient services for complex patients.
- RHP 16 Project 121792903.2.6 – Introduced a chronic disease management program for congestive heart failure (CHF) patients. The program assisted in the redesign of the outpatient delivery system to coordinate care for chronic disease patients with CHF using best practice for standardized care. The regional need for programs targeting CHF is evident as CHF ranks among the top readmission diagnoses as well as the second highest potentially preventable hospitalization with charges over the 2005–2010 time period at $1,020,095, according to the Texas Department of State Health Services.[28]

DSRIP PROJECT MENU

Each DSRIP project included in the RHP plan had to include a description of the project selected from the approved DSRIP menu, outcome measures, and the community need(s) the project addressed. In the first round of plan submissions in 2012, the 20 RHPs submitted 1322 four-year projects to CMS, virtually all projects (or a revised/replacement project) were approved, and 1240 remain active as of June 2015 (see Table 8.9). In 2014, RHPs were invited to submit proposals for additional three-year projects. Two hundred and thirty-two (232) three-year projects were submitted and approved, and there was funding for 218 to move forward. Two hundred and seventeen (217) were active as of June 2015.

[28] http://www.dshs.state.tx.us/thcic/

Table 8.9. Approved 4- and 3-year DSRIP Projects[1]

Regional Healthcare Partnership	4-Year Projects	3-Year Projects	TOTAL
1	84	8	92
2	74	9	83
3	150	27	177
4	83	5	88
5	34	44	78
6	109	16	125
7	65	11	76
8	36	4	40
9	114	16	130
10	101	24	125
11	41	2	43
12	85	14	99
13	35	3	38
14	48	8	56
15	53	7	60
16	31	3	34
17	25	3	28
18	23	0	23
19	35	2	37
20	14	11	25
TOTAL	**1,240**	**217**	**1457**

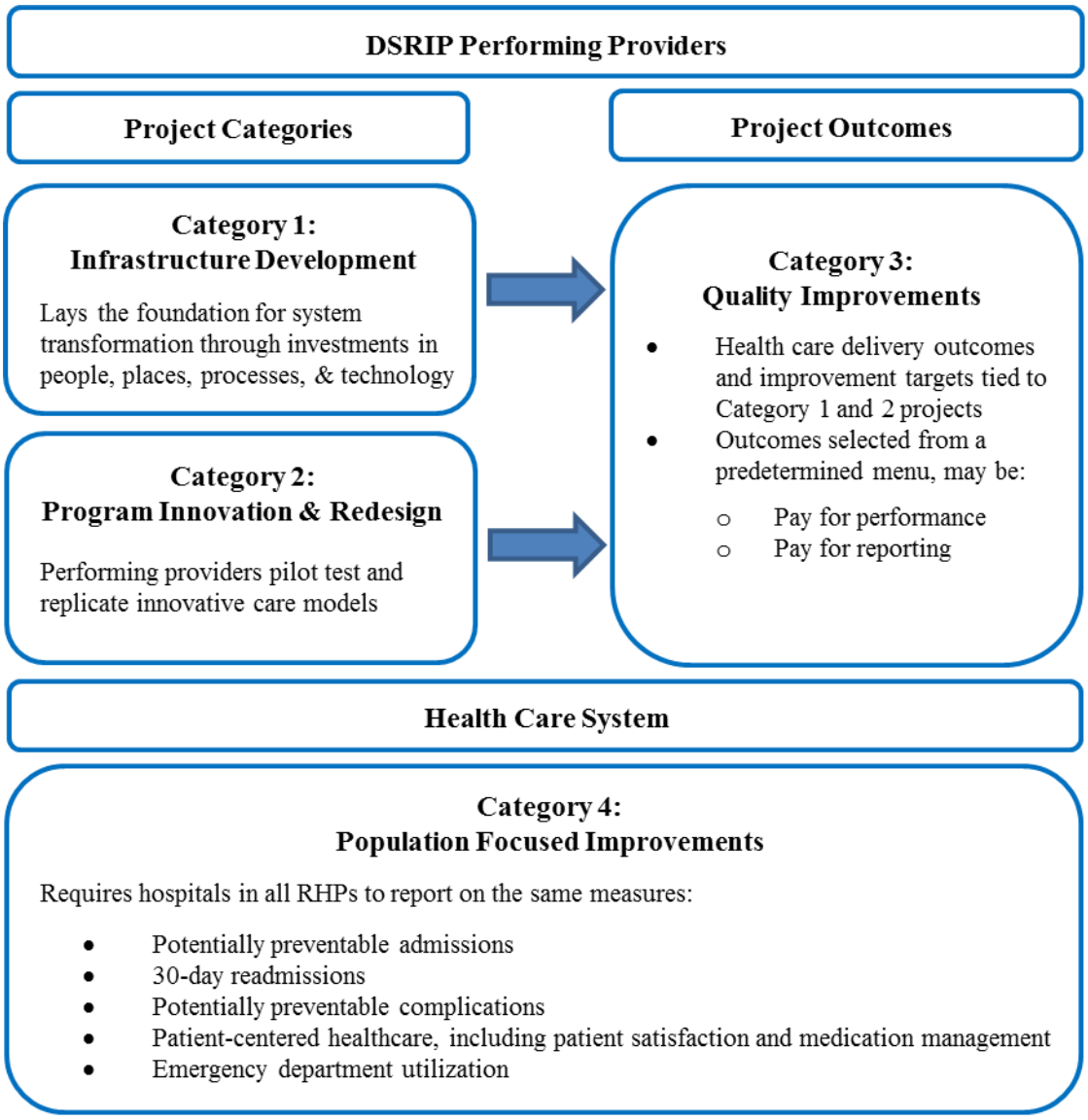
[1] Based on active project list as of June 1, 2015.

The DSRIP Menu

The DSRIP menu is comprised of the following four interrelated and complementary project categories:

- Infrastructure development,
- Program innovation and redesign,
- Quality improvements, and
- Population focused improvements (see Figure 8.2).

Figure 8.2. DSRIP Project Descriptions



Category 1 – Infrastructure Development Projects

Category 1 projects lay the foundation for delivery system transformation through investments in people, places, processes, and technology. The most common Category 1 projects were those that expanded existing primary care capacity, improved access to specialty care, established more primary care clinics, and expanded the number of community-based settings for behavioral health services (see Table 8.10). These ten projects account for 80 percent of Category 1 projects. For Category 1 projects, DSRIP payments are based on the providers' reported achievements and HHSC approval of achieved milestones/metrics.

Table 8.10. Ten Most Common Category 1 Projects[1]

Project Area Option	Description	Number of Projects	Percent of Category 1 Projects	Number of RHPs with Projects (out of 20)
1.1.2	Expand existing primary care capacity	143	20%	20
1.9.2	Improve access to specialty care	107	15%	20
1.1.1	Establish more primary care clinics	75	11%	18
1.12.2	Expand the number of community-based settings where behavioral health services may be delivered in underserved areas	67	9%	18
1.13.1	Develop and implement crisis stabilization services to address the identified gaps in the current community crisis system	55	8%	19
1.7.1	Implement telemedicine program to provide or expand specialist referral services in an area identified as needed to the region	33	5%	15
1.3.1	Implement/enhance and use chronic disease management registry functionalities	30	4%	13
1.9.1	Expand high impact specialty care capacity in most impacted medical specialties	26	4%	13
1.10.2	Enhance improvement capacity through technology	15	2%	11
1.11.2	Implement technology-assisted behavioral health services from psychologists, psychiatrists, substance abuse counselors, peers and other qualified providers	15	2%	13

[1] Based on active project list as of March 26, 2015.

An examination of the approved valuation of the Category 1 projects for DY2 and DY3 found that the project option with the highest valuation was project option 1.1.2 (expand existing primary care capacity) with a combined DY2 and DY3 total of $344,386,437 (see Table 8.11). Category 1 project options 1.1.1 (Establish more primary care clinics) and 1.9.2 (Improve access to specialty care) had the second and third highest valuation of $321,027,519 and $272,208,630 respectively.

Table 8.11. Ten Category 1 Projects with the Highest Approved Value[1]

Project Area Option	Demonstration Year (DY) 2 Total[2]	DY3			TOTAL DY2 and DY3
		4-year Projects	3-year Projects	DY3 Total	
1.1.2	$154,318,530	$165,236,584	$24,831,323	$190,067,907	$344,386,437
1.9.2	$117,993,634	$125,843,525	$28,371,471	$154,214,996	$272,208,630
1.1.1	$143,784,702	$154,142,493	$23,100,324	$177,242,817	$321,027,519
1.12.2	$68,592,007	$73,152,860	$29,576,877	$102,729,737	$171,321,744
1.13.1	$74,252,345	$84,171,927	$4,602,843	$88,774,770	$163,027,115
1.7.1	$28,851,767	$30,502,994	$4,894,946	$35,397,940	$64,249,707
1.3.1	$48,673,078	$48,674,478	$5,309,846	$53,984,324	$102,657,402
1.9.1	$29,054,718	$32,672,139	$2,542,508	$35,214,647	$64,269,365
1.10.2	$26,188,327	$26,172,215	$0	$26,172,215	$52,360,542
1.11.2	$11,039,971	$10,370,512	$76,752	$10,447,264	$21,487,235

[1] Based on active project list as of March 26, 2015.
[2] DY2 totals include only 4-year projects.

Category 2 – Program Innovation and Redesign Projects

Category 2 projects offer performing providers an opportunity to implement innovative care models as a method for system transformation. These projects often pilot existing evidenced-based models with new populations or replicate innovative care models implemented by other providers or in other locations. The most common Category 2 projects were those that implemented evidence-based interventions, targeted patients at high risk of disconnect, integrated primary and behavioral healthcare, and improved coordination of care for patients with chronic diseases (see Table 8.12). These ten projects account for 64 percent of Category 2 projects.

Table 8.12. Ten Most Common Category 2 Projects[1]

Project Area Option	Description	Number of Projects	Percent of Category 1 Projects	Number of RHPs[2] with Projects (out of 20)
2.13.1	Design, implement, and evaluate research-supported and evidence-based interventions tailored towards individuals in the target population	112	15%	18
2.9.1	Provide navigation services to targeted patients who are at high risk of disconnect from institutionalized healthcare	91	12%	17
2.15.1	Design, implement, and evaluate projects that provide integrated primary and behavioral health care services	53	7%	16
2.2.1	Redesign the outpatient delivery system to coordinate care for patients with chronic diseases	46	6%	15
2.7.1	Implement innovative evidence-based strategies to increase appropriate use of technology and testing for targeted populations	34	4%	13
2.12.2	Implement one or more pilot intervention(s) in care transitions targeting one or more patient care units or a defined patient population	33	4%	12
2.2.2	Apply evidence-based care management model to patients identified as having high-risk health care needs	29	4%	13
2.10.1	Implement a Palliative Care Program to address patients with end-of-life decisions and care needs	28	4%	15
2.12.1	Develop, implement, and evaluate standardized clinical protocols and evidence based care delivery model to improve care transitions	28	4%	11
2.6.2	Establish self-management programs and wellness using evidence-based designs	28	4%	16

[1] Based on active project list as of March 26, 2015.
[2] Regional Healthcare Partnerships (RHP).

As with Category 1 projects, DSRIP payments for Category 2 projects are based on the provider's reported achievements and HHSC approval of achieved milestones/metrics. An examination of the approved valuation of the Category 2 projects for DY2 and DY3 found that the project option with the highest valuation was project option 2.9.1 with a combined DY2 and DY3 total of $211,131,091 (see Table 8.13). Category 2.9.1 projects are projects that provide navigation services to targeted patients who are at high risk of disconnect from institutionalized healthcare. Category 2 project options 2.13.1 and 2.15.1 had the second and third highest valuation of $193,137,215 and $163,586,610 respectively.

Table 8.13. Ten Category 2 Projects with the Highest Approved Value[1]

Project Area Option	Demonstration Year (DY) 2 Total[2]	DY3			TOTAL DY2 and DY3
		4-year Projects	3-year Projects	DY3 Total	
2.13.1	$79,229,871	$85,528,680	$28,378,664	$113,907,344	$193,137,215
2.9.1	$93,308,507	$101,832,522	$15,990,062	$117,822,584	$211,131,091
2.15.1	$75,015,344	$82,117,341	$6,453,925	$88,571,266	$163,586,610
2.2.1	$48,549,170	$55,109,104	$8,550,705	$63,659,809	$112,208,979
2.7.1	$26,911,224	$28,017,852	$7,000,579	$35,018,431	$61,929,655
2.12.2	$34,629,958	$37,714,072	$4,317,752	$42,031,824	$76,661,782
2.2.2	$29,036,613	$31,156,760	$1,510,963	$32,667,723	$61,704,336
2.10.1	$46,235,782	$50,782,842	$2,776,207	$53,559,049	$99,794,831
2.12.1	$37,041,185	$38,740,928	$13,259,083	$52,000,011	$89,041,196
2.6.2	$19,520,442	$21,284,988	$2,593,847	$23,878,835	$43,399,277

[1] Based on active project list as of March 26, 2015.
[2] DY2 totals include only 4-year projects.

Category 3 – Quality Improvement Outcomes

Categories 1 and 2 are the *types* of projects DSRIP performing providers may design and implement to better reach and improve the health of specific populations. Providers must track and report quality outcomes (Category 3 measures) related the Category 1 or 2 project. Category 3 measures provide necessary information to demonstrate whether the Program is improving the healthcare delivery system in Texas. Performing providers report progress toward Category 3 metrics and milestones on a semi-annual basis. Payments are made based on their progress towards meeting the goals (pay-for-performance) or their reporting of measures as required (pay-for-reporting).

Category 3 measures are considered either stand-alone (SA) or non-stand-alone (NSA). This designation is tied to the type of outcome captured by the measure. Process measures are generally NSA measures whereas measures that describe clinical outcomes are considered SA measures. Each Category 1 or 2 project must have at least one SA measure or three NSA measures.

In order to examine the types of Category 3 measures used in the Program, they were grouped into thirteen types of measures (see Table 8.14). The most commonly selected class of measures were those relating to patient outcomes (344 projects); screenings, assessment or treatment/care plans (307 projects); inpatient admissions/readmissions (249 projects); ED utilization (222 projects); and non-emergent service utilization (214 projects). Patient satisfaction measures were also commonly selected (113 projects).

Table 8.14. Category 3 Measures

Type of Measures	Definition	Number of 3- and 4- Year Projects
Patient outcomes	Measures on a wide range of health, mental health, quality of life, and other patient outcomes (e.g., community support).	344
Screenings, assessments, and/or treatment/care plans	Measures the extent to which a screening or assessment was performed for health, mental health, or other outcomes (e.g., housing, independent living skills, vocational rehabilitation). This group also includes measures that relate to whether a treatment or care plan was developed. Several measures require both an assessment and a treatment plan.	307
Inpatient admissions, readmissions	Measures report on inpatient admission or readmission or unplanned re-operation within the same admission.	249
Emergency department (ED) utilization	Measures report on rates of ED utilization for ambulatory care sensitive conditions (e.g., hypertension, congestive heart failure, diabetes, asthma, etc.) or other medical conditions (e.g., behavioral health/substance abuse, end stage renal disease, etc.) in both adults and pediatric populations. It also includes measures on ED utilization for low acuity presenting patients.	222
Non-emergent service utilization	Measures report on the extent to which clients received specific types of non-emergency treatment or services.	214
Patient satisfaction	Measures report on patient's satisfaction with services, environment, and/or providers/staff.	113
Follow-up testing and treatment	Measures report on rates of follow-up after discharge for adult and pediatric populations following an in-patient hospitalization or diagnosis of a disorder that requires follow-up.	73
Provider communication, counseling, and cultural competence	Measures report on communications between providers and patients, other medical staff and patients, or providers/medical staff communicating with each other. This group includes measures of whether providers counseled patients on specific matters and measures of cultural competence.	61
Medication management and/or monitoring	Measures related to monitoring medication.	27
Availability of medical professionals	Pay-for-reporting measures that report on the amount of practitioners (primary care practitioners, nurse practitioners, psychiatrists, or other health professionals) who serve clients in medically underserved areas (MUAs) or a high number of Medicaid clients. This group also includes pay-for-reporting measures that serve or plan to serve clients in MUAs, health-professional shortage areas, or serve Medicaid clients.	23
Health-related behaviors	Measures report on the extent to which patients engage in specific behaviors, such as breastfeeding or using tobacco. This group only includes measures that *do not* otherwise fit under treatment/use of services. For example, having received a vaccination is categorized under treatment/use of services, not health-related behaviors.	13
Cost and/or cost savings	Measures: • Report the cost of illness, cost of care, or total cost index, or • Conduct a systematic analysis, cost utility analysis or cost benefit analysis of the effects and costs of alternative methods or programs for achieving a given objective and measures both benefits and costs in monetary units.	11
Medical home, continuity of care, & transition of care	Measures relate to the establishment of a medical home or usual source of care or of strengthening continuity of care. These also include measures related to transition of care communication.	9

Table 8.15 provides the 20 most frequently selected Category 3 outcome measures across all RHPs. Diabetes care (Identified as IT-1.10), controlling high blood pressure (IT-1.7), and reducing ED visits for ambulatory care sensitive conditions (IT-9.2) were the most frequently selected Category 3 outcome measures. Across all RHPs the valuation for Category 3 measures was $179,175,504 for DY2 and $307,868,316 for DY3 ($259,588,429 for 4-year projects and $48,279,887 for 3-year projects).

Table 8.15. Most Frequently Selected Category 3 Outcomes across All Regional Healthcare Partnerships[1]

Category 3 Outcome	Description	Number of Projects
IT[2]-1.10	Diabetes Care: HbA1c [3] Poor Control (>9.0%)	112
IT-1.7	Controlling High Blood Pressure	73
IT-9.2	Reduce Emergency Department (ED) Visits for Ambulatory Care Sensitive Conditions per 100,000	65
IT-3.22	Risk Adjusted All-Cause Readmission	52
IT-3.3	Risk Adjusted Congestive Heart Failure 30-day Readmission Rate	47
IT-6.2.a	Client Satisfaction Questionnaire 8	47
IT-1.13	Assignment of Primary Care Physician to Individuals with Schizophrenia	37
IT-11.26.e.i	Patient Health Questionnaire 9	37
IT-1.11	Diabetes Care: Blood Pressure Control (<140/90mm Hg)	34
IT-11.25	Daily Living Activities 20	33
IT-9.1	Decrease in Mental Health Admissions and Readmissions to Criminal Justice Settings such as Jails or Prisons	33
IT-10.1.a.iv	Assessment of Quality of Life 8D	31
IT-11.26.c	Adult Needs and Strength Assessment	31
IT-9.2.a	ED Visits per 100,000	31
IT-1.18	Follow-Up After Hospitalization for Mental Illness	30
IT-10.1.a.v	Pediatric Quality of Life Inventory	30
IT-12.1	Immunization and Recommended Immunization Schedule Education	29
IT-12.3	Colorectal Cancer Screening	28
IT-1.21	Adult Body Mass Index Assessment	26
IT-9.4.e	Reduce ED Visits for Behavioral Health/Substance Abuse	26

[1] Based on active project list as of March 26, 2015.
[2] Outcome Improvement Target (IT).
[3] HbA1c refers to glycated hemoglobin.

Category 4 – Population Focused Improvements

Through Category 4, population-focused improvements, hospitals are required to report specific measures that reflect the health of the population. The goal of Category 4 is to build the capacity for reporting on a comprehensive set of population health metrics, so the emphasis is on *reporting* of these measures, not improvement. The overall structure of the DSRIP program is such that improvements can be made to healthcare at both the individual patient and the delivery system levels. Categories 1 and 2 allow providers the flexibility to prioritize healthcare improvements to best meet the needs of their specific populations while Categories 3 and 4 provide a mechanism to monitor and measure these overall improvements to the healthcare delivery system in Texas. All RHPs are required to report on the same Category 4 reporting domains (see Table 8.16). Payments are based on their reporting of Category 4 measures as required.

Table 8.16. Category 4 Reporting Domains[1]

Reporting Domain (RD)	Required to Report?	Topic of Reporting Domain	Measures
RD-1	Required	Potentially Preventable Admissions (PPAs)	PPA rates for 8 specified causes of admission (e.g., congestive heart failure)
RD-2	Required	30-day Readmissions	30-day readmission rates for seven specified causes of readmission (e.g., congestive heart failure)
RD-3	Required	Potentially Preventable Complications (PPCs)	PPC rates for 64 specified complications (e.g., stroke and intracranial hemorrhage)
RD-4	Required	Patient-centered Healthcare (inpatient setting)	Patient satisfaction & Medication management
RD-5	Required	Emergency Department (ED)	Admit decision time to ED departure time for admitted patients
RD-6	Optional	Initial Core Set of Health Care Quality Measures	Initial Core Set of Health Care Quality Measures for Children in Medicaid/CHIP & Initial Core Set of Health Care Quality Measures for Medicaid-Eligible Adults

[1] Details on reporting domains: https://www.hhsc.state.tx.us/1115-docs/RHP/Category-4-RHP.pdf

Most of the projects went through revisions and updates since the time they were approved. These included both plan modifications (835 projects) and technical corrections (1,085 projects). Plan modifications were substantive changes (e.g., changes to a project's quantifiable patient impact goal, changes to a core component, changes in a project's scope, etc.). Technical corrections were considered minor changes and include updates to the project narrative to reflect the most recent Category 3 outcome measure selection(s) or milestones/metrics.

CHAPTER 9
STAKEHOLDER FEEDBACK
EVALUATION GOALS 10 AND 11

GOAL SUMMARY

The Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") aims to improve access to health care, increase quality of care, and reduce costs of care by expanding Medicaid managed care (MMC), revising the Uncompensated Care (UC) system, and creating a Delivery System Reform Incentive Payment (DSRIP) program. Given the geographic vastness of the State of Texas, as well as the diversity of the populations in different areas of the state, the Texas Health and Human Services Commission (HHSC) elected to implement the UC and DSRIP portions of the Program by facilitating the creation of Regional Healthcare Partnerships (RHPs). The RHPs serve as a mechanism to plan, implement, and track DSRIP projects. In many cases, the counties and subsequent agencies and providers comprising these RHPs have worked together previously in varying capacities; however, as the RHP regions do not reflect exact boundaries of other service region designations (e.g., Department of Family Protective Services regions, Department of State Health Services regions, Health & Human Services regions, education service regions, etc.), new stakeholders were likely introduced as well. Each RHP designates an anchor institution responsible for the administrative coordination of the RHP and acts as the primary interface with HHSC.

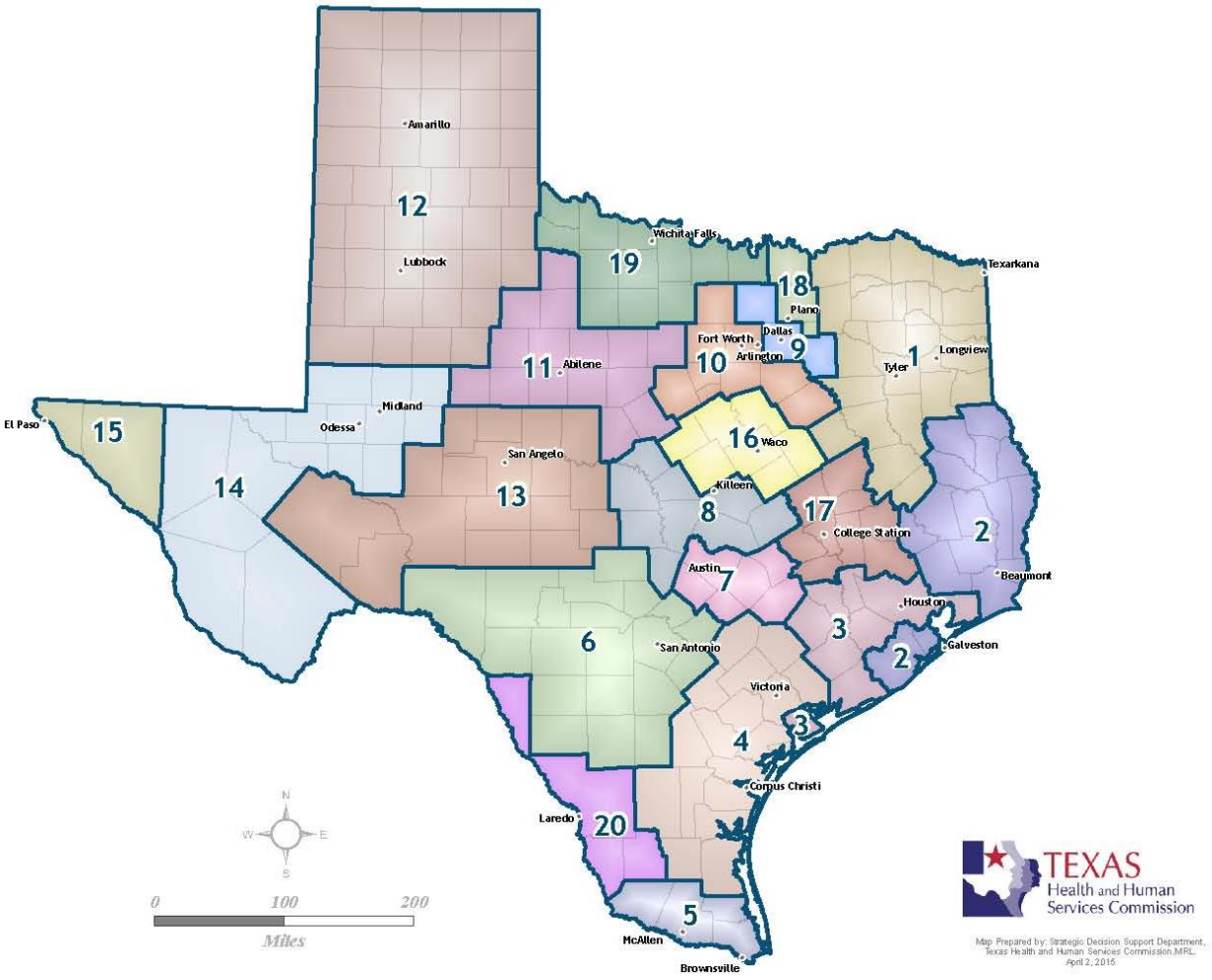
Twenty RHPs comprised of all Texas counties serve as the structure for implementing the Program (see Figure 9.1 for the final RHP map). These partnerships were formed between March and June 2012. Early in 2012, there were few documented guidelines or processes for Program implementation, so new information was being released by HHSC on a weekly if not daily basis. The early guidance for establishment of the RHPs was that they had to be contiguous counties and that the boundaries had to have some justifiable basis in historic patient flow. HHSC released a preliminary map suggesting what RHP boundaries might look like and asked the stakeholders across the state to modify and revise as needed.

In some cases, the RHPs came together fairly quickly based on historical relationships among counties and organizations within them—particularly those who were eligible to provide intergovernmental transfer (IGT) matching funds and serve as an RHP anchor institution; in other regions, politics around community composition, concomitant resources, and power caused the negotiation of RHP boundaries to take longer. Throughout the formation of the RHPs, different state-level associations for specific constituency groups offered varying (and fluid) opinions on what their members should do. While strongly considering local stakeholder input, HHSC ultimately decided on the boundaries and on the 20 RHP anchoring entities, with county judges in a region collectively signing a document indicating their intent to establish their region; anecdotal reports indicated that this caused some concern in counties with health/hospital districts because those districts rather than the county typically bore the burden of indigent healthcare. The initial formation of each RHP also included designation of an anchor institution.

Political issues as challenges for RHP formation included:

- The designation of anchor institution,
- The function of the county/hospital district as indigent care provider, and
- Unclear and changing guidance from state and federal government entities.

Figure 9.1. Final Regional Healthcare Partnership Map



Several basic structures are similar across RHPs, but beyond that, there is great variability. Across the state, each RHP has an anchor institution, and RHP membership includes organizations participating in UC and/or DSRIP. In some RHPs, those are the only recognized members; in others, organizations not participating (or not eligible to participate directly) in UC or DSRIP but that have an interest in the activities of the partnership are also included as members. The governance structures range in size and formality as well. At one end of the

continuum are RHPs with written by laws and policies for governance, and at the other end are RHPs in which organizational members operate relatively independently except to meet mandatory requirements of HHSC or the Centers for Medicare and Medicaid Services (CMS). The anchor institution for each RHP serves as the administrative entity to coordinate members' compliance with required documentation and reporting. To evaluate the stakeholders' experience with the Program, the following question was assessed:

- What are stakeholders' experiences and perceptions about the implementation and effectiveness of the Program, and what are their recommendations for improving it in the future?

Two specific evaluation goals guided this portion of the evaluation:

Evaluation Goal 10: Assess stakeholder-perceived strengths and weaknesses, and successes and challenges of the expanded managed care Program, the UC pool, and the DSRIP pool to improve operations and outcomes.

Evaluation Goal 11: Assess stakeholder-recommended changes to the expanded managed care Program, the UC pool, and the DSRIP pool to improve operations and outcomes.

The overarching aim of these questions is to gain a deeper understanding of stakeholders' perceptions and experiences in the implementation of the Program within each region to inform future activities.

INTRODUCTION

Because organizations were required to participate in an RHP to receive UC or DSRIP funds through the Program, stakeholders' perceptions may indicate the degree to which the benefits of participation in their RHP outweigh the costs for their organization, as well as what value they see in participating. This value assessment is important in each organization's sustained engagement in the activities of the Program, and provides insight into how stakeholders' experiences and perspectives can inform the way HHSC chooses to proceed in implementing Program activities both in this demonstration period and beyond. The partnership and coalition literature inform how the evaluation is constructed.

Four distinct research questions (RQs) emerge from the evaluation goals addressed in this section:

RQ1: To what extent do RHP members perceive the RHPs to be an effective structure for implementation of the Program?

RQ2: To what extent do RHP members perceive the decision-making and conflict resolution processes of their RHP to be effective?

RQ3: What do RHP members and other key stakeholders perceive to be the strengths and weaknesses of the Program, and what recommendations do they offer for changing MMC, UC, or DSRIP?

RQ4: For organizations eligible to participate that did not participate, what factors influenced their decision? What do these organizations perceive to be the opportunities and challenges of the Program?

Literature Review

Community partnerships are an increasingly common mechanism for pooling financial, human, social, and political capital to improve health (Wendel, Burdine, & McLeroy, 2009). As community partnerships evolve, they frequently develop more complex organizational structures to facilitate planning, decision making, and implementation of activities (Butterfoss, Goodman, & Wandersman, 1993; Butterfoss & Kegler, 2002; Goodman et al., 1998; McLeroy, Kegler, Steckler, Burdine, & Wisotzky, 1994). Examples of more complex organizational structures include formal policies and processes for the partnership, such as bylaws and subcommittee structures, as well as clear guidelines for how decisions are made and how conflict is addressed (Florin, Mitchell, Stevenson, & Klein, 2000). Role clarity also increases as partnerships develop, with specific responsibilities for leadership and partnership functions. Expected outcomes from more complex organizational structures include increased collaboration or capacity for collaboration to coordinate activities and deliver services more efficiently (Chaskin, 2001; Goodman et al., 1998; Kegler, Twiss, & Look, 2000; Wendel et al., 2009).

There is considerable variability in the way community partnerships are established, their composition, how they fulfill key functions, and how they are sustained over time (Butterfoss & Kegler, 2002). The complexity and broad range of approaches present substantial challenges for evaluating partnership effectiveness (Granner & Sharpe, 2004). A systematic review by Granner and Sharpe (2004) synthesizes the literature identifying factors of coalition functioning, classified into four categories: 1) member characteristics and perceptions; 2) organizational or group processes; 3) organizational or group characteristics and climate; and 4) impacts and outcomes.

Aspects of each of these categories were critical to answering the research questions inherent in Evaluation Goals 10 and 11 (discussed more in Measures section on page 194). The use of mixed methods will allow for specific constructs of partnership functioning and effectiveness to be measured quantitatively and other constructs qualitatively, and the analysis of each type of data to contextualize the other.

METHODS

Sample

The overall sampling frame included all organizations eligible to participate in the Program UC and DSRIP projects and other defined stakeholders, which include advocacy groups, clinical providers, human and social service providers, and health plans. Individuals and families affected by services implemented through the Program are also stakeholders; however, their knowledge of planning and implementation processes and the operations of the RHPs is likely insufficient to comment on that aspect of the Program. Hence, individual patient experiences were assessed through the case studies conducted for Evaluation Goals 6, 7, and 8 (see page 275).

The list of participating organizations was abstracted from the RHP plans to identify both the complete roster of participating organizations and the listing of those organizations that were eligible but not participating. On behalf of the evaluation team, the RHP anchor institutions communicated the nature and content of the survey to each of their member organizations and asked each organization to identify a representative who would be the most knowledgeable in answering the survey questions on behalf of the organization.

To assess non-participating organizations' perceptions of the Program and what influenced their non-participation, these organizations were included in the sampling frame. For non-participating organizations, contact information was obtained via organizational websites for their executive director/chief executive or equivalent administrator. Additional stakeholders were identified via an email listserv available through HHSC; individuals interested in the Program or the Medicaid program were able to subscribe to the listserv for updates.

Recruitment

Participants were solicited by emailing a link to the online survey (see Appendix I) to organizational leaders at each RHP member organization and to other stakeholders. The following organizations received the online survey:

- All organizations participating in the Program through the RHPs,
- Organizations eligible to participate but not participating in the Program, and
- Organizations that have a stake in the outcomes of the Program but were not eligible to participate through the RHPs.

Screening questions and survey logic were used to direct respondents to the appropriate section based on their organizational role in the Program.

Unit of Analysis

All responses were captured at the individual level though the survey was analyzed by the type of organization the respondent represented. The recruitment strategy allowed for multiple responses per organization in recognition that especially for larger organizations, different individuals in the organization may be knowledgeable about different aspects of the RHP and the Program activities. All complete responses were included in the analysis even if from the same organization; thus, if two representatives from one organization both completed the survey, and their answers were the extreme opposite ends of a scale (i.e., one said they were *extremely satisfied (5)* and the other said they were *extremely dissatisfied (1)*), those responses would be averaged to yield an overall neutral response. However, it is important to note that for the purposes of this report, all of the reported analyses were summarized at the statewide level, not focused on any single RHP or organization.

Instrument Development and Measures

A process evaluation conceptualization guided the approach to Evaluation Goals 10 and 11. This approach can help explain differences between expected and observed outcomes, provide a context for those outcomes, and develop suggestions for future implementations of the intervention (Craig et al., 2008). Process evaluations are useful for determining the level of success of complex public health interventions, understanding why a complex intervention succeeded or failed, informing theoretical frameworks related to complex interventions, and unraveling the relationships between components of interventions (Steckler & Linnan, 2002). Process evaluations also assist in determining the impact of complex public health interventions on individuals 'receiving' the intervention (stakeholders), and determining the stakeholders' perception of the intervention. Evaluation Goals 10 and 11 focus on the latter aspect of process evaluations, specifically, understanding the perceived impact of the expanded managed care Program, the UC pool, and DSRIP in improving operations and outcomes, and stakeholder suggestions for how to improve these interventions.

Instrument development began with an environmental scan of relevant literature for the formation of the quantitative and qualitative sections of the survey. A pool of relevant, existing survey items was collected and reviewed. Where possible, existing measures were used in the survey; however, in some cases, new measures were developed to appropriately assess the evaluation questions.

The survey instrument was divided into three modules designed to capture information from distinct types of respondents. Screening questions were used to direct respondents to the appropriate starting module and through the remaining survey modules. Table 9.1 summarizes the measures included in the survey. Appendix I includes the full survey instrument.

Table 9.1. Summary of Measures

Module Research Questions	Target Respondents	Categories of Measures
Module 1 **Research Question (RQ) Addressed:** **RQ1: To what extent do RHP[1] members perceive the RHPs to be an effective structure for implementation of the Program?** **RQ2: To what extent do RHP members perceive the decision-making and conflict resolution processes of their RHP to be effective?**	RHP Members—those contributing intergovernmental transfer (IGT) funding or receiving funds through the Program	Role Clarity: participant knowledge about partnership purpose, structure, and operations Leadership: knowledge, contributions, guidance, group management skills of the lead agency Formalization: formalized rules and procedures, bylaws, meeting organization, decision making procedures Satisfaction with Group: feeling heard and valued, comfort, satisfaction Communication: quality of member-staff and member-member communication, productivity, frequency Collaboration: degree to which partnership has increased cooperation, networking, and information exchange Conflict: measure of tension in partnership caused by opinion differences, personality, hidden agendas, power struggles Decision Making: extent of influence in determining certain types of partnership action
Module 2 **Research Question Addressed:** **RQ3: What do RHP members and other key stakeholders perceive to be the strengths and weaknesses of the Program, and what recommendations do they offer for changing MMC[2], UC[3], or DSRIP?**	RHP Members and Other Stakeholders	Strengths of MMC, UC, and DSRIP Weaknesses of MMC, UC, and DSRIP Recommendations for MMC, UC, and DSRIP
Module 3 **Research Question Addressed:** **RQ4: For organizations eligible to participate that did not participate, what factors influenced their decision? What do these organizations perceive to be the opportunities and challenges of the Program?**	Other Stakeholders, Eligible but Non-Participating Organizations, UC-only Hospital RHP Members	Reasons for not participating Greatest opportunities of the program Greatest challenges of the program Interest in future participation

[1] Regional Healthcare Partnership (RHP).
[2] Medicaid Managed Care (MMC).
[3] Uncompensated Care (UC).

Data Collection

The surveys were self-administered and web-based using the online survey service Qualtrics®. The survey was open for approximately six weeks from late-April 2014 through May 2014, and invitations to participate were distributed in two waves. The first wave went to all RHP stakeholders and other stakeholders identified through RHP plans (N=783). The second wave of the survey went to other stakeholders identified via the HHSC Transformation Waiver Operations Unit master distribution list after removing duplicates and those already included in the first wave as well as relevant advocacy groups and associations (N=5,896). Two email reminders were sent at two-week intervals. Most of the respondents responded in the first week, with a large number also responding following the first reminder email. Response tapered off by the fifth week. With few additional responses following the second reminder email and given the evaluation timeline, the decision was made to close the survey at the end of May. Respondents were provided with an overview of the survey purpose, relevant definitions of terminology used throughout the survey, and a listing of common acronyms referenced in the survey questions. Respondents participating in more than one RHP received Module 1 for each RHP in which they were a member.

ANALYSES

The survey was distributed to 6,679 individuals. Two hundred fifty-four (254) or 3.8 percent of the emails were undeliverable, due to inactive email accounts or incorrect email addresses. A total of 708 survey responses were recorded, with 366 completed surveys and 342 partial surveys. Individuals that opened the survey but provided no responses were not counted in the overall response rate. A total of 533 respondents provided feedback in at least one module and these responses were included for analysis. The remaining 175 respondents provided answers only to the screening questions and not within specific modules; therefore they are excluded from analysis. This resulted in a response rate of eight percent for responses included in analysis, which is within the expected range.[29] Among RHP members, the response rate was approximately 55 percent. Because not every respondent was eligible for every module, the total number of responses within each module varies.

The survey responses were analyzed using both quantitative and qualitative methods. All quantitative analyses were performed using Stata IC/13.1. Scaled items were analyzed to determine either the frequency or mean value of responses, depending on the appropriate summary statistic for the item. Item frequencies and means are reported, with item scales defined as results are presented.

[29] According to one meta-analysis of response rates from web and mail surveys, response rates in web-based surveys range from 7 percent to 88 percent and vary by type of respondent with web-based surveys having lower response rates than mailed surveys in populations of professionals, employees, and the general population compared to the college population (Shih & Fan, 2008). The response rates for this survey fall into this range.

Qualitative analysis was used for survey questions with open-ended responses. A mixed-methods approach in answering these evaluation questions provides qualitative information to contextualize and interpret the quantitative data. Open-ended questions included in the stakeholder survey received lengthy and detailed responses, providing a sufficient amount of feedback for a qualitative analysis. An iterative thematic analysis was used to code the data for each question (Bradley, Curry, & Devers, 2007). Using this process, two team members (Coders A and B) jointly conducted the initial coding schemes, and then re-grouped into more macro-level codes. A third team member (Coder C) reviewed the coding schemes to validate the interpretation and worked with one of the original team members (Coder A) on the final set of codes, which was then validated by the other original coder (Coder B).

RESULTS

Overall Respondent Profile

The largest proportions of individual respondents were from private hospitals (17 percent), hospital districts/authorities (16 percent), and community mental health centers (13 percent). Seventeen percent of respondents listed "Other" as their organization type and these included non-profit organizations, federally qualified health centers, governmental agencies, and universities. A complete breakdown of respondents' organizational affiliations is included in Table 9.2.

Table 9.2. Overall Respondent Organizational Affiliations

Organization Type	Frequency	Percent
Private hospital	88	17%
Hospital district / hospital authority	85	16%
Community mental health center	67	13%
Advocacy group / statewide association	45	8%
Academic health science center	34	6%
County government	28	5%
Physician group	22	4%
Health department	19	4%
Health plan	18	3%
Public hospital	13	2%
School district	8	2%
City government	7	1%
Health district	7	1%
Other	92	17%
Total	**533**	**100%**

All RHPs were represented in the survey. Almost three-quarters (72 percent) of the respondents participated in one or more RHPs, and 26 percent of respondents did not participate in any RHP. The remaining two percent of respondents did not identify whether or not they were members of an RHP. Respondents that participated in more than one RHP were from:

- Community mental health centers,
- Private not-for-profit hospitals,
- Academic health science centers,
- Public hospitals,
- Private for-profit hospitals,
- Physician groups,
- Hospital districts/authorities, and
- Other types of organizations.

Module 1: Members' Experiences with their RHP

Respondent Profile

Because not every respondent was eligible for every module, the total number of responses within each module varies. Also, individual respondents representing an organization participating in more than one RHP would have responded to Module 1 for each RHP in which their organization was participating (e.g., a community mental health center whose service region covered counties in four different RHPs would have completed Module 1 four times—which would show as four responses).

A total of 431 survey responses were provided by organizations formally participating in at least one RHP. The majority (70 percent) were participating in multiple roles within their RHP as a DSRIP provider, UC provider, IGT entity, and/or the anchor institution. The remaining respondents participated in only one role within their RHP. Community mental health centers, hospital districts and authorities, private not-for-profit and for-profit hospitals, and health departments comprised the majority of respondents. Table 9.3 provides a summary of all respondent organizational affiliations for Module 1.

Table 9.3. Module 1: Respondent Organizational Affiliations

Organization Type	Number of Respondents	Percent
Community mental health center	98	22%
Hospital district / hospital authority	76	17%
Private, not-for-profit hospital	67	15%
Academic health science center	44	10%
Private, for-profit hospital	31	7%
Health department	23	5%
County government	17	4%
Public hospital	16	4%
Physician group	11	3%
City government	6	1%
Health district	5	1%
Other	37	8%
Total	**431**	**100%**

Anchor Institution Effectiveness

Respondents indicated that the anchor institutions provided leadership and guidance in the development of the RHP plans, as well as provided feedback on organizational project plans. The level of guidance from anchor institutions varied from direct technical support on project development to serving more broadly as an intermediary between HHSC and the performing providers. The anchor institution roles in implementation of the approved RHP plans involved providing coordination, clarifying rules with HHSC, assisting with reporting, communicating with members regarding deadlines, and providing technical assistance.

Overall, RHP member respondents indicated that their anchor institution performed expected leadership functions, including providing leadership and guidance on RHP operations and providing accurate and timely information. Although the results show a high level of overall functionality, results vary by RHP; the range of means by RHP for each question is provided in the respective tables below. Respondents were highly satisfied with anchor institution effectiveness in providing information and managing meetings, again with some variation across RHPs. Tables 9.4 and 9.5 below summarize the results of survey questions related to anchor institution leadership, guidance, and effectiveness.

Table 9.4. Members' Experiences: Anchor Institution Leadership and Guidance, Statewide[1]

The Anchor institution…	Yes	Yes, but limited	No	I don't know	N
Provided **leadership** in initiation of the RHP[2]	**74%** (43%–100%)	**7%** (0%–27%)	**2%** (0%–17%)	**17%** (0%–43%)	324
Provided **guidance** in initiation of the RHP	**76%** (50%–100%)	**7%** (0%–33%)	**1%** (0%–10%)	**15%** (0%–38%)	323
Provides **leadership** in ongoing RHP operations	**78%** (47%–100%)	**10%** (0%–33%)	**2%** (0%–10%)	**11%** (0%–25%)	323
Provides **guidance** in ongoing RHP operations	**79%** (47%–100%)	**9%** (0%–33%)	**2%** (0%–10%)	**11%** (0%–25%)	322
Provides **accurate knowledge** about Program activities	**82%** (58%–100%)	**7%** (0%–20%)	**1%** (0%–10%)	**11%** (0%–25%)	323
Provides **timely knowledge** about Program activities	**83%** (58%–100%)	**7%** (0%–33%)	**1%** (0%–10%)	**10%** (0%–25%)	322
Provides **accurate technical assistance**	**74%** (47%–100%)	**10%** (0%–33%)	**4%** (0%–20%)	**12%** (0%–26%)	323
Provides **timely technical assistance**	**75%** (40%–100%)	**9%** (0%–27%)	**4%** (0%–20%)	**12%** (0%–26%)	322

[1] The scale for responses included *Yes (1)*, *Yes but limited (2)*, *No (3)*, and *I don't know (4)*. Percentages are presented to summarize the number of respondents selecting *each option*. A range is provided to demonstrate differences across RHPs. The range of values in the tables above represents percentages or means across RHPs. These values are sensitive to the sample size for individual RHPs and, in the case where *I don't know (4)* was a response option, a low value might indicate that a larger proportion of the respondents were unsure based on their experience or exposure to the anchor institution's activities. Due to rounding, not all numbers add precisely.

[2] Regional Healthcare Partnership (RHP).

Table 9.5. Members' Experiences: Anchor Institution Effectiveness[1]

Rating of Anchor Institution's:	Statewide Mean	RHP[2] Range	N
Effectiveness in providing ***accurate information***	3.8	3.4–4.0	313
Effectiveness in providing ***timely information***	3.8	3.4–4.0	312
Effectiveness in ***managing meetings***	3.7	3.2–4.0	312

[1] Scale for responses included *Very Effective* (4), *Somewhat Effective* (3), *Mostly Ineffective* (2), and *Completely Ineffective* (1). The mean value is the mean score across all RHPs. A higher mean score indicates greater effectiveness. Range values provided are the minimum and maximum of mean values across RHPs.
[2] Regional Healthcare Partnership (RHP).

Role and Influence of RHP Members

The average number of organizational members in an RHP is 24, with a range from 10 to 49 in any single RHP. Member involvement is a key component of the RHP structure. Survey respondents indicated that the RHP members were involved in a number of roles as the goals and objectives of their RHP plan were designed. Although an individual organization could have played multiple roles in the RHP planning process, the question was designed to capture each organization's primary perceived role; thus, the answers were constructed such that they could only choose one answer. Members reported they helped *develop* (32 percent), *approve* (15 percent), *recommend* (15 percent), and *advise* (12 percent) on the plan's goals and objectives. About one-quarter of respondents either had *no role* (4 percent) in designing the goals and objectives or were *not aware* (21 percent) of their role during that phase.

Across RHPs, members were also involved in determining the governance structure of their RHP. Nineteen (19) percent were involved in approving the governance structure, while others participated in developing (14 percent), recommending (12 percent), or advising (11 percent) on the governance structure. Just over 30 percent of respondents were unsure what their role was, and 12 percent had no role in determining the governance structure.

Across the stakeholder groups in each RHP, perception of the level of influence each group had in making RHP decisions varied. Overall, respondents perceived that HHSC and CMS had the most influence in decision making, while staff from the anchor institutions and RHP member organizations had somewhat less influence. Other local stakeholders were noted as having some, but potentially not much, influence. See Table 9.6 for complete results on stakeholder influence.

Table 9.6. Members' Experiences: Stakeholder Influence within Regional Healthcare Partnerships (RHPs)[1]

Stakeholder	Statewide Mean	RHP Range	N
HHSC	3.7	3.1–4.0	277
CMS	3.7	3.0–4.0	275
Anchor institution staff	3.4	3.0–3.8	274
Staff from the RHP member organizations	3.1	2.6–3.4	273
Other local stakeholders in region	2.7	2.1–3.8	261

[1] Scale for responses included *A lot of influence* (4), *Some influence* (3), *Not much influence* (2), *No influence* (1), and *I don't know* (5). The mean value is the mean score across all RHPs, and their calculation does not include *I don't know* responses. A higher mean score indicates greater influence. Range values provided are the minimum and maximum of mean values across RHPs.

RHP Operations

Not all RHPs use the same approach to managing operations and the survey included questions related to how RHPs managed their collaborations. Only 42 percent of survey respondents indicated their RHP had documented procedures for decision-making, although 50 percent did not know if these existed. A majority of respondents (66 percent) said that their RHP had set ground rules for working together, again with a large proportion (34 percent) not sure if there were ground rules at all. Most respondents indicated their RHP had written agendas at meetings (88 percent), a mechanism for monitoring RHP activities (75 percent), and a mechanism for members to provide feedback (82 percent). There is considerable variation across RHPs. For example, in several RHPs, only 50 percent of respondents said their RHP had a mechanism for providing member feedback, while other RHPs had 100 percent who stated such a mechanism existed.

Communication

With such a diverse number and size of organizations participating in RHPs, communication methods, frequency, and productivity are essential. Across RHPs, mailed, emailed, and faxed written materials appears to be the most frequently used methods of communication, with group discussions at RHP meetings, webinars, verbal reports at RHP meetings, RHP websites, and informal communication outside of RHP meetings also rating highly in terms of importance. Distribution of materials and information via social media seem to be much less important as a tool for communication. The low use of social media may be related to the complexity of information shared among RHP members during the first two years of the Program; most of the organizations involved would typically rely on email and meetings to discuss complex ideas and to transmit planning and reporting documents (which would not as easily be conducted by social media). Despite apparent low use of social media in the RHPs, this may be an avenue for expanding communication within RHPs and a means of communicating with the larger population about RHP activities.

Respondents indicated that communication between anchor institution staff and the RHP members was *somewhat frequent* to *very frequent* in all RHPs, and is rated as productive by 98 percent of survey respondents. However, there is less frequent communication among RHP members, and when communication does occur among RHP members, it may be slightly less productive than communication between the anchor institution and RHP members. This may be due to the nature of the RHPs, which are centralized around the anchor institution who is responsible for communication with RHP members and provides technical assistance as needed. Communication among RHP members is likely centered around RHP-wide telephone calls or webinars and in-person meetings, which may not be as frequent as one-on-one communication between an anchor institution and an RHP member (see Table 9.7).

Table 9.7. Members' Experiences: Frequency and Productivity of Communication in Regional Healthcare Partnerships (RHPs)

Communication rating	Statewide Mean	RHP Range[3]	N
Communication between anchor institution staff and RHP members			
Frequency[1]	3.6	3.0–3.9	311
Productivity[2]	3.7	3.1–3.9	311
Communication among RHP members			
Frequency[1]	2.9	2.4–3.3	311
Productivity[2]	3.2	2.8–3.8	310

[1] Scale for responses regarding frequency of communication included *Very frequent* (4), *Somewhat frequent* (3), *Mostly infrequent* (2), and *Completely infrequent* (1). The mean value is the mean score across all RHPs. A higher mean score indicates greater frequency of communication.
[2] Scale for responses regarding productivity of communication included *Very productive* (4), *Somewhat productive* (3), *Mostly unproductive* (2), and *Completely unproductive* (1). The mean value is the mean score across all RHPs. A higher mean score indicates greater productivity of communication.
[3] Range values provided are the minimum and maximum of mean values across RHPs.

Tension

A section of the survey examined the existence of tension with the RHP, and the sources of that tension. Overall, respondents reported very little to no tension among RHP members or between the anchor institution and RHP members. Where tension was reported, RHP members largely attributed tension to differences in opinion, hidden agendas, the unequal distribution of resources, and historical relationships. Again, the level and source of tension varies by RHP, with some reporting higher levels of tension across all sources. For example, when asked about tension among RHP members related to unequal distribution of resources, the range of means was 1.1 to 2.7 with higher mean values reflecting more tension. Although there is variation by RHP and within each possible source of tension, the overall reported tension was low statewide with the means falling between very little tension and no tension for all sources (see Table 9.8).

Table 9.8. Members' Experiences: Sources of Tension in Regional Healthcare Partnerships (RHPs)[1]

Sources of Tension	Statewide Mean	RHP Range[2]	N
Tension among RHP members			
Differences of opinion	1.6	1.2–2.0	307
Personality clashes	1.4	1.1–1.7	306
Hidden agendas	1.6	1.1–2.1	306
Power struggles	1.6	1.1–1.9	304
Imbalance of power	1.6	1.1–2.3	303
Unequal distribution of resources	1.7	1.1–2.7	307
Historical relationships	1.7	1.0–2.3	306
Inability to reach consensus	1.5	1.1–2.0	306
Tension between the anchor institution and RHP members			
Differences of opinion	1.5	1.1–2.2	303
Personality clashes	1.3	1.0–2.0	304
Hidden agendas	1.5	1.0–2.3	303
Power struggles	1.4	1.0–2.4	303
Imbalance of power	1.5	1.0–2.6	304
Unequal distribution of resources	1.5	1.0–2.6	304
Historical relationships	1.5	1.0–2.3	304
Inability to reach consensus	1.3	1.0–2.1	303

[1] Scale for responses included *No tension* (1), *Very little tension* (2), *Some tension* (3), and *A lot of tension* (4). The mean value is the mean score across all RHPs. A higher mean score indicates more tension. Range values provided are the minimum and maximum of mean values across RHPs.

Member Satisfaction and Perceptions of Outcomes

In general, RHP member respondents were satisfied with their RHP. The survey assessed satisfaction in three areas:

- The RHP's progress toward addressing community needs,
- The RHP's commitment to all partners having an opportunity to participate, and
- The RHP leadership's level of commitment to listening to the ideas and opinions of people and organizations involved in the RHP.

In each area respondents indicated high levels of satisfaction, although there was variation across RHPs. The mean level of satisfaction related to addressing community needs was 3.6, with one (1) being the lowest satisfaction and four (4) being the highest satisfaction, and the range across RHPs was 2.8 to 3.8.

To assess respondent perceptions of outcomes, the survey asked two questions regarding the overall impact of the RHP and collaborations within the RHP (see Table 9.9). Statewide, respondents agreed that their RHP was increasing collaboration among organizations in the

region to increase access to health services (mean: 3.6; range: 3.0-4.0). Similarly, respondents felt as though the Program activities are beneficial for the residents of your community (mean: 2.9; range: 2.5-3.0).

In the analysis performed at this point, there is no clear pattern as to which RHPs have members that experience greater satisfaction. For example, those RHPs with the lowest satisfaction represent both urban and rural geographies and have different governance structures. Further analysis will explore RHP differences and organizational characteristics of RHPs that contribute to member satisfaction.

Table 9.9. Members' Experiences: Satisfaction and Perceptions of Outcomes in Regional Healthcare Partnerships (RHPs)

Satisfaction and Perceptions	Statewide Mean	RHP Range[4]	N
Satisfaction with the RHP's progress towards addressing community needs[1]	3.6	2.8–3.8	316
Satisfaction with the RHP's level of commitment to all partners having an opportunity to participate[1]	3.7	2.6–4.0	316
Satisfaction with the RHP leadership's level of commitment to listen to the ideas and opinions of people/ organizations involved in the RHP[1]	3.7	2.9–4.0	313
The RHP is increasing collaboration among organizations in the region to increase access to health services[2]	3.6	3.0–4.0	313
The Program activities are beneficial for the residents of your community[3]	2.9	2.5–3.0	311

[1] Scale for responses regarding frequency of communication included *Very satisfied* (4), *Somewhat satisfied* (3), *Somewhat dissatisfied* (2), and *Completely dissatisfied* (1). The mean value is the mean score across all RHPs. A higher mean score indicates greater satisfaction.
[2] Scale for responses included *Agree* (4), *Somewhat agree* (3), *Somewhat disagree* (2), and *Disagree* (1). The mean value is the mean score across all RHPs. A higher mean score indicates greater perceived collaboration.
[3] Scale for responses included *Beneficial* (3), *Somewhat beneficial* (2), and *Not beneficial* (1). The mean value is the mean score across all RHPs. A higher mean score indicates greater perceived benefit.
[4] Range values provided are the minimum and maximum of mean values across RHPs.

Module 2: Stakeholders' Perception of the Program

Respondent Profile

A total of 291 respondents provided comments in the second module of the survey, which asked questions about stakeholder perceptions of the Program. Table 9.10 summarizes the respondents by organization type. The largest percentage of respondents was affiliated with hospital districts or authorities (23 percent), private hospitals (21 percent), and community mental health centers (15 percent). Eleven (11) percent of respondents identified with the category of Other and included representatives from not-for-profit organizations, universities, state government agencies not affiliated with implementation of the Program, hospice and home care organizations, and federally qualified health centers, as well as private citizens.

Table 9.10. Module 2: Respondent Organizational Affiliations

Organization Type	Frequency	Percent
Hospital district / hospital authority	67	23%
Private hospital	61	21%
Community mental health center	45	15%
Academic health science center	16	5%
Advocacy group / statewide organization	16	5%
County government	12	4%
Physician group	9	3%
Health department	9	3%
Public hospital	8	3%
City government	6	2%
Health plan	6	2%
Health district	4	1%
Other	32	11%
Total	**291**	**100%**

The majority of respondents participated in only one RHP, but some participated in as many as four RHPs. Over 85 percent of respondents identified as providers of Medicaid services. Respondents reported they were affected or impacted by many components of the Program, including all of the changes to MMC, UC, and DSRIP through either direct involvement in Program implementation or as impacted stakeholders. Almost all respondents were affected by DSRIP (84 percent) and UC (70 percent), while smaller percentages were affected by the changes to MMC (55 percent).

Perceptions of Medicaid Managed Care Expansion

While the Program expanded MMC to regions not previously served by MMC, many high population areas of the state were not affected by the expansion because managed care had existed for many years; however, the dental and pharmacy changes were new statewide. In the regions where the expansion changed coverage from fee-for-service to managed care, however, the effect on providers is pronounced.

Using the survey, stakeholders were asked about overall changes in certain areas related to the expansion of MMC. The areas of interest were: timeliness of claim payments, pharmacy benefits manager, provider network, access to prescription drugs, patient adherence to prescription drugs, value added benefits for clients, administrative burden, claims processing, patient access to services provided, quality of services provided, cost of services provided, and coordination of care among service providers. In general, respondents indicated most things had stayed the same or only slightly improved with the expansion. However, three items were noted as areas where there had been a potential decline in Program quality and/or implementation. The item scale for these items was *Improved* (1), *Stayed the Same* (2), *Declined* (3). These three items were

timeliness of claim payments (mean: 2.3), administrative burden (mean: 2.5), and claims processing (mean: 2.3).

In addition to noting changes in the program, stakeholders were asked to comment on their perceived strengths and weaknesses of MMC. Program stakeholders' response was diverse. Overall, their feedback focused on five areas: Managed Care Organization (MCO) operations, changes in processes, effects on access, organizational impacts, and the need for systemic change.

MCO Operations

Stakeholders across the state whose organizations were impacted by MMC indicated that MCO operations presented a substantial challenge for efficiency of business operations (see Table 9.11). Specifically, respondents expressed that the credentialing processes in some cases were not efficient and took too long, saying that:

> "…Enrollment of providers is very slow." – *respondent from a private, for-profit hospital*

> "…Credentialing is repetitive and redundant." - *respondent from a community mental health center*

The length of time taken to process contracts between the MCOs and the providers was also noted to be excessive and prohibitive. One of the contributing issues identified by respondents was MCO staffing—both that they seemed to be understaffed for the amount of administrative work occurring to do managed care expansion, as well as the turnover among staff that affected continuity of contacts and institutional knowledge. Finally, respondents expressed that these issues culminated in often lengthy waits for processing of claims and receipt of payment. Many of the recommendations made by survey participants focused on clarifying the credentialing process and streamlining processing of claims and payment, as well as having the MCOs more adequately staffed.

Table 9.11. Perceptions of Medicaid Managed Care Expansion and Managed Care Organization (MCO) Operations

Theme	Recommendations
• **Inefficient MCO credentialing process** • **MCO administration** • **Claims processing and payment**	• Clarify the credentialing process • Adequately staff MCOs • Streamline processing of claims and payment to reduce wait time and time to payment

Processes

While the first theme focused on the operations of the MCOs as individual organizations, a second, related theme emerged that the overall processes of MCOs involved in MMC presented challenges to providers (see Table 9.12). Survey respondents indicated prior authorizations are problematic in the extent to which they are required for services that did not previously require them and the length of time to obtain them.

> "Approval for urgent conditions should not take three or more days—we should be able to get approval immediately." – *respondent from a private, not-for-profit hospital*

Pharmacy denials were also reported as problematic, making it difficult for providers to serve their patients effectively. Several respondents discussed that the differences among MCOs had a significant impact on providers working with multiple MCOs, as they had to be knowledgeable about the requirements and processes of each, even though they were all administering MMC.

> "…Streamline provider regulations, enrollment procedures and claims processing rules." – *respondent from a community mental health center*

This appears to cause substantial frustration among providers, as well as the limited data sharing between the MCOs and providers. Respondents offered recommendations for standardizing policies and processes to alleviate some of the administrative burden on providers related to MCO differences and prior authorizations for certain services.

Table 9.12. Perceptions of Medicaid Managed Care Expansion and Processes

Theme	Recommendations
• **Changing requirements and long waits for prior authorizations** • **Inconsistency in requirements across Managed Care Organizations**	• Streamline requirements for prior authorizations and decrease time to approval • Standardize policies and processes

Access

One of the key goals of the Program is to improve access to care for low-income residents across the state. While changes in access to care emerged as a theme, response was mixed as to whether the expansion of MMC improved access or hindered it. Respondents indicated that MMC expansion provided patients more choice in where to get care. In addition to the effect on access to services, participants also provided substantive feedback in terms of the impact on access to prescriptions—that the change to MMC removed the previous limit of three covered prescriptions per month, which was beneficial for the growing number of patients with multiple chronic diseases. In contrast, some respondents indicated that access declined because of the limited type of providers covered; the exclusion of public health providers, chiropractors, and hospice; and the fact that some providers, especially in rural areas, choose not to accept

Medicaid patients. Also several respondents specified that the credentialing process limited the number of providers available.

> "Providers who were willing to see a few Medicaid clients do not continue under managed care. Managed care adds significant burden and cost to providers." – *respondent from a statewide membership organization*

Stakeholders recommended expanding eligible providers and streamlining the credentialing process to encourage more providers to participate (see Table 9.13).

Table 9.13. Perceptions of Medicaid Managed Care Expansion and Access

Theme	Recommendations
• **Access to prescription drugs** • **Access to providers (specialists)** • **Access to providers (Urban vs. Rural)**	• Expand eligibility for providers • Streamline the credentialing process

Organization Impact

An additional theme emerging from stakeholder feedback was the impact of the change to MMC on their organizations (see Table 9.14). This burden appeared to derive from a variety of sources within the system that affected patients' ability to change plans, number of plans available, providers credentialed to offer services, and processes providers were to follow to receive payment.

> "The fact that people can change plans every 30 days is creating a mess. We don't know who to bill for services and it takes many hours to figure it out. By then, we are being denied payment due to untimely billing." – *respondent from a private, not-for-profit hospital*

Other respondents discussed the burden of time related to verification of benefits, claims adjudication, and the volume of documentation. Specifically, the increased administrative burden increased their cost and time investment to participate and see Medicaid clients.

> "Transitioning to a system with more payers creates an additional admin[istrative] burden on providers without a commensurate improvement in service quality." – *respondent from a community mental health center*

Table 9.14. Perceptions of Medicaid Managed Care Expansion and Organization Impact

Theme	Recommendations
• **Administrative burden** • **Inefficiency in processes**	• Reduce administrative burden

Recommendations for Systemic Changes

Among the recommendations provided by stakeholders, a theme emerged that called for overarching systemic change (see Table 9.15). Several respondents called for a move to a single-payer system, or management by a single entity. Others focused on streamlining of processes across MCOs to align reporting strategies or critical outcomes measures. Several stakeholders called for creating formal systems and a culture of communication between and among HHSC, MCOs, and providers.

> "…Team work. Let the right hand know what the left hand is doing. Provide adequate information for ALL those involved." – *respondent from a state agency*

Finally, regarding mental/behavioral health services specifically, respondents recommended better education for MCOs on previously uncovered services to enhance their understanding of what community mental health centers do and the services they provide.

Table 9.15. Recommendations for Systemic Changes to Medicaid Managed Care Expansion

Recommendations
• **Streamline processes across Managed Care Organizations (MCOs)** • **Create formal systems and increase communication across all stakeholders** • **Enhance MCO understanding of community mental health centers' role as a provider**

Perceptions of Uncompensated Care Program

Stakeholders whose organizations were affected by the UC program were asked about their perceptions of the strengths and weaknesses of UC compared to the previous Upper Payment Limit (UPL) program, as well as their recommendations for improvement. A key change in UC compared to UPL is that the algorithm to calculate payment caps is based on costs rather than charges.

Strengths

Stakeholders identified three key strengths of the UC program relative to the former UPL program:

- Increase in available resources,
- Incentive to improve outcomes, and
- Increase in collaboration and participation in the program.

First, the increase in funds available was emphasized as an important aspect of the Program. Respondents indicated that these resources helped compensate for Medicaid cuts, especially given the expansion of eligible costs. In addition, participants emphasized that the increase in funds available increased services to expanded populations at the community level, and also allowed for a greater variety of services and inclusion of non-inpatient services.

> "Unlike UPL which was driven by cap room, UC more appropriately reflects the cost of uncompensated care. UC compensates health systems for outpatient care which reduces downstream expensive hospital care." – *respondent from a hospital district/authority*

A second theme that emerged was the incentive to improve outcomes. Respondents expressed that the UC program improved accountability, as well as transparency in outcomes; these themes were pronounced among local governments contributing IGT.

> [There is an] "incentive to improve health outcomes." – *respondent from county government*

> "…additional reporting is a benefit of the UC program that was not completely addressed under UPL." – *respondent from county government*

Finally, stakeholders highlighted the increase in collaboration and participation in the program, particularly noting the value of new public/private partnerships catalyzed by the UC program.

> "The UC program allows private & public entities to work together effectively & efficiently to provide needed services." – *respondent from a private not-for-profit hospital*

Weaknesses

Although several strengths were noted in UC relative to UPL, stakeholders also identified a variety of weaknesses and offered specific recommendations to address them (see Table 9.16). A broad theme among participants' responses was that UC was more complicated than UPL, resulting from lack of transparency in the process and resulting in additional administrative burden.

> "The UPL program did not come complete with burdensome paperwork, spreadsheets, uncertain payment dates and amounts that the UC program has." – *respondent from a private for-profit hospital*

Respondents expressed concern that the UC goals were undefined and directions were vague; in addition, several comments complained about too many last minute changes in the process. Increased administrative burden was reported based on more complicated worksheets and "too much red tape;" this was particularly problematic because of the demand placed on smaller hospitals with less staff capacity to accommodate the increased paperwork.

> "It requires a lot of information to be turned in and in smaller hospitals we are constantly swamped with demands from all sources." – *respondent from a hospital district/authority*

Stakeholders' recommendations were to combine the Disproportionate Share Hospital (DSH) application tool and the UC tool, and to standardize and streamline the rules and regulations.

A second theme focused on the timeliness of UC payments. Hospital stakeholders expressed frustration that the timing of UC payments was unpredictable; although they were originally told that they would be quarterly, in actuality, the payments were not quarterly and were irregular. In addition, delays in payment create challenges for hospitals—particularly smaller hospitals—that are dependent on UC payments for cash flow. The subsequent recommendations from participants were simple: set the funding cycle to quarterly; create and follow a timeline; and make payments on time.

> "HHSC should prepare a calendar for timely UC payments, and stick to it" – *respondent from a private not-for-profit hospital*

While stakeholders perceived a strength of UC to be that there were more funds allocated to the state than under UPL, one of the weaknesses identified was that less money was actually coming to hospitals. Participants noted that there was less money for charity care, and that the reimbursement rates were lower.

> "UPL was better reimbursement for health care services" – *respondent from an academic health science center*

Respondents also indicated concern that by design of the Program, the funding for UC would decrease over time in favor of increasing DSRIP funding.

A final theme related to weaknesses in the UC program was the exclusion of certain providers and services. Specifically, stakeholders noted that although the overall Program had an expanded focus in areas such as mental/behavioral health, providers of certain mental health services, hospice, and other community-based services were excluded from the UC program.

Table 9.16. Perceptions of Uncompensated Care (UC) and Recommendations for Systemic Changes

Identified Weaknesses	Recommendations
• **Complication of UC compared to Upper Payment Limit** • **Timeliness of payments** • **Less money flowing into hospitals** • **Exclusion of certain providers**	• Simplify the program • Improve timeliness of payments by implementing a quarterly payment schedule and making payments on time

Perceptions of the DSRIP Program

Related to DSRIP, participating organizations were asked to indicate strengths and weaknesses among a predetermined list of program attributes. In addition to the quantitative survey questions

on strengths and weaknesses, the survey included open-ended questions that allowed respondents to provide more in-depth qualitative feedback on strengths, weaknesses, and recommendations for program improvement.

Strengths

The top five strengths of DSRIP identified by respondents using a predetermined list of potential strengths and weaknesses were:

1. Resources to serve more patients/clients,
2. Opportunity to design innovative projects,
3. Improved patient outcomes,
4. Access to health services programs, and
5. Quality of health service programs.

In response to the open-ended questions, stakeholder perceptions of the strengths of the DSRIP program highlighted the statewide scope and the investment in health services to allow for innovation.

> "This is a great opportunity to really change the health care delivery system." – *respondent from a community mental health center*

Specifically, they noted that the resources and structure of DSRIP helped facilitate certain collaborations that would not have otherwise occurred.

> "Collaboration among providers can no[t] be overstated. Very important. The Learning Collaborative structure allows for even more collaboration and the opportunity to focus on regional efforts, as opposed to just project or provider level efforts." – *respondent from a hospital district/authority*

Participants emphasized that these resources for new and expanded services improved access to care for residents and quality of care.

> "[DSRIP] improved access to care, [and] services to those who have no resources." – *respondent from a hospital district/authority*

Finally, respondents indicated a great deal of consensus around the value of the HHSC Transformation Waiver Unit's dedication and hard work. Regarding DSRIP successes, respondents indicated that it may be somewhat premature in the timeline of DSRIP implementation, as many stakeholders indicated that it was “too early to tell” how effective or successful the program would be.

> "DSRIP seems to have 'promise' – however it is too early to determine if actual outcomes will match the promise." – *respondent from a hospital district/authority*.

Areas for Improvement and Recommendations

While the DSRIP program generated a great deal of excitement about the opportunity to have resources to innovate, those engaged in DSRIP clearly identified areas needing improvement (see Table 9.17). Three key themes emerged from their responses:

- Need for improvement of DSRIP implementation,
- Desire for definition and clarification of outcome expectations, and
- Necessity for HHSC and CMS to be sensitive to contextual differences among organizations, communities, and regions.

First, participants provided substantial feedback on the need to improve the DSRIP implementation process. Sub-themes within that focused on clarification and simplification of processes and protocols. Specifically, respondents recommended minimizing changes and defining expectations early to allow those involved time to develop their plans thoroughly without having to change strategies multiple times. Stakeholders also indicated that in many cases, the timelines provided were unrealistic. These include provider reporting timelines, HHSC timelines for giving feedback and guidance, and the release of DSRIP funds to providers. A final sub-theme focused on improving communication and collaboration between participants and HHSC/CMS—inclusiveness of innovative project ideas and technical assistance to enable more effective participation. Several participants expressed dissatisfaction that project ideas they developed in response to identified community need prior to the DSRIP menu's release were categorically dismissed when they did not fit into the parameters of the menu.

> "[We] recommend having a clearly defined formula prior to DSRIP planning of projects and for the State to not make changes after DSRIP projects were planned and designed" – *respondent from a county government*

A second theme focused on the need to define and clarify outcome expectations. Respondents noted that HHSC should improve Category 3 outcome measures by accommodating differences in providers and projects through the metrics available in each one. To do this, it was suggested that HHSC align metrics across categories to simplify outcome measures, as well as to reduce changes to outcome measures after projects have already begun implementation.

> "Required Category 3 reports do not always reflect the program or its benefits" – *respondent from a community mental health center*

The final theme of recommendations was for HHSC and CMS to be sensitive to contextual differences among organizations, communities, and regions.

> "The required performance for small hospitals is a real stretch – we do not have the same resources as the larger hospitals; yet we are held to the same level of expectations. If the program could make adjustments in the expectations for the various sized and type of hospitals, it would be helpful" – *respondent from a private not-for-profit hospital*.

Respondents indicated a need for recognition and accommodation of rural-urban differences in the way health systems are organized and how they operate, as well as differences among different types and sizes of hospitals and how the rules and implementation of the program would affect them differently. The feedback from rural participants highlighted the sentiment that the program systematically advantaged the urban areas:

> "Understand the challenges of rural providers versus urban providers – we are not the same. Listen to the rural areas without bias. Urban facilities take up too much of your time" – *respondent from a hospital district/authority*

Attending to these differences would allow for more inclusive participation and more equitable benefit for the communities served.

Table 9.17. Perceptions of DSRIP and Recommendations for Systemic Changes

Areas for Improvement	Recommendations
Need for improvement of DSRIP implementation	• Minimize changes • Clearly define expectations to reduce ambiguity • Simplify rules and reporting to reduce administrative burden • Provide less compressed timelines for providers • Provide timely feedback and guidance for decision making • Provide timely release of funds • Involve new providers to meet community needs • Expand DSRIP menu to facilitate innovation • Improve communication and collaboration, especially by improving technical assistance
Desire for definition and clarification of outcome expectations	• Improve Category 3 outcome measures by accommodating differences in providers and projects • Align metrics across categories • Reduce changes to outcome measures
Necessity for HHSC and CMS to be sensitive to contextual differences among organizations, communities, and regions	• Recognize and accommodate rural-urban differences • Recognize and accommodate hospital differences

Module 3: Perspectives from Non-Participating Organizations

The final module of the stakeholder survey was administered to those organizations who either did not participate in the Program, or whose participation in the Program did not include all of the components for which they were eligible (e.g., hospitals that participated in UC but not DSRIP). The questions in this module asked respondents about the factors affecting their participation, their perspectives on the opportunities and challenges of the Program, and the extent to which they would be willing to participate in the future.

Respondent Profile

Ninety-two (92) respondents provided feedback in Module 3 regarding opportunities and challenges of the Program. Of these, the largest proportion (41 percent) identified their organization as something other than the predefined categories listed in the survey. Examples of the organization types listed by respondents included home health care organizations, universities, community-based non-profit organizations, and private citizens. Twenty-two (22) percent of respondents were from advocacy groups or statewide organizations. Table 9.18 below summarizes the respondents by organization type.

Table 9.18. Module 3: Respondent Organizational Affiliations

Organization Type	Frequency	Percent
Advocacy group / statewide organization	20	22%
Private hospital	6	7%
Health plan	6	7%
Physician group	5	5%
County government	4	4%
School district	4	4%
Health department	3	3%
Hospital district / hospital authority	2	2%
City government	1	1%
Community mental health center	1	1%
Academic health science center	1	1%
Health district	1	1%
Public hospital	0	0%
Other	38	41%
Total	**92**	**100%**

The majority of respondents in this section of the survey did not participate in an RHP (96 percent). However, a small proportion (4 percent) identified as participating in one RHP, presumably as a UC provider.

Factors Influencing Participation in the Program

Among respondents affiliated with organizations identified as eligible to participate in the Program, there were a variety of reasons for which they did not participate. Some organizations did not participate because their projects were not approved, by their RHP anchor institution or by HHSC and/or CMS (14 percent). Some did not want to participate in the Program (12 percent), due to lack of or timeliness of information provided to them, a perception that only hospitals were eligible to participate, or for financial reasons. Others did not participate because they could not find IGT to support either their UC or DSRIP project(s) (10 percent). A small

number of respondents indicated that they chose to only participate in UC for economic/financial reasons (7 percent). A large proportion (54 percent) of respondents cited other reasons for not participating, which included the limited flexibility of the Program, problems with coordination during the planning phase, and uncertain eligibility.

Opportunities and Challenges

Opportunities

Regarding the opportunities provided by the Program, respondents identified three key themes. First, they recognized the improvement to the quality and overall value of services provided. Respondents commented specifically on the increased resources available through the Program to meet community needs, and how the Program expanded access to those services.

> [The program provided] "…funding that was not otherwise available, with flexibility, to meet community need" – *respondent from a statewide membership organization*

Second, respondents highlighted the opportunity for the Program to attend to contextual differences within communities and regions that are significant to operations and outcomes. Although many rural stakeholders criticized the Program for advantaging the urban providers, they praised the Program's focus on local community needs and highlighted the opportunity for innovation in changing the way systems work. In its current structure, the Program is both inadequately accommodating of the distinctive implementation constraints faced by rural providers, and more flexible in Program design specifications, thus making significant innovations possible *if* rural providers can overcome those implementation constraints. Finally, respondents indicated a great deal of consensus in the opportunities afforded, given the Program's explicit focus on mental/behavioral health.

Challenges

Although stakeholders identified significant opportunities in the Program, they also identified substantial challenges that should be considered in future iterations of the Program. Many respondents commented on the exclusion of certain types of providers and specific services as being a challenge. The fact that organizations providing critical ancillary services were not eligible to participate as performing providers was perceived by some respondents as limiting the effectiveness of the program.

> "Several participants in the 1115 Medicaid Program, in particular some hospitals and clinics, have accessed funding, picked our brains as downstream providers, but not provided any funding to us to care for indigent/unfunded/underfunded patients they refer to us to help achieve their benchmarks" – *respondent from not-for-profit hospice organization*

Also, limiting the services that could be offered or expanded through DSRIP was perceived as stifling the innovations that may have otherwise been attempted.

Given the scope of the Program and the substantial resources available, politics are unavoidable. Survey respondents expressed that competing agendas hindered the effectiveness of the Program. Specifically, organizational agendas regarding the funding structure, both at the state and regional levels, presented challenges.

> "Funding is much too focused at the hospital level and not available throughout the community" – *respondent from an advocacy group/organization*

Organizations' uncertainty about the sustainability of activities planned and initiated through DSRIP affected the degree to which they were willing to innovate.

> "Participating in the DSRIP Project portion of the waiver required dedicated staff, with no guarantee of success" – *respondent from a private not-for-profit hospital*

Sustainability was seen as a political issue because it was unclear to what extent the state legislature was supportive of the Program from the beginning, as well as uncertainty as to what would happen when the five-year demonstration project period ended. Finally, local, regional, and state politics affected who participated and how, based on eligibility, availability of IGT, and approval of specific projects.

> "Lack of collaboration between waiver 1115 funded organizations and other community organizations like mine limits…the full potential of the intent of the waiver 1115 program" – *respondent from a physician group not affiliated with an academic health science center*

The final theme related to challenges of the Program was the time and effort needed to define and understand the new systems at work. Participants cited the need for more timeline information from HHSC regarding how the systems were going to work, as well as the complexity of the Program and how intensive the efforts were on the part of their organizations to navigate the Program in order to be able to participate. One respondent from a statewide membership organization noted *"the delay in getting program rules defined"* as a challenge of the Program. These issues seem to be more related to start-up challenges, although as of the time of the survey (mid-year, DY3) many of the reporting and monitoring systems were still being developed or tested and had not been deployed or institutionalized yet.

Willingness to Participate in the Future

Respondents in this module were asked whether or not they would be willing to participate in the Program in the future, were the opportunity available. Of the 90 respondents, 47 percent stated that they *would be willing,* 41 percent indicated that they *might be willing,* and 12 percent noted that they *would not be willing* to participate.

CONCLUSION

The data collected and analyzed related to Evaluation Goals 10 and 11 provide substantial insight into stakeholders' experience with the Program and its implementation. A summary of the findings are presented as they correlate to the research questions guiding the evaluation.

RQ1: To what extent do RHP members perceive the RHPs to be an effective structure for implementation of the Program?

Overall, RHP members are satisfied with their RHPs and how they operate to facilitate their participation in the Program. Members overall expressed satisfaction with their anchor institutions' leadership and guidance, as well as the anchor institutions' effectiveness in providing information and managing meetings. However, there is variation among RHPs with a few less satisfied among their members. Communication within the RHPs was generally seen as productive by the members.

RQ2: To what extent do RHP members perceive the decision-making and conflict resolution processes of their RHP to be effective?

RHP members indicate, for the most part, that they were involved in the early development of their RHP, including participation in designing the goals and objectives of the RHP plan and determining the RHP governance structure. RHP members perceive CMS, HHSC, and anchor institution staff as having the most influence in decision-making for the RHPs, with member organizations having less influence and other local stakeholders having the least influence. Results indicate some tension within the RHPs, but this tension is limited. Given the demands of the Program and the funds involved, some tension should be expected. Regarding conflict resolution, two-thirds (66 percent) of RHP members responding said that their RHP had set ground rules for working together as part of the organizational structure, and 82 percent reported that they had established mechanisms for providing feedback.

RQ3: What do RHP members and other key stakeholders perceive to be the strengths and weaknesses of the Program, and what recommendations do they offer for changing MMC, UC, or DSRIP?

Stakeholders identified key strengths of the Program, including increases in available funding, the opportunity for innovation, the emphasis on public-private partnerships, and systems for accountability. Key weaknesses identified by stakeholders included timing of implementation, the changing rules and expectations, the exclusion of certain types of providers, lack of infrastructure at multiple levels, the broad scope of Program activities, the limited project "menu," and the politics involved at the local and state levels. Further, there appear to be challenges in measuring Program outcomes for some stakeholders that perceive most Program metrics as clinically-focused and inapplicable to providers such as health departments. Overall recommendations focused on developing rules, reporting mechanisms, and payment schedules ahead of time; limiting Program changes,

decreasing administrative burden; addressing differing implementation challenges faced by urban and rural (or large and small) hospitals; and maintaining a focus on long-term sustainability.

RQ4: For organizations eligible to participate that did not participate, what factors influenced their decision? What do these organizations perceive to be the opportunities and challenges of the Program?

Organizations that were eligible to participate but did not participate cited several factors influencing that decision, including projects not being approved, lack of or timeliness of information provided to them, financial reasons including the inability to find IGT, the limited flexibility of the Program, problems with coordination during the planning phase, and uncertain eligibility. These organizations noted increased resources, the ability to improve quality of services, and the focus on local health systems as opportunities for the Program. Identified challenges included the lack of timely information about the Program, the exclusion of certain providers, and competing political agendas.

The survey indicates that Program stakeholders are generally satisfied with how the program has been implemented and with their experiences during implementation, despite start-up issues. Key stakeholder concerns and recommendations for going forward focus on streamlining processes, timelines, and payment schedules; eliminating frequent changes; recognizing and addressing the unique implementation challenges of different types of providers; and including more provider types that were previously excluded.

Limitations

This element of the evaluation of the Program does have limitations. The overall response rate for the survey was low (8 percent), which can limit the ability for inference to all stakeholders. Even so, the total number of respondents was 533 and there were at least seven respondents from each of the pre-determined stakeholder groups. However, among these groups, those with the lowest number of respondents also have a smaller number of organizations participating in the Program overall. In addition, the survey was distributed to RHP members in the midst of many other Program requirements. Adding a survey on top of other Program priorities may have contributed to the low response rate. Finally, there were variable response rates between RHPs, making RHP-specific results vulnerable to extreme responses when there was a low response rate for that RHP.

CHAPTER 10
CHANGES IN REGIONAL HEALTHCARE PARTNERSHIP COLLABORATION: EVALUATION GOAL 9

GOAL SUMMARY

One specific aim of the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") is system transformation through collaboration and integration of services that increase efficiency of service delivery and reduce costs. As described previously, twenty Regional Healthcare Partnerships (RHPs) were created across the state as a structure for managing implementation of the Program. RHPs could be characterized as mandated partnerships—the creation of which was required by external forces (Centers for Medicare and Medicaid Services (CMS) and the Texas Health and Human Services Commission (HHSC)) with clear financial incentives at stake for participating organizations. Organizations were not required to participate in an RHP; participation was voluntary. However, participation in the RHP in which an organization's county was included is necessary for that organization to participate in the Uncompensated Care (UC) and/or Delivery System Reform Incentive Payment (DSRIP) programs. Although RHP formation created some new relationships, the development of many RHPs built upon a core of inter-organizational relationships that already existed. The RHPs represent networks comprised of relationships within sectors (e.g., hospitals, community mental health centers, public health departments), as well as relationships across sectors (i.e., relationships between hospitals and governmental entities, community mental health centers and public health departments, or other public-private partnerships). The composition of these RHPs varies, but at minimum includes the anchor institution (administratively responsible for coordination), participating intergovernmental transfer (IGT) entities, and performing providers.

Establishing and strengthening relationships among stakeholders within these regions is intended to improve capacity to collaborate and deliver health services more efficiently and effectively, particularly to the uninsured and those covered by Medicaid. Promoting collaboration among organizations requires them to engage in relationships with a broader range of organizations that facilitate exchange (Glisson & James, 1992). Networks are understood to aid service providers in coordinating service delivery functions and activities, thereby improving the quality, effectiveness, or efficiency of services to clients (Isett & Provan, 2005). Evaluation Goal 9 specifically addresses these networks:

> **Evaluation Goal 9:** Evaluate the extent to which the establishment of RHPs increased collaboration among health care organizations and stakeholders in each region.

Addressing Evaluation Goal 9 may hold significant implications for future Program activities, specifically those related to the DSRIP program.

The results of this portion of the evaluation will yield important information about the following:

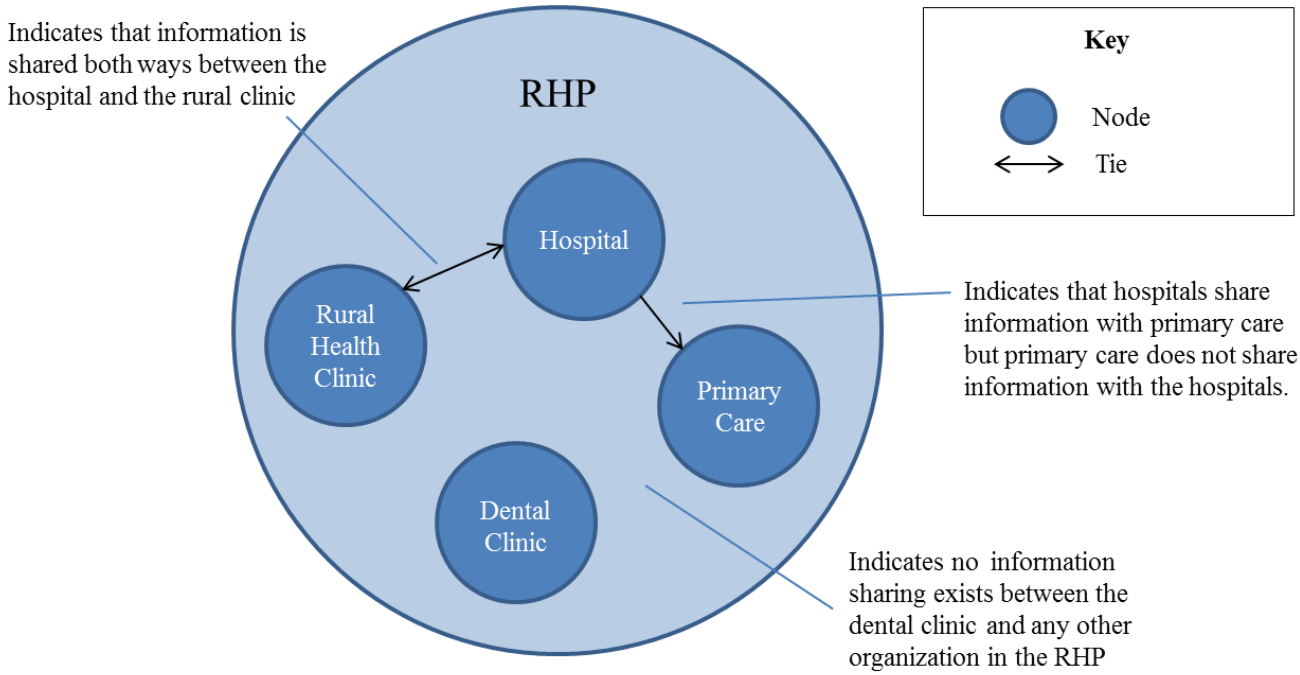
- The extent to which each RHP achieved collaboration,
- The structural or contextual differences between the RHPs that may have affected their collaboration,
- Whether the formation of the RHPs increased collaboration across sectors, and
- Whether this collaboration extended to service delivery.

The findings will provide data to inform any changes that need to be made to the implementation strategy across the state.

INTRODUCTION

Different disciplines and lines of research view networks from a variety of perspectives; however, despite variations in these perspectives, common themes include relationships, social interaction of organization members, connectedness, collective action, trust, and cooperation (Provan, Fish, & Sydow, 2007). A basic definition of a network is provided by Brass and colleagues as "a set of nodes and the set of ties representing some relationships, or lack of relationship, between the nodes" (Brass, Galaskiewicz, Greve, & Tsai, 2004, p. 795). In inter-organizational network terms, a node is an organization, and a tie is some sort of relationship between two nodes, such as information sharing, joint service delivery, or resource sharing (see example in Figure 10.1).

Figure 10.1. Example of the Information Sharing Pathways between Different Organizations in a Hypothetical Regional Healthcare Partnership (RHP)



Key characteristics that are important to understand when examining networks include:

- **Boundaries**—Network boundaries identify which organizations are included and which are excluded from a network, which can sometimes be difficult to ascertain (Foster-Fishman, Salem, Allen, & Fahrbach, 2001; Laumann, Marsden & Prensky, 1983). In the case of the 20 RHPs, membership rosters of participating organizations were submitted with the RHP plan and provide clear boundaries for the evaluation.
- **Density**—Network density is the number of existing ties among the network organizations as a proportion of the total possible ties (Wasserman & Faust, 1994). This illustrates the connectedness of organizations, which can provide a conduit for resource exchange and collaboration. Networks with very little density reflect organizations that are not interconnected, while networks with high density reflect substantial connectedness among the network members. Extremely high levels of network density are not necessarily beneficial (Provan et al., 2007), and Valente, Chou, & Pentz (2007) suggest that networks need to balance density and centralization to be effective. It is expected that the RHPs across the state will vary in density at baseline, reflecting the presence of some strong pre-existing collaborative relationships among organizations and other organizations that had historically been less connected.
- **Centralization**—Network centralization is measured by the number and proportion of organizations that hold central positions in the network (Scott, 2000). Networks with fewer central organizations are considered more centralized, while those with ties more evenly distributed among members are considered more decentralized. In the RHPs, it is anticipated that networks would be centralized around organizations that are providing substantial resources or influence (e.g., significant IGT providers; anchor institutions).
    - ***Identification of Central Organizations***—Understanding which organizations are more central to the network highlights those that are more likely to serve as a hub for information or resource exchange, or can serve in a broker role for other organizations in the network (Provan et al., 2007).
- **Multiplexity**—Multiplexity refers to the strength of relationships between organizations. The concept of multiplexity is based on the number and types of ties between network organizations (Tichy, Tushman, & Fombrun, 1979); multiplex ties between organizations—such as organizations that refer clients to each other's services, share client data, and participate in joint staff trainings—suggest stronger relationships because if one of those ties were to erode, others would remain keeping those organizations connected (Provan et al., 2007). Although calculated at the organization level, this characteristic can be aggregated to provide information at the whole network level. In the RHPs, the relationships strength will be assessed by the ways in which organizations are collaborating to serve the low-income (i.e., uninsured and Medicaid) population.

The network literature and the context of Texas' formation of the RHPs suggest specific hypotheses for how the collaborative relationships of organizations participating in the Program might change over time.

Hypotheses

H_1. The formation of RHPs leads to increased network density over time.

H_2. The formation of RHPs leads to increased network multiplexity [strength] over time.

H_3. The formation of RHPs leads to increased inter-sectoral ties [an indicator of collaboration] over time.

Although not necessarily a characteristic unique to network analysis, understanding the structures and processes that govern the network are important in understanding how the network performs (Lasker, Weiss, & Miller, 2001). The stakeholder survey conducted for Evaluation Goals 10 and 11 (see page 189) assessed perceptions related to those structures and methods, and will provide context for understanding these results at the conclusion of the evaluation.

One key potential outcome of the creation of the RHPs is increased collaboration, which adds value through increasing the network's capacity to generate and diffuse innovative solutions to persistent healthcare issues (Lasker et al., 2001), particularly in the current environment of rapid change. Inter-organizational collaboration has been defined as a process that fosters independent organizations to leverage their resources to achieve objectives they cannot bring about on their own (Lasker et al., 2001).

Literature Review

Assessing Whole Networks

Research into networks can assess structural and contextual characteristics at the organizational level or at the whole network level and can also look at outcomes at the organizational level or the whole network level. While some networks emerge organically through community changes in response to a particular priority, most network research focuses on those that were purposefully created, are more formally structured, and have specific goals (Provan et al., 2007). In the Program, the RHPs are comprised of some organizations with historical relationships, and some relationships that were developed in response to a particular priority related to the Program. In any network, the ties themselves may be formal or informal, trust-based or contractually bound—with substantial variation in between. To assess the effectiveness of networks at achieving collective objectives, analysis must be at the level of the inter-organizational network (Provan & Milward, 1995; Provan et al., 2007). The structural and contextual factors of a network, including core centralization and network density, contribute to information dissemination and decision-making, thus impacting network effectiveness.

One powerful tool for examining the patterns of relationships and exchanges among organizations in a network focused on service delivery is an inter-organizational network analysis (Morrissey, 1992; Provan & Milward, 1995; Valente et al., 2007). Analysis of inter-organizational networks provides a clearer understanding of the relationships between specific organizations, as well as the entire network as a whole (Butterfoss & Kegler, 2009). Results of

network analysis are typically illustrated visually to depict the number and strength of ties (i.e., relationships) among organizations (Scott, 2000). The current analysis focuses on each RHP as a distinct network and offers summary data for the state as a whole. When measured over time, changes in the frequency, reciprocity, and nature of network ties and interactions may indicate increased network capacity through increased collaboration. As inter-organizational relationships mature, the complexity of those relationships is also likely to increase (Provan & Milward, 2001), resulting in strengthened relationships and continued collaboration.

Another framework for assessing collaboration among RHP members is an inter-agency collaborative model based on the works of Van de Ven and Ferry (1980), Morrissey, Hall, and Lindsey (1982), and Alter and Hage (1993). The outcomes of this model include satisfaction with the collaboration, productivity, and successfully reaching the goals of the collaboration effort (in this case, RHP collaboration to implement the UC and DSRIP portion of the Program). Several questions related to inter-agency processes and outcomes were included in the RHP stakeholder survey collected for Evaluation Goals 10 and 11 (see page 189). Inter-agency processes capture the extent to which information about the focus of the coordination effort is shared across agencies, sources of common funding for the initiative or program, and the actual coordination of joint or interrelated activities among agencies.

Prior Empirical Findings

A considerable body of research highlights some key characteristics of networks—particularly those involved in service delivery. In general, the research indicates that network density increases over time (Venkatraman & Lee, 2004). Valente et al. (2007) also found that networks with higher density possess more potential pathways for exchange of information and resources to flow relative to less dense networks. Also, more centralized networks with a few key "hub" organizations can use those hubs to disseminate information and innovative ideas more quickly than less centralized networks. As these network ties are formed, the network structure and the content of the inter-organizational ties evolve. DiMaggio and Powell (1983) posit that when networks have mechanisms in place that promote organizations learning from one another, as the network develops, it is more likely to evolve in ways that yield outcomes. This may be particularly relevant to the RHPs through the Learning Collaborative mechanism, as they seek formal ways of promoting organizational learning and development of new solutions to persistent issues. The learning collaboratives are opportunities for RHP participants and stakeholders to come together to share information, best practices, and lessons learned.

The creation of the RHPs was the structure through which HHSC implemented the Program. There was extensive work with stakeholders to form the RHPs, and HHSC made the final decision about RHP boundaries and anchors taking into account this stakeholder input. All organizations determined eligible by HHSC and CMS to participate in the Program were required to participate in the RHP that covered their geographic location to receive UC or DSRIP funding through the Program. Human and Provan (2000) found that mandated networks rather than those that develop organically based on existing relationships are more likely to fail. This is, in part, attributed to the defined expectations and inherent accountability of mandated networks and typically the financial implications of inadequate participation. This poses an interesting question for the RHPs, given the juxtaposition of a state policy implemented through the creation

of regional partnership structures, many of which built on existing relationships among organizations between and among both public and private sector organizations. In a study of public sector networks, Isett and Provan (2005) found that relationships among public sector organizations develop differently than previously reported in private/non-profit sector organizations, perhaps based on different dynamics related to competition and accountability structures. This could be based on the catalyst and context of the network formation, as well as the different nature of requirements of public funding and accountability and the different structures needed to demonstrate that those requirements are met. In studying management and governance of service delivery networks, Provan and Milward (1995) found that centralization was more effective than decentralization: "Networks integrated and coordinated centrally, through a single core agency, are likely to be more effective than dense, cohesive networks integrated in a decentralized way among the organizational providers that make up the system" (p. 24).

Of interest to the effectiveness of RHPs in fostering increased collaboration is the emergence of clusters or cliques within the network. Cliques or clusters can be defined as a cohesive group that are tightly connected to each other and can form for a variety of reasons, including geographic proximity, overlap of clients served, or similarity of services (Morrissey et al., 1994; Owen-Smith & Powell, 2004). It is expected that some cliques likely already existed within some RHPs based on relationships that existed prior to the Program. Specifically, it is hypothesized that the RHPs will increase inter-sectoral relationships, which would indicate a higher likelihood of service integration (Foster-Fishman et al., 2001). The evaluation will examine inter-sectoral relationships and cliques after final data collection in 2015.

METHODS

Given that the RHPs are envisioned as the structure through which transformation is taking place, it is important to examine the networks as a whole (e.g., network characteristics and network outcomes of each RHP). The best quantitative measure for whole networks is an inter-organizational network analysis where each organization reports on ties with each of the other organizations in the network (Provan et al., 2007). The research team used this analytic method to assess the RHP-level networks. In addition, qualitative questions were added as a follow up to each quantitative question to gain additional contextual information about the content of the ties. Data collection focused on gathering information about inter-organizational ties during two time periods:

- **Time 0:** Twelve (12) months prior to the creation of the RHPs (referenced hereafter as T_0)
- **Time 1:** Calendar year 2013 (referenced hereafter as T_1)

The data collection was designed to collect baseline data referencing T_0 during the first interview immediately after having collected T_1 data. A second round of data collection will begin in November 2015 to gather data on inter-organizational ties during a third time period (referenced hereafter as T_2). The data collection instrument is included in Appendix J.

Data Collection

Inter-organizational network data for T_0 and T_1 were collected between January and May of 2014. There was no possibility of collecting T_0 data as it was happening, but this information is extremely important in understanding changes in relationships among network members. Howard and Dailey (1979) recommend a method of asking respondents to report twice on each self-report measure, asking first to report on the current time period and asking immediately after to report on the pre-intervention time period; they assert that this removes any response-shift bias because both answers are contextualized by the respondent from the same perspective (i.e., their post-intervention response does not simply reflect a more sophisticated understanding of the purpose of the intervention than when they were pre-tested).

The sampling frame for Evaluation Goal 9 is all anchor institutions and organizations participating in DSRIP (IGT entities and performing providers) in all 20 RHPs. Organizations participating only in UC (N=92) were excluded from the study since these organizations have a more limited role in their RHP, restricted primarily to reporting and administrative interaction with their anchor. Data were collected at the organizational level (sampling frame: N=388 participating organizations for all 20 RHPs); the unit of analysis is at the RHP level (N=20). This report provides an analysis of T_0 and T_1 data; T_2 data are scheduled to begin in November 2015.

To identify the most appropriate and knowledgeable respondent for each organization to be surveyed, the evaluation team asked each RHP's anchor institution to provide information about the nature of the survey questions and content to their member organizations and have each organization provide contact information for their designated respondent. The anchor institutions compiled and submitted the contact information to the evaluation team. The identified respondent for each organization was then contacted by email to schedule a time for the phone-administered survey asking them to report on their organization's relationship with each of the other organizations in the RHP. Within the network analysis literature, a single key informant approach is commonly used. However, the key informant approach is based on the assumption that the survey questions are focused such that a single respondent from the organizations would be knowledgeable about the range of inter-organizational exchanges (Foster-Fishman et al., 2001). Thus, the specific survey questions were limited to administrative level interactions, rather than front-line service delivery.

Data were collected via computer-assisted telephone surveys with representatives of each participating organization. In some cases, the respondent elected to invite other organizational representatives to join them for the phone survey using a conference call or speaker phone. An information sheet summarizing respondent participation was emailed to participants prior to and reviewed with participants at the beginning of each telephone call. The survey was loaded into Qualtrics® to manage question flow and allow for electronic documentation of responses.

Measures

The network survey was structured such that each organization answered a series of questions about their relationship with each of the other organizations in their RHP (Provan & Milward, 1995; Provan & Milward, 2001). Measures used are provided in Table 10.1. In addition, open-ended questions were added to probe for qualitative information about the relationship, kinds of collaborative services, or nature of data sharing to assist in interpretation of the results.

Table 10.1. Network Measures

Construct	T_0 (Pre-Program) Measures	T_1 (2013) Measures	Source
Any Collaboration[1]	"In the year prior to the establishment of RHP[2] [#], did your organization work with [x organization] at all?"	"Does your organization currently work with [x organization]?"	Provan & Milward, 1995
Joint Service Delivery	"In the year prior to the establishment of RHP [#], did your organization collaborate with [x organization] to deliver services?"	"Does your organization currently collaborate with [x organization] to deliver services?"	Foster-Fishman et al., 2001; Provan & Milward, 1995
Resource Sharing	"In the year prior to the establishment of RHP [#], did your organization share tangible resources with [x organization] for the purpose of increasing access to services?"	"Does your organization currently share tangible resources with [x organization] for the purpose of increasing access to services?"	Provan, Nakama, Veazie, Teufel-Shone & Huddleston, 2003
Data Sharing	"In the year prior to the establishment of RHP [#], did your organization have an agreement in place to share patient data with [x organization]?"	"Does your organization currently have a data sharing agreement with [x organization]?"	Johnsen, Morrissey, & Calloway, 1996
Attitudes toward Building Ties	N/A	"Given the opportunity, would your organization be willing to collaborate with [x organization] in the future?"	New measure

[1] Binary response—if *yes*, interviewer asks the other questions regarding this organization; if *no*, interviewer skips to the "Attitudes toward Building Ties" question.
[2] Regional Healthcare Partnership (RHP).

Responses to the question regarding attitudes toward building ties are not reported here. They will be analyzed and reported in the final report.

ANALYSES

Quantitative survey responses for each organization from T_0 and T_1 were arranged into a square adjacency matrix format using network software Ucinet 6 (Borgatti, Everett, & Freeman, 2002). Each matrix includes all organizations participating in DSRIP for a respective RHP in both the rows and columns, thus creating an N by N matrix such as:

	Organization 1	Organization 2	Organization 3
Organization 1			
Organization 2			
Organization 3			

In this matrix, any given box represents the tie(s) between two organizations, and the diagonal of the matrix is meaningless since ties from an organization to itself are not of interest in the evaluation. This is referred to as an N by N matrix format, with N representing the number of organizations in a network. Each RHP has separate matrices for each of the time periods presented in this report (T_0 and T_1). In addition, network diagrams were created using companion software NetDraw 2 (Ucinet 6, NetDraw 2).

Because the response rates were not 100 percent in all RHPs, the data were symmetrized to reflect relationships between organizations if one of the responding organizations indicated collaboration. Symmetrization refers to the process of making the data match between organizations. For example, if Organization A indicates a tie with Organization B, and Organization B either did not participate in the study or did not note the same tie, it is assumed that the tie exists because one of the organizations indicated that it did; thus the final data show a tie between them as if it were indicated by both organizations (making the matrix symmetrical). While assuming reciprocity of a tie is not the most conservative approach, depending on confirmed relationships or relationships that are indicated by both organizations may actually fail to show relationships that actually exist (Bolland & Wilson, 1994; Foster-Fishman et al., 2001).

Responses from T_0 and T_1 were analyzed for the average number of organizational ties, centralization, and density. Multiplexity was evaluated by adding the matrices of each tie type (program and service delivery, sharing tangible resources, formal data sharing agreement); if all of those types of ties are present, the maximum strength of a tie between two organizations is three. Tie strength was measured by calculating the average number of ties between dyads across each RHP. Results presented by RHP include the densities, centralization scores, average number of organizational ties, and strength of ties for both T_0 and T_1; as well as the percentage change between the two time periods for each measure.

Network diagrams were created for each RHP to illustrate responses to each survey question. These analyses allow for examination of within-sector collaborations, inter-sectoral collaborations, collaborations across ownership type, establishment of new relationships, increasing multiplexity of relationships among organizations, and changes in centralization over time (Provan & Milward, 1995). Qualitative follow-up questions within the survey provided

additional data to aid in interpretation of the analysis of each RHP's network, including what types of services are jointly delivered, or what kinds of data sharing agreements are in place.

RESULTS

The following sections summarize the network analysis results by first presenting a summary of results at the state level, then presenting RHP-level results.

Results are presented by type of collaboration:

- All types of collaboration;
- Collaboration to deliver programs and services (e.g., collaboration around specific DSRIP projects or other programs; collaboration around patient referrals);
- Sharing tangible resources (e.g., sharing office space, staff, equipment, transportation services, etc.); and
- Formal data sharing agreements (e.g., agreements to share patient data).

Since multiplexity measures the strength of relationships (assessed by the number and types of ties between organizations), these results are presented in the final section. Network diagrams are also presented throughout each section using RHP 15 as an example. This RHP was chosen based on its small size and visible network changes over time. Appendix K includes network diagrams for each measure in all RHPs.

Respondent Profile

A total of 388 organizations were included in the sampling frame for the study. The overall response rate was 84 percent, but response rates varied by RHP (range: 67 percent to 100 percent). A summary of RHP-level response rates is provided in Table 10.2.

Table 10.2. Response Rates by Regional Healthcare Partnership (RHP)

RHP	Response Rate	Total # of Organizations in RHP	RHP	Response Rate	Total # of Organizations in RHP
RHP 1	76%	38	**RHP 11**	85%	19
RHP 2	100%	16	**RHP 12**	81%	37
RHP 3	86%	29	**RHP 13**	90%	21
RHP 4	76%	25	**RHP 14**	100%	12
RHP 5	89%	9	**RHP 15**	100%	8
RHP 6	67%	27	**RHP 16**	100%	9
RHP 7	94%	16	**RHP 17**	84%	19
RHP 8	81%	16	**RHP 18**	90%	10
RHP 9	84%	25	**RHP 19**	92%	13
RHP 10	77%	30	**RHP 20**	88%	8

State-Level Results

Statewide, there were observed increases in network density, centralization, mean number of organizational ties, and multiplexity from T_0 to T_1 (see Table 10.3). Relationships between organizations based on delivery of programs and services demonstrated the highest network density, centralization, and mean number of ties. The next highest were for sharing tangible resources, and then formal data sharing. Both the percentage point change (noted as Raw Change) and the percent change were calculated to determine changes between T_0 and T_1. Although the network measures were lowest for formal data sharing, the greatest percent increase was observed for these ties from T_0 to T_1. Table 10.3 includes summary state-level results. For ease of comparison, each state-level indicator is also included in the RHP-specific data tables in the following section as well.

Table 10.3. Summary of Network Characteristics, All Regional Healthcare Partnerships (RHPs) Combined (n=20)

	Density, T_0 (Pre-Program)	Density, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
All Collaboration	36%	45%	9%	**25%**
Program and Service Delivery	33%	42%	8%	**25%**
Sharing Tangible Resources	13%	19%	6%	**48%**
Formal Data Sharing	10%	15%	6%	**58%**

	Centralization, T_0 (Pre-Program)	Centralization, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
All Collaboration	40%	49%	10%	**24%**
Program and Service Delivery	40%	44%	4%	**11%**
Sharing Tangible Resources	31%	40%	9%	**29%**
Formal Data Sharing	26%	37%	10%	**40%**

	Mean # of Ties, T_0 (Pre-Program)	Mean # of Ties, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
All Collaboration	5.5	6.7	1.2	**22%**
Program and Service Delivery	5.1	6.2	1.1	**21%**
Sharing Tangible Resources	1.9	2.6	0.7	**39%**
Formal Data Sharing	1.4	2.1	0.7	**48%**

	T_0 (Pre-Program)	T_1 (2013)	Change, Raw[1]	Change, Percent[2]
Strength of Ties	**1.6**	**1.7**	**0.1**	**6%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

RHP-Level Results

All Collaborations

The first set of RHP-level results is for any collaboration. Here, the analysis assesses whether organizations reported working together in any capacity measured in the study. Subsequent sections of this chapter present the results for specific types of collaboration that comprise these partnerships.

Density

Across all RHPs, the mean density at T_0 was 36 percent, indicating that 36 percent of all possible relationships within the RHP existed. At T_1, the mean overall density was 45 percent (see Table 10.4). This represents a 25 percent overall increase in collaborative inter-organizational relationships, relative to where the RHP started (T_0). Among RHPs, network density increased in almost all RHPs, with only two RHPs experiencing a slight decrease (range of percent change from T_0 to T_1: (1 percent decrease to 87 percent increase). For example, RHPs 7 and 8 maintained a 27 percent and 30 percent density over the study period and saw no change over that time, while RHPs 13 and 18 started with densities of 23 percent and 38 percent, respectively, and increased to 43 percent and 69 percent over the study period (percent increases of 87 percent and 82 percent respectively). Table 10.4 details RHP-level results.

Table 10.4. Network Density
by Regional Healthcare Partnership (RHP), All Collaboration

	Density, T_0 (Pre-Program)	Density, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	14%	22%	8%	**54%**
RHP 2	34%	38%	4%	**11%**
RHP 3	22%	24%	3%	**12%**
RHP 4	21%	26%	5%	**25%**
RHP 5	61%	75%	14%	**24%**
RHP 6	21%	28%	7%	**36%**
RHP 7	27%	27%	0%	**0%**
RHP 8	30%	30%	0%	**0%**
RHP 9	25%	28%	4%	**15%**
RHP 10	27%	27%	0%	**-1%**
RHP 11	43%	50%	7%	**16%**
RHP 12	29%	28%	0%	**-1%**
RHP 13	23%	43%	20%	**87%**
RHP 14	49%	56%	8%	**16%**
RHP 15	57%	89%	32%	**56%**
RHP 16	61%	83%	22%	**36%**
RHP 17	35%	37%	2%	**5%**
RHP 18	38%	69%	31%	**82%**
RHP 19	45%	56%	12%	**26%**
RHP 20	57%	61%	4%	**6%**
Statewide Mean	**36%**	**45%**	**9%**	**25%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.

[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Centralization

Network centralization, overall, increased from T_0 to T_1. At T_0, network centralization for all collaboration across all RHPs was 40 percent (see Table 10.5). At T_1, network centralization was 49 percent, indicating that the RHPs are becoming more centralized around a few organizations. Centralization increased over the time period by 24 percent, although the changes varied by RHP. Some RHPs experienced decreased or stable centralization (e.g., RHPs 7 and 15), while some had increases of greater that 100 percent (e.g., RHPs 2 and 3). More centralized networks may reflect structures where central organizations serve as hubs for resource and information dissemination, and possibly serve in a broker role between other organizations in the network. Table 10.5 summarizes RHP-level centralization results.

Table 10.5. Network Centralization by Regional Healthcare Partnership (RHP), All Collaboration

	Centralization, T_0 (Pre-Program)	Centralization, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	52%	59%	7%	**13%**
RHP 2	25%	71%	45%	**179%**
RHP 3	36%	81%	45%	**127%**
RHP 4	23%	31%	8%	**34%**
RHP 5	33%	33%	0%	**0%**
RHP 6	32%	74%	42%	**132%**
RHP 7	38%	38%	0%	**0%**
RHP 8	50%	50%	0%	**0%**
RHP 9	37%	37%	1%	**1%**
RHP 10	45%	56%	12%	**26%**
RHP 11	52%	56%	5%	**9%**
RHP 12	70%	67%	-3%	**-4%**
RHP 13	36%	63%	28%	**78%**
RHP 14	40%	53%	13%	**32%**
RHP 15	38%	14%	-24%	**-62%**
RHP 16	34%	21%	-13%	**-37%**
RHP 17	45%	33%	-11%	**-26%**
RHP 18	22%	39%	17%	**75%**
RHP 19	65%	52%	-14%	**-21%**
RHP 20	19%	52%	33%	**176%**
Statewide Mean	**40%**	**49%**	**10%**	**24%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Mean Number of Ties per Organization

The network study also evaluated the mean number of organizational ties, or the average number of collaborative partnerships maintained by any organization in an RHP. Here the total number of ties an organization has with other organizations in their RHP is measured.

The mean number of ties for any given member organization across all RHPs was 5.5 (range: 3.4–10.3) at T_0 and 6.7 at T_1 (range: 4.0–10.2; see Table 10.6). This means that at T_0, organizations had a mean of 5.5 collaborative partnerships with other organizations in their RHP. By T_1, the mean number of collaborations for any one organization had increased to 6.7. Some RHPs, for example RHP 5, saw an increase in the mean number of organizational ties, while others (e.g., RHPs 10 and 12) had slight decreases. While insightful, comparison of the mean number of ties across RHPs should take the total number of organizations in the RHP into account. For example, RHP 20 had a mean of four ties at T_0 but there are only eight organizations participating in that RHP. So there are only seven potential collaborators for any one organization in the RHP. Alternatively, RHP 12 had a mean of 10.3 ties at T_0 but 37 participating organizations, meaning that there are 36 possible collaborations for each organization in the RHP. What is important to take from this measure is that, in almost all RHPs, the number of collaborative partnerships is increasing.

Table 10.6. Mean Number of Ties per Organization by Regional Healthcare Partnership (RHP), All Collaboration

	# of Organizations in RHP	Mean # of Organizational Ties, T_0 (Pre-Program)	Mean # of Organizational Ties, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	38	5.2	8.2	3.0	**58%**
RHP 2	16	5.4	6.0	0.6	**11%**
RHP 3	29	6.3	7.1	0.7	**12%**
RHP 4	25	5.0	6.2	1.3	**26%**
RHP 5	9	4.3	5.3	1.0	**24%**
RHP 6	27	5.3	7.3	1.9	**36%**
RHP 7	16	4.0	4.0	0.0	**0%**
RHP 8	16	4.5	4.5	0.0	**0%**
RHP 9	25	5.9	6.8	0.9	**15%**
RHP 10	30	7.9	7.7	-0.1	**-2%**
RHP 11	20	7.7	8.9	1.3	**16%**
RHP 12	37	10.3	10.2	-0.1	**-1%**
RHP 13	21	4.8	8.6	3.8	**80%**
RHP 14	12	5.3	6.2	0.8	**16%**
RHP 15	8	4.0	6.3	2.3	**56%**
RHP 16	9	4.9	6.7	1.8	**36%**
RHP 17	19	6.3	6.6	0.3	**5%**
RHP 18	10	3.4	6.2	2.8	**82%**
RHP 19	13	5.4	6.8	1.4	**26%**
RHP 20	8	4.0	4.3	0.3	**6%**
Statewide Mean		**5.5**	**6.7**	**1.2**	**22%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Diagrams

Network diagrams are used to graphically depict the structure of a network at any single point in time. Figures 10.2 and 10.3 include network diagrams to demonstrate the change in network structure in RHP 15 from T_0 to T_1. Organizations in the network diagram are coded by shape *and* color. For example, the gray square with centered lines in Figure 10.2 represents a community mental health center (CMHC) (indicated by color) that is an IGT entity and performing provider (indicated by the shape), while the pink triangles represent hospitals (indicated by color) that are performing providers only (indicated by the shape). Thus, the diagrams are best viewed in color. RHP 15 was selected as an example for two reasons: 1) the relatively small number of

organizations makes the diagram easier to interpret and thus a simpler illustration; and 2) the network changes experienced in this region are easily noticeable in the diagrams.

In this example, there are more ties, shown by lines connecting organizations, present at T_1 than were present at T_0. This represents an increase in network density (from 57 to 89 percent, see Table 10.4). One can also use the network diagrams to look at network centralization. At T_0, there were a few organizations that held more central positions in the network, namely the CMHC, the academic health science center (HSC), and one of the hospitals. By T_1, there are fewer organizations maintaining these central positions, and this is confirmed with the results presented previously (decrease in network centralization from 38 to 14 percent). The network diagrams also show that some organizations gained more collaborative partners than others. For instance, the CMHC gained one tie over the time period, but already had five existing ties. One of the hospitals in the RHP only had one tie at T_0 and increased to seven ties by T_1. Appendix K includes network diagrams for all RHPs.

Figure 10.2. Network Diagram T_0, Regional Healthcare Partnership (RHP) 15, All Collaboration[1]

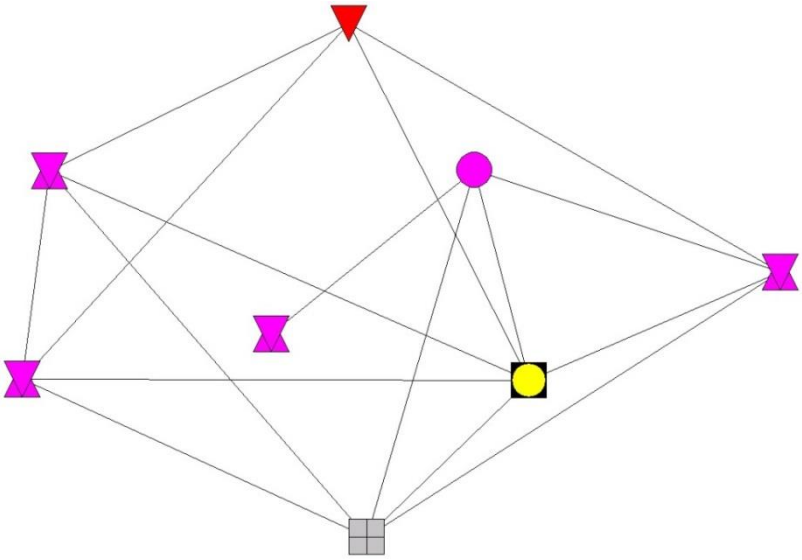
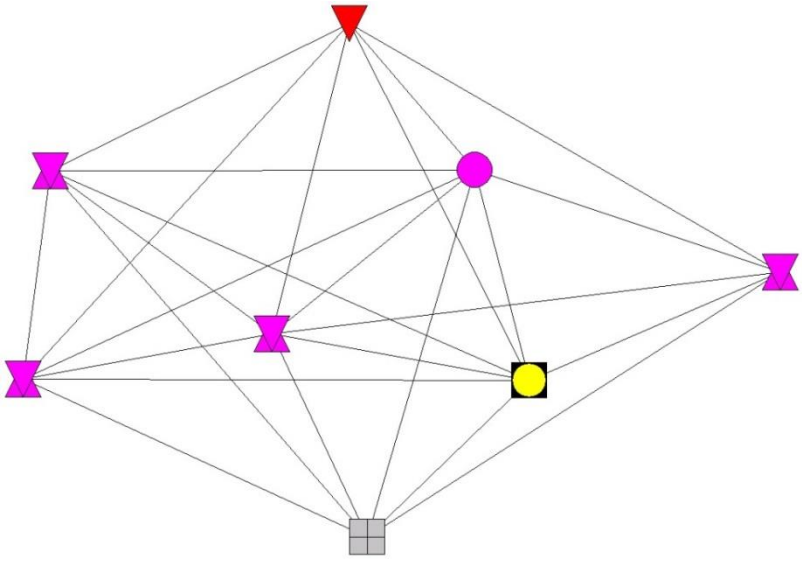
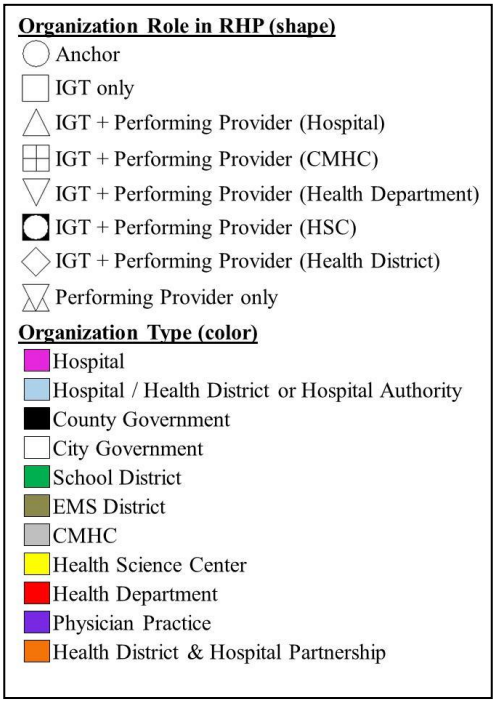


Figure 10.3. Network Diagram T_1, Regional Healthcare Partnership (RHP) 15, All Collaboration[1]





[1]Diagrams are best viewed in color.

Collaboration to Deliver Programs and Services

The second set of results is specific to inter-organizational collaboration for delivering programs and services. Respondents reported working together on programs and services including telemedicine, indigent care programs, mental health screenings, and through established patient referral and transfer agreements (both formal and informal). Collaboration around DSRIP projects was noted by a majority of respondents at T_1, including projects on care transitions and navigation, integration of primary and behavioral health care, and community health education.

Density

Across all RHPs, the mean density for collaboration to deliver programs and services at T_0 was 33 percent, indicating that 33 percent of all possible collaborations around programs and services within the RHP existed (see Table 10.7). At T_1, the mean overall density was 42 percent, representing a 25 percent increase in such ties. Among RHPs, network density around collaboration to deliver programs and services increased in most RHPs, while network stabilization or a decrease was observed in four RHPs (range of percent change from T_0 to T_1: (a decrease of 3 percent to an increase of 104 percent).

Table 10.7. Network Density by Regional Healthcare Partnership (RHP), Collaboration to Deliver Programs and Services

	Density, T_0 (Pre-Program)	Density, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	14%	21%	7%	**51%**
RHP 2	32%	35%	4%	**12%**
RHP 3	20%	21%	1%	**5%**
RHP 4	20%	26%	6%	**32%**
RHP 5	43%	68%	25%	**58%**
RHP 6	14%	16%	2%	**16%**
RHP 7	23%	25%	3%	**11%**
RHP 8	29%	28%	-1%	**-3%**
RHP 9	24%	28%	4%	**15%**
RHP 10	23%	23%	1%	**3%**
RHP 11	43%	50%	7%	**16%**
RHP 12	28%	28%	0%	**-1%**
RHP 13	21%	43%	22%	**104%**
RHP 14	49%	55%	6%	**12%**
RHP 15	57%	89%	32%	**56%**
RHP 16	61%	83%	22%	**36%**
RHP 17	33%	33%	0%	**0%**
RHP 18	38%	53%	16%	**41%**
RHP 19	42%	54%	12%	**27%**
RHP 20	57%	57%	0%	**0%**
Statewide Mean	**33%**	**42%**	**8%**	**25%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.

[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Centralization

In reference to collaboration to deliver programs and services, network centralization, or the extent to which a network is centralized around a few organizations, also increased from T_0 to T_1 (from 40 percent to 44 percent; see Table 10.8). This suggests that, overall, the RHPs are becoming more centralized with respect to delivering programs and services. Changes in network centralization varied across RHPs, from a decrease of 62 percent to an increase of 163 percent, with a mean increase of 46 percent.

Table 10.8. Network Centralization by Regional Healthcare Partnership (RHP), Collaboration to Deliver Programs and Services

	Centralization, T_0 (Pre-Program)	Centralization, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	53%	58%	5%	**10%**
RHP 2	28%	73%	45%	**163%**
RHP 3	38%	52%	14%	**36%**
RHP 4	24%	22%	-2%	**-10%**
RHP 5	38%	43%	5%	**13%**
RHP 6	22%	37%	14%	**64%**
RHP 7	28%	32%	5%	**17%**
RHP 8	51%	51%	1%	**2%**
RHP 9	37%	38%	1%	**1%**
RHP 10	50%	53%	3%	**6%**
RHP 11	52%	56%	5%	**9%**
RHP 12	70%	68%	-3%	**-4%**
RHP 13	38%	63%	26%	**68%**
RHP 14	40%	44%	4%	**9%**
RHP 15	38%	14%	-24%	**-62%**
RHP 16	34%	21%	-13%	**-37%**
RHP 17	44%	32%	-12%	**-28%**
RHP 18	22%	31%	8%	**38%**
RHP 19	68%	55%	-14%	**-20%**
RHP 20	19%	38%	19%	**101%**
Statewide Mean	**40%**	**44%**	**4%**	**11%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Mean Number of Ties per Organization

The mean number of ties per organization for delivering programs and services across all RHPs was 5.1 at T_0 and 6.2 at T_1 (see Table 10.9). As mentioned, these results indicate the mean number of ties any single organization has around delivering programs and services. The absolute number of ties for each organization in the network is clearly bound by the number of organizations in their RHP; thus the change over time is likely a more meaningful indicator. Some RHPs experienced a decrease or no change in the average number of ties, while others experienced large increases (range of percent change: a decrease of 3 percent to an increase of 105 percent). Again, interpretation of these results should take into account the total number of participating organizations.

Table 10.9. Mean Number of Ties per Organization by Regional Healthcare Partnership (RHP), Collaboration to Deliver Programs and Services

	# of Organizations in RHP	Mean # of Ties, T_0 (Pre-Program)	Mean # of Ties, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	38	5.0	7.7	2.7	**54%**
RHP 2	16	5.1	5.6	0.6	**12%**
RHP 3	29	5.7	6.0	0.3	**5%**
RHP 4	25	4.7	6.2	1.5	**32%**
RHP 5	9	3.0	4.8	1.8	**58%**
RHP 6	27	3.6	4.2	0.6	**16%**
RHP 7	16	3.4	3.8	0.4	**11%**
RHP 8	16	4.4	4.3	-0.1	**-3%**
RHP 9	25	5.8	6.7	0.9	**15%**
RHP 10	30	6.6	6.8	0.2	**3%**
RHP 11	20	7.7	8.9	1.3	**16%**
RHP 12	37	10.1	10.0	-0.1	**-1%**
RHP 13	21	4.2	8.6	4.4	**105%**
RHP 14	12	5.3	6.0	0.7	**13%**
RHP 15	8	4.0	6.3	2.3	**56%**
RHP 16	9	4.9	6.7	1.8	**36%**
RHP 17	19	5.9	5.9	0.0	**0%**
RHP 18	10	3.4	4.8	1.4	**41%**
RHP 19	13	5.1	6.4	1.3	**27%**
RHP 20	8	4.0	4.0	0.0	**0%**
Statewide Mean		**5.1**	**6.2**	**1.1**	**21%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Diagrams

Figures 10.4 and 10.5 include network diagrams to demonstrate the change in network structure around collaboration to deliver programs and services in RHP 15 from T_0 to T_1. Again, an increase in the number of ties between organizations is observed, and the network is less centralized around a few organizations at T_1. Appendix K includes network diagrams for all RHPs.

Figure 10.4. Network Diagram T_0, Regional Healthcare Partnership (RHP) 15, Collaboration to Deliver Programs and Services[1]

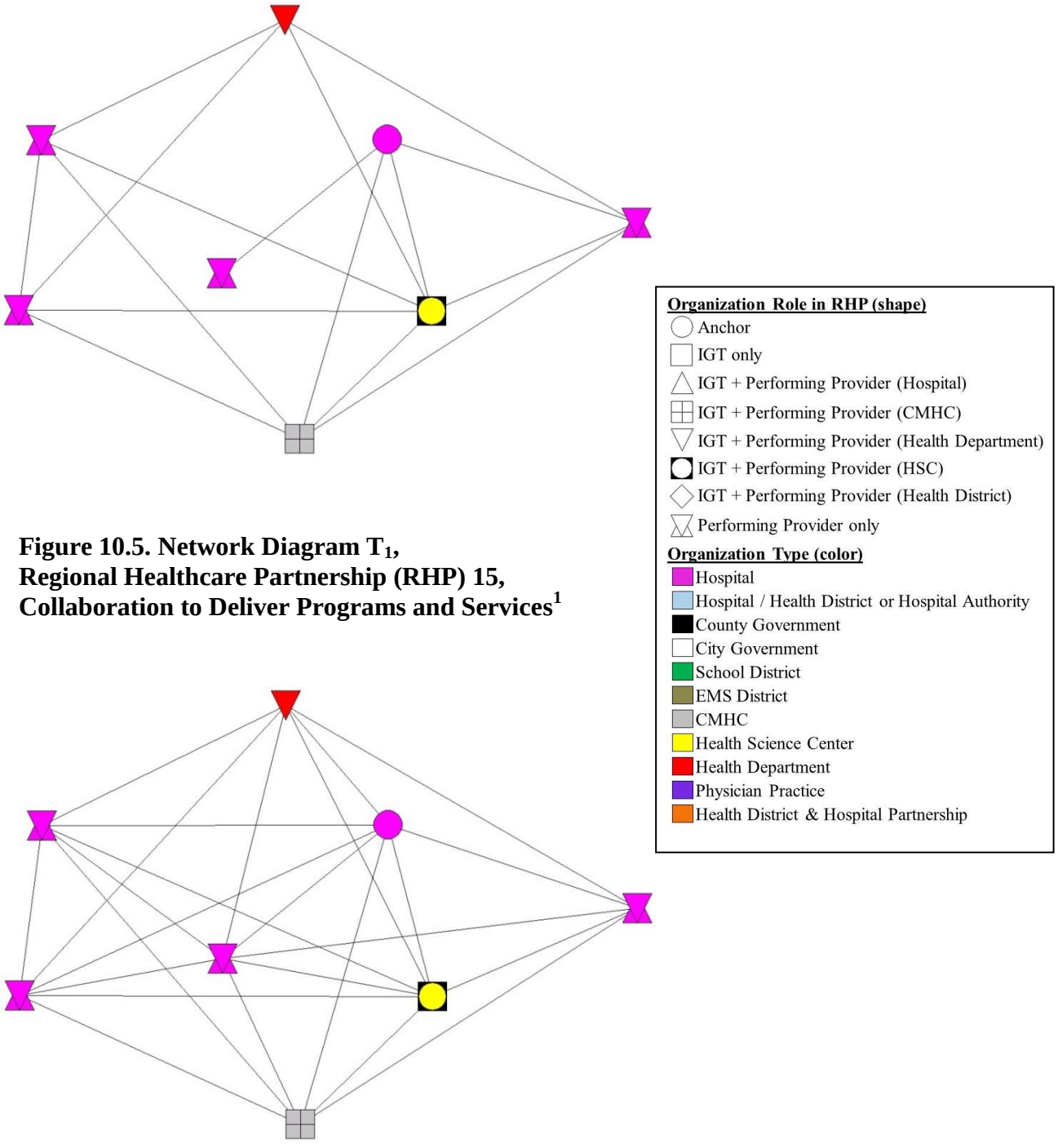


Figure 10.5. Network Diagram T_1, Regional Healthcare Partnership (RHP) 15, Collaboration to Deliver Programs and Services[1]

[1]Diagrams are best viewed in color.

Collaboration to Share Tangible Resources

The third set of results is specific to the sharing of tangible resources. Tangible resources could represent financial exchange, but could also entail sharing of support personnel, expertise, facilities and equipment, or other material goods. Some examples of tangible resource sharing noted by respondents include sharing IGT resources for DSRIP and UC, sharing services to provide transportation to patients, sharing resources for completing community health needs assessments, sharing staff for services such as emergency room crisis intervention, sharing physician services across organizations, and collaborating on clinical residency programs.

Density

Across all RHPs, the mean density for sharing tangible resources at T_0 was 13 percent, indicating that 13 percent of all possible relationships existed across RHPs (see Table 10.10). At T_1, the mean overall density was 19 percent, representing a 48 percent increase in these collaborations. Among RHPs, network density for sharing tangible resources increased or remained stable in almost all RHPs. Two RHPs had a decrease in density (range of percent change from T_0 to T_1: a decrease of 9 percent to an increase of 300 percent). A great deal of resource sharing is represented through relationships where one organization is providing IGT for another organization's DSRIP project (e.g., a CMHC providing IGT for a hospital's project that would serve people with intellectual or developmental disabilities).

Table 10.10. Network Density by Regional Healthcare Partnership (RHP), Sharing Tangible Resources

	Density, T_0 (Pre-Program)	Density, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	9%	13%	3%	**34%**
RHP 2	14%	18%	4%	**31%**
RHP 3	5%	5%	0%	**0%**
RHP 4	6%	9%	3%	**45%**
RHP 5	18%	25%	7%	**40%**
RHP 6	12%	19%	7%	**55%**
RHP 7	10%	14%	4%	**42%**
RHP 8	8%	10%	2%	**20%**
RHP 9	9%	10%	1%	**8%**
RHP 10	6%	7%	1%	**25%**
RHP 11	6%	8%	1%	**19%**
RHP 12	7%	9%	2%	**36%**
RHP 13	7%	16%	10%	**142%**
RHP 14	18%	17%	-2%	**-8%**
RHP 15	39%	61%	21%	**54%**
RHP 16	14%	56%	42%	**300%**
RHP 17	21%	19%	-2%	**-9%**
RHP 18	18%	18%	0%	**0%**
RHP 19	9%	19%	10%	**113%**
RHP 20	18%	25%	7%	**40%**
Statewide Mean	**13%**	**19%**	**6%**	**48%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Centralization

Similar to collaboration to implement programs and services, there was an overall increase in network centralization related to sharing tangible resources such as office space, transportation services, or staff. From T_0 to T_1, network centralization increased from 31 percent to 40 percent, an increase of 29 percent across all RHPs (see Table 10.11). This too varied considerably by RHP, with several RHPs experiencing no change or a decrease in centralization, and others seeing an increase. For example, RHP 3 saw a decrease of 47 percent in network centralization, while RHP 19 had a 405 percent increase in centralization related to sharing tangible resources.

Table 10.11. Network Centralization by Regional Healthcare Partnership (RHP), Collaboration to Share Tangible Resources

	Centralization, T_0 (Pre-Program)	Centralization, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	43%	35%	-8%	**-18%**
RHP 2	20%	36%	16%	**83%**
RHP 3	31%	17%	-15%	**-47%**
RHP 4	21%	22%	2%	**8%**
RHP 5	33%	43%	10%	**29%**
RHP 6	24%	83%	59%	**244%**
RHP 7	42%	45%	3%	**7%**
RHP 8	13%	27%	13%	**101%**
RHP 9	31%	30%	-1%	**-2%**
RHP 10	20%	26%	6%	**30%**
RHP 11	30%	16%	-14%	**-46%**
RHP 12	14%	17%	3%	**24%**
RHP 13	31%	65%	34%	**108%**
RHP 14	55%	56%	2%	**3%**
RHP 15	62%	52%	-10%	**-15%**
RHP 16	30%	57%	27%	**88%**
RHP 17	32%	28%	-4%	**-13%**
RHP 18	33%	19%	-14%	**-42%**
RHP 19	19%	96%	77%	**405%**
RHP 20	33%	24%	-10%	**-29%**
Statewide Mean	**31%**	**40%**	**9%**	**29%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Mean Number of Ties per Organization

The mean number of ties per organization related to resource sharing also increased from 1.9 at T_0 and 2.6 at T_1 (see Table 10.12). Three RHPs experienced a decrease in the number of collaborations, while all others increased or remained stable. Again, interpretation of these results should take into account the total number of participating organizations.

Table 10.12. Mean Number of Ties per Organization by Regional Healthcare Partnership (RHP), Collaboration to Share Tangible Resources

	# of Organizations in RHP	Mean # of Ties, T_0 (Pre-Program)	Mean # of Ties, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	38	3.4	4.6	1.3	**38%**
RHP 2	16	2.2	2.9	0.7	**32%**
RHP 3	29	1.5	1.5	0.0	**0%**
RHP 4	25	1.4	2.1	0.6	**44%**
RHP 5	9	1.3	1.8	0.5	**40%**
RHP 6	27	3.2	5.0	1.8	**56%**
RHP 7	16	1.5	1.1	-0.4	**-25%**
RHP 8	16	1.3	1.5	0.3	**20%**
RHP 9	25	2.2	2.3	0.2	**7%**
RHP 10	30	1.6	2.0	0.4	**25%**
RHP 11	20	1.2	1.4	0.2	**18%**
RHP 12	37	2.4	3.2	0.9	**36%**
RHP 13	21	1.3	3.2	1.9	**143%**
RHP 14	12	2.0	1.8	-0.2	**-8%**
RHP 15	8	2.6	4.3	1.7	**65%**
RHP 16	9	1.1	4.4	3.3	**300%**
RHP 17	19	3.8	3.5	-0.3	**-8%**
RHP 18	10	1.6	1.6	0.0	**0%**
RHP 19	13	1.1	2.3	1.2	**114%**
RHP 20	8	1.3	1.8	0.5	**40%**
Statewide Mean		**1.9**	**2.6**	**0.7**	**39%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Diagrams

Figures 10.6 and 10.7 include network diagrams to demonstrate the change in network structure around collaboration to share tangible resources in RHP 15 from T_0 to T_1. The diagrams demonstrate that the number of ties between organizations increases and that by T_1, all organization have at least two inter-organizational partnerships. Appendix K includes network diagrams for all RHPs.

Figure 10.6. Network Diagram T_0, Regional Healthcare Partnership (RHP) 15, Collaboration to Share Tangible Resources[1]

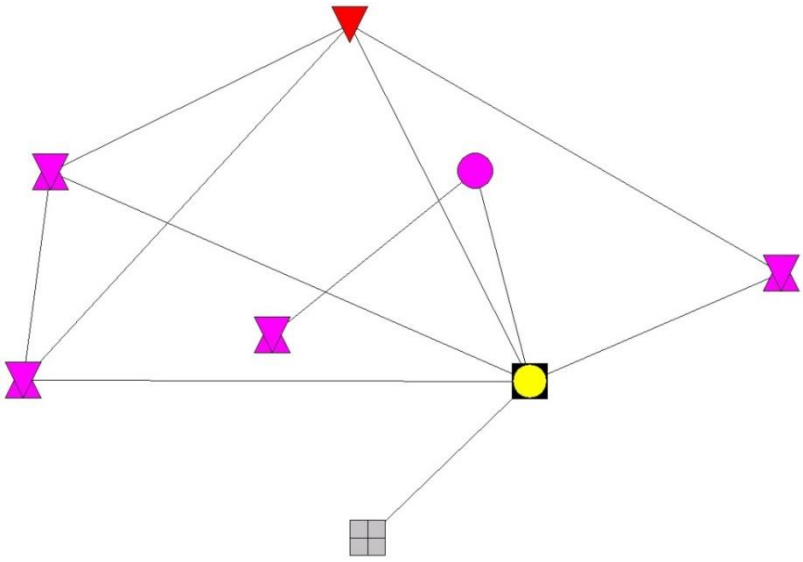
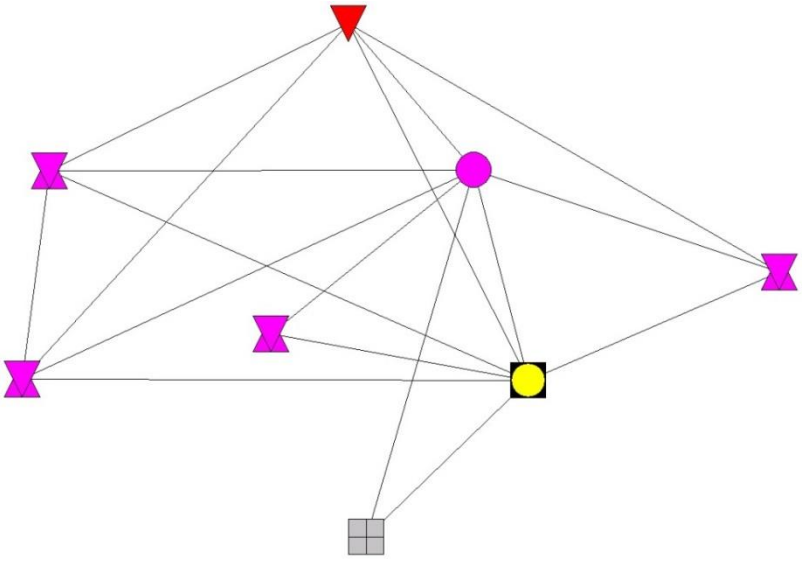
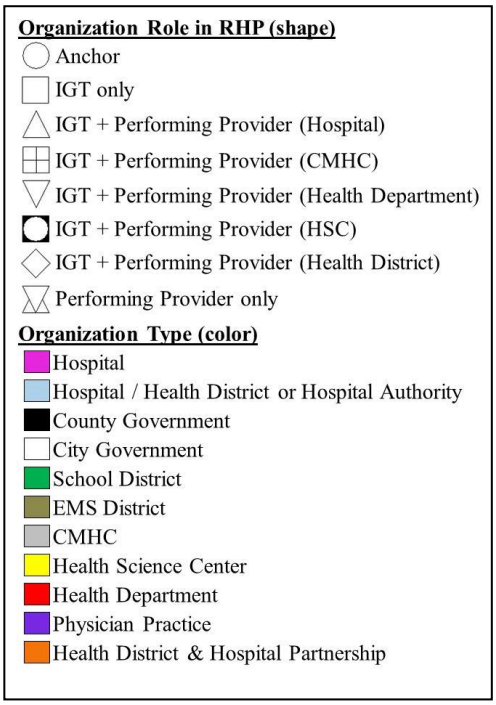


Figure 10.7. Network Diagram T_1, Regional Healthcare Partnership (RHP) 15, Collaboration to Share Tangible Resources[1]





[1]Diagrams are best viewed in color.

Collaboration around Formal Data Sharing

Here network density related to formal data sharing agreements between organizations is assessed. Data sharing might include formal agreements to transfer patient information electronically, joint participation in a regional health information exchange, or sharing the same electronic medical record system within health systems. Formal data sharing goes beyond individual records for referred patients to actual data exchange. According to the respondents, formal data sharing was accomplished through health information exchanges (HIEs) or statewide databases, in others two or more organizations agreed to share data for specific purposes. Respondents indicated that both patient data and aggregate data were shared. Aggregate data, for example, might include disease- or infection-related information shared between a hospital and a local health department for use in epidemiology.

Density

Across all RHPs, the mean density for formal data sharing agreements at T_0 was 10 percent, indicating that 10 percent of all possible data sharing relationships existed (see Table 10.13). At T_1, the mean overall density increased to 15 percent, representing a 104 percent increase in these agreements. Among RHPs, network density for formal data sharing agreements increased in most RHPs, although three RHPs experienced either stable density or a decrease in density (range of percent change from T_0 to T_1: (a 25 percent decrease to a 1185 percent increase). These increases may be based on the financial and organizational resources available to support data sharing and the subsequent creation of local HIEs as part of a DSRIP project, or they may result from the need to coordinate activities when multiple organizations are serving the same population to ensure no duplication of specific services.

Table 10.13. Network Density by Regional Healthcare Partnership (RHP), Formal Data Sharing Agreements

	Density, T_0 (Pre-Program)	Density, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	3%	4%	1%	**52%**
RHP 2	6%	7%	2%	**25%**
RHP 3	10%	13%	3%	**30%**
RHP 4	4%	9%	5%	**135%**
RHP 5	18%	29%	11%	**60%**
RHP 6	7%	9%	2%	**28%**
RHP 7	8%	12%	3%	**41%**
RHP 8	9%	10%	1%	**9%**
RHP 9	8%	10%	2%	**29%**
RHP 10	10%	9%	-1%	**-12%**
RHP 11	5%	6%	1%	**23%**
RHP 12	4%	6%	2%	**63%**
RHP 13	12%	15%	3%	**28%**
RHP 14	12%	12%	0%	**0%**
RHP 15	25%	64%	39%	**157%**
RHP 16	8%	25%	17%	**201%**
RHP 17	13%	14%	1%	**9%**
RHP 18	16%	22%	7%	**42%**
RHP 19	1%	17%	15%	**1185%**
RHP 20	14%	11%	-4%	**-25%**
Statewide Mean	**10%**	**15%**	**6%**	**58%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Centralization

Typically, information sharing would be examined only at the dyad level; however, it is interesting to look at centralization of data sharing related to DSRIP given the creation of local HIEs as part of several regions' funded DSRIP projects. There was an overall increase in network centralization related to formal data sharing agreements over the study period. From T_0 to T_1, network centralization increased from 26 percent to 37 percent, an increase of 40 percent across all RHPs with substantial variation among the RHPs (see Table 10.14).

Table 10.14. Network Centralization by Regional Healthcare Partnership (RHP), Formal Data Sharing Agreements

	Centralization, T_0 (Pre-Program)	Centralization, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	29%	38%	9%	**31%**
RHP 2	22%	34%	13%	**58%**
RHP 3	34%	46%	12%	**34%**
RHP 4	14%	18%	4%	**26%**
RHP 5	33%	38%	5%	**14%**
RHP 6	34%	32%	-2%	**-6%**
RHP 7	29%	25%	-4%	**-13%**
RHP 8	28%	19%	-9%	**-31%**
RHP 9	19%	21%	2%	**11%**
RHP 10	23%	20%	-3%	**-11%**
RHP 11	20%	18%	-1%	**-7%**
RHP 12	17%	15%	-2%	**-14%**
RHP 13	26%	72%	46%	**181%**
RHP 14	40%	40%	0%	**0%**
RHP 15	24%	29%	5%	**20%**
RHP 16	21%	96%	75%	**350%**
RHP 17	29%	22%	-8%	**-26%**
RHP 18	36%	28%	-8%	**-23%**
RHP 19	8%	99%	90%	**1087%**
RHP 20	38%	24%	-14%	**-38%**
Statewide Mean	**26%**	**37%**	**10%**	**40%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by $(T_1-T_0)/T_0$. Due to rounding, not all numbers add precisely.

Mean Number of Ties per Organization

The mean number of ties per organization related to formal data sharing also increased from 1.4 at T_0 and 2.1 at T_1 (see Table 10.15). Two RHPs experienced a decrease in the number of collaborations, one had no change, and all others had an increase. Again, interpretation of these results should take into account the total number of participating organizations.

Table 10.15. Mean Number of Ties per Organization by Regional Healthcare Partnership (RHP), Formal Data Sharing Agreements

	# of Organizations in RHP	Mean # of Ties, T_0 (Pre-Program)	Mean # of Ties, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	38	1.0	1.5	0.6	**57%**
RHP 2	16	0.9	1.2	0.2	**25%**
RHP 3	29	2.8	3.7	0.9	**31%**
RHP 4	25	0.9	2.1	1.2	**136%**
RHP 5	9	1.3	2.0	0.8	**60%**
RHP 6	27	1.9	2.4	0.5	**28%**
RHP 7	16	1.3	1.8	0.5	**40%**
RHP 8	16	1.4	1.5	0.1	**9%**
RHP 9	25	1.9	2.5	0.6	**29%**
RHP 10	30	2.8	2.5	-0.3	**-12%**
RHP 11	20	0.8	1.1	0.2	**25%**
RHP 12	37	1.2	2.1	0.8	**65%**
RHP 13	21	2.4	3.0	0.7	**28%**
RHP 14	12	1.3	1.3	0.0	**0%**
RHP 15	8	1.8	4.5	2.8	**157%**
RHP 16	9	0.1	2.0	1.9	**2899%**
RHP 17	19	2.3	2.5	0.2	**9%**
RHP 18	10	1.4	2.0	0.6	**43%**
RHP 19	13	0.2	2.0	1.8	**1199%**
RHP 20	8	1.0	0.8	-0.3	**-25%**
Statewide Mean		**1.4**	**2.1**	**0.7**	**48%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Diagrams

Figures 10.8 and 10.9 include network diagrams to demonstrate the change in network structure around formal data sharing agreements in RHP 15 from T_0 to T_1. The diagrams show that more formal data sharing agreements existed at T_1 than at T_0. There were also two organizations that had no formal data sharing agreements at T_0, who developed at least two of these by T_1. Appendix K includes network diagrams for all RHPs.

Figure 10.8. Network Diagram T_0, Regional Healthcare Partnership (RHP) 15, Formal Data Sharing Agreements[1]

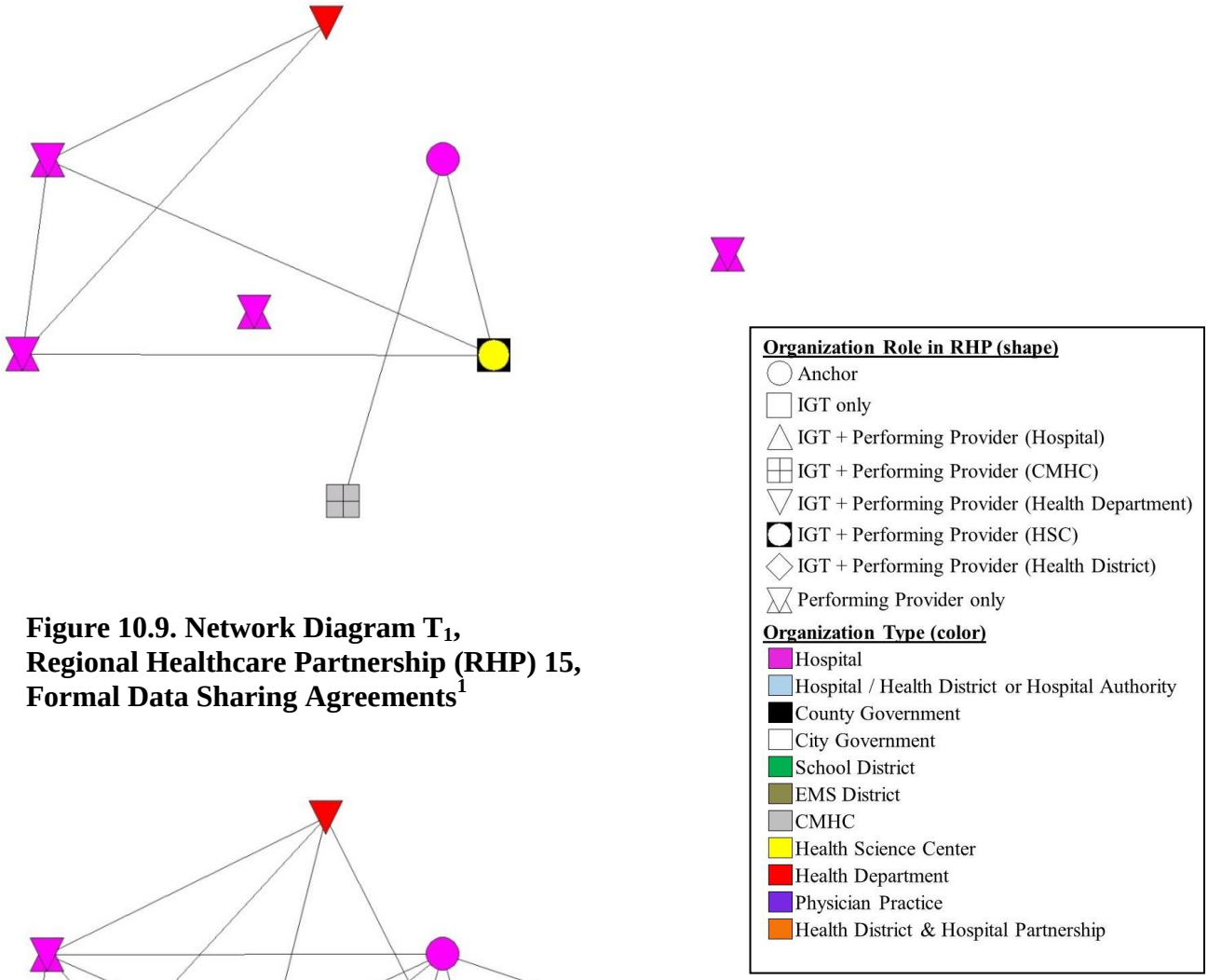
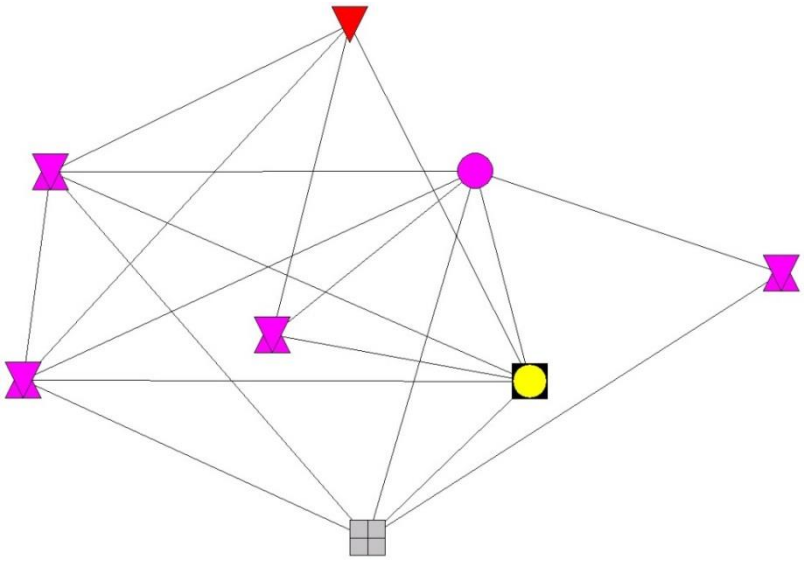


Figure 10.9. Network Diagram T_1, Regional Healthcare Partnership (RHP) 15, Formal Data Sharing Agreements[1]



[1]Diagrams are best viewed in color.

Network Multiplexity

Multiplexity refers to the strength of relationships between organizations. Organizations that share more than one type of tie are considered to have more complex collaborative partnerships, which are understood to be an indicator of relationship strength. Multiplex ties between organizations suggest stronger relationships because if one of those ties were to erode, others would remain, keeping those organizations connected (Provan et al., 2007).

In this study, multiplexity was assessed by adding together the three types of ties described earlier–collaboration to deliver programs and services, sharing tangible resources, and formal data sharing agreements. The descriptive statistic used to represent network multiplexity is the mean number of ties between two organizations. The value for strength of ties can only range between one and three, since strength is not measured for non-existent ties (Isett & Provan, 2005). For example, two organizations that work together to deliver programs and services *and* share tangible resources would have two ties, compared with two organizations that only share tangible resources, who would have one tie. In this case, the relationship with two ties would be interpreted as a greater strength of tie than the dyad of organizations with only one.

Statewide, the mean strength of ties between organizations increased slightly from 1.6 at T_0 to 1.7 at T_1, indicating that on average organizations are experiencing an increase in the complexity of their collaboration with other organizations. Across RHPs, the change from T_0 to T_1 varied, with three RHPs having a slight decrease and all others seeing an increase (range of percent change: a decrease of 9 percent to an increase of 44 percent) (see Table 10.16).

Table 10.16. Strength of Ties by Regional Healthcare Partnership (RHP), Mean Strength of Ties between Organizations

	Mean, T_0 (Pre-Program)	Mean, T_1 (2013)	Change, Raw[1]	Change, Percent[2]
RHP 1	1.8	1.7	-0.1	**-5%**
RHP 2	1.5	1.6	0.1	**7%**
RHP 3	1.7	1.8	0.0	**2%**
RHP 4	1.4	1.6	0.2	**11%**
RHP 5	1.7	1.7	0.0	**2%**
RHP 6	1.7	1.8	0.1	**5%**
RHP 7	1.9	2.0	0.1	**4%**
RHP 8	1.6	1.6	0.0	**1%**
RHP 9	1.6	1.7	0.1	**7%**
RHP 10	1.4	1.5	0.1	**5%**
RHP 11	1.3	1.3	0.0	**1%**
RHP 12	1.3	1.5	0.2	**13%**
RHP 13	1.7	1.8	0.0	**3%**
RHP 14	1.6	1.5	-0.1	**-6%**
RHP 15	2.1	2.4	0.3	**13%**
RHP 16	1.4	2.0	0.6	**44%**
RHP 17	1.9	2.0	0.1	**4%**
RHP 18	1.9	1.7	-0.2	**-9%**
RHP 19	1.2	1.6	0.4	**36%**
RHP 20	1.6	1.6	0.1	**4%**
Statewide Mean	**1.6**	**1.7**	**0.1**	**6%**

[1] The raw change is the percentage point change in the measure from T_0 to T_1, calculated by (T_1-T_0). Due to rounding, not all numbers add precisely.
[2] The percent change is the change in the measure in the context of the starting point (T_0), calculated by (T_1-T_0)/T_0. Due to rounding, not all numbers add precisely.

Network Diagrams

Figures 10.10 and 10.11 include network diagrams to demonstrate the changes in tie strength, or multiplexity, in RHP 15 from T_0 to T_1. To demonstrate tie strength, the diagrams have thicker lines between organizations with stronger ties. For example, organizations that collaborate to deliver services, share tangible resources, and have a formal data sharing agreement would have the thickest line, and organizations only collaborating to delivery services would have the thinnest line. New lines demonstrate new ties between organizations. Appendix K includes network diagrams for all RHPs.

Figure 10.10. Network Diagram T_0, Regional Healthcare Partnership (RHP) 15, Mean Strength of Ties between Organizations[1]

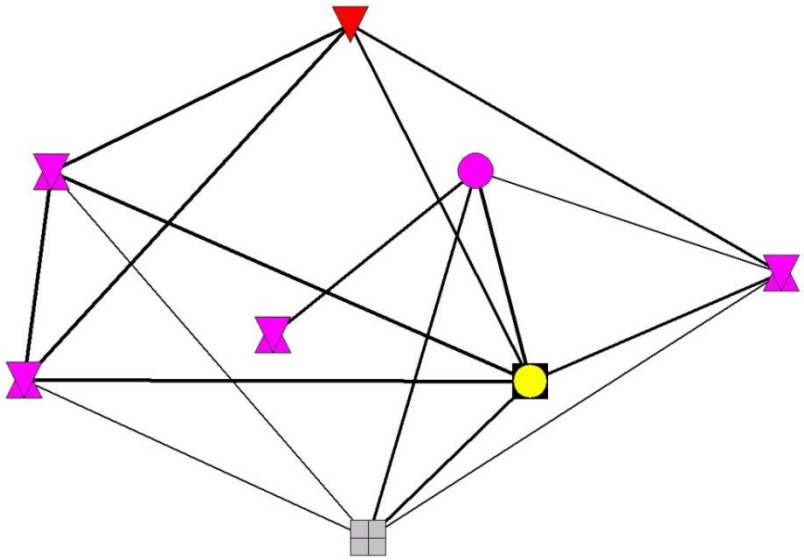
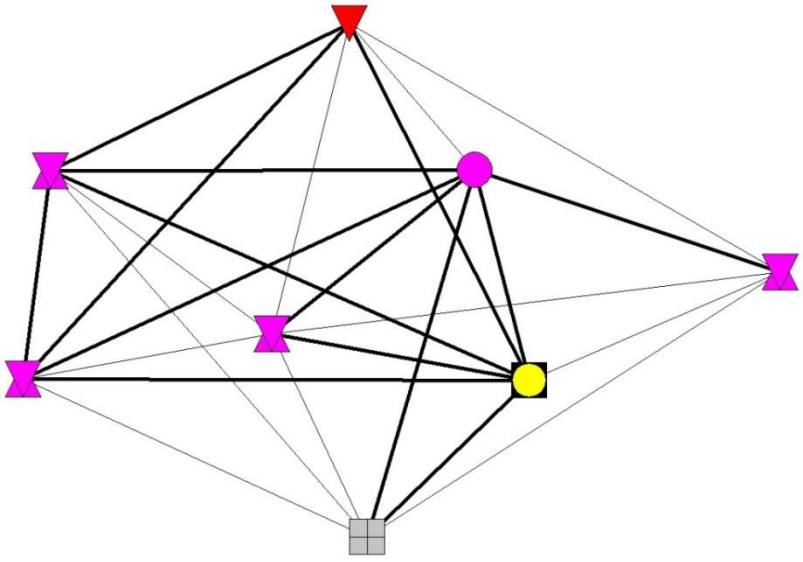
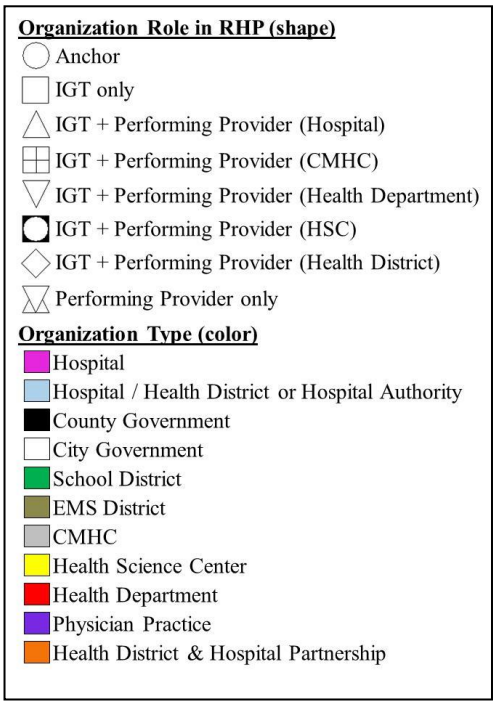


Figure 10.11. Network Diagram T_1, Regional Healthcare Partnership (RHP) 15, Mean Strength of Ties between Organizations[1]





[1]Diagrams are best viewed in color. Thicker lines represent stronger ties between two organizations.

CONCLUSION

Evaluation Goal 9 aims to evaluate the extent to which the establishment of RHPs increased collaboration among healthcare organizations and stakeholders in each RHP. The preliminary analysis of the inter-organizational network data collected to assess Evaluation Goal 9 suggests several key changes in collaboration from pre-implementation to implementation of the Program in 2013 (T_0 to T_1).

- Across the state, network density, centralization, and the mean number of ties any organization has increased from T_0 to T_1.

  The overall change in network density follows the initial hypothesis that density would increase, as this would be expected as networks generally develop over time. Most RHPs saw an increase in the number of collaborative relationships following the creation of the RHPs. According to survey respondents, the DSRIP program catalyzed new collaborations around transformative projects. The nature of DSRIP would support an increase in collaboration among organizations, as the types of transformative projects encouraged would require organizations to work together. For the regions that experienced a decrease or stabilization of density, this could be that they already had high levels of network density at T_0 or that the kinds of collaborations supported by DSRIP led organizations to work more closely with specific types of providers rather than others.

  While most RHPs saw an increase in network density, there was variation among them. Although voluntary, there were large incentives to participate in the RHPs, and the RHPs varied regarding existing collaborative relationships among organizations. In some cases, the RHPs came together fairly quickly based on historical relationships among counties and organizations within them—particularly those who were eligible to provide IGT matching funds and serve as an RHP anchor institution; in other regions, politics around community composition, concomitant resources, and power caused the negotiation of RHP boundaries to take longer. This explains some of the variation, where networks had relatively higher density to begin with, they had relatively less opportunity for dramatic increases in number of ties and may have recognized stability or only slight increases in density following DSRIP. For example, decreases in resource sharing may stem from organizations' need to use their resources to support DSRIP projects, which may have diverted them from previous collaborations. Whereas RHPs with lower starting density had more opportunity for substantial changes in total number of ties and network density as implementation progressed.

  The existing relationships among organizations in the RHPs varied in terms of centralization as well. In some regions, collaborations were highly centralized, with one or two organizations serving as the focal point of collaboration, while others were decentralized with multiple organizations sharing that role. The state of these networks prior to the formalization of the RHPs explains some of the variation in changes following DSRIP implementation. Overall, the state witnessed an increase in network centralization; this change was dramatic in some of the regions that were previously decentralized as they added

the role of an anchor institution or key IGT entities. In other regions that were already fairly centralized, the changes were not as great, and still other RHPs that began as highly centralized actually saw decreases in centralization as other organizations penetrated those networks' collaborative activities.

- While statewide increases across all network measures were observed, the largest increase in density, centrality, and total number of ties related to formal data sharing.

  The substantial increases in formal data sharing derive from a few key factors. First, formal data sharing was low within all regions prior to the establishment of the RHPs, which provided much room for growth. Second, the nature of the projects supported by the Program either necessitated or encouraged data sharing among members to ensure coordination and continuity of services between organizations. Finally, several of the RHPs took the opportunity of having resources available through DSRIP projects to establish local or regional HIEs.

- Although the RHPs recognized an overall increase in network density, the strength of ties between organizations was much less pronounced.

  The collaborative relationships among organizations increased overall across the state. The lack of a parallel increase in tie strength suggests that organizations that already had collaborative relationships in place prior to the establishment of the RHPs generally did not change the nature of their relationships as part of Program implementation. That is, in general there was a greater increase in new relationships compared to strengthening of existing relationships.

Limitations

This interim report provides a preliminary look at changes in the collaborative relationships among organizations within each RHP and across the state as a whole. In considering these early findings, it is important to acknowledge several limitations of the data.

First, the survey was completed (in most cases) by one respondent per organization. Although the anchor institutions worked with the organizations directly to identify the appropriate respondent who would be knowledgeable of the relationships asked about in the survey, it is improbable that one person would know all of the collaborative activities happening across an organization—particularly for the larger organizations. Some organizations mitigated this by having several people participate in the phone call when the survey was administered. In other cases, respondents answered "I don't know" to certain questions, and the evaluation team followed up by email to give them a chance to find the right information. In a few cases, extraordinary turnover within organizations resulted in a significant loss of institutional memory, and the historical relationships remained unknown (and show in the data as no relationship). Consequently, the data should be interpreted as likely under-representing the relationships that actually exist, which means the conclusions are very conservative in that respect.

Second, a 100 percent response rate was not achieved. For network analysis, a 100 percent response rate is ideal because it allows for confirmation of relationships and analysis of directionality within a relationship. This sample had an overall response rate of 84 percent, which is acceptable within the existing literature. The analysis accommodates the unconfirmed relationships by symmetrizing the data; essentially, this means that if one organization reported collaborating with another organization, it is treated as a confirmed relationship (meaning the relationship was identified by both organizations). Since a 100 percent response rate was not attained in every RHP, there are missing data within some of the RHPs. Lack of a tie between two organizations could be misleading if neither organization participated in the survey, as a tie could exist but was not documented.

A final limitation, emphasized by survey respondents, is that the sampling frame did not include other organizations that may have been key collaborators in DSRIP activities. Organizations that were ineligible to participate, as performing providers, such as federally qualified health centers or social service providers, were often noted as key collaborators on projects. Because of the sheer number of RHP members participating in DSRIP, the sampling frame for the survey had to be limited; however, this limitation fails to represent other categories of organizational partners who may have key roles in the DSRIP activities and system transformation that are not captured by this part of the evaluation. The case studies conducted for Evaluation Goals 6–8 are soliciting this type of information from the organizations implementing patient navigation projects, which will enhance the understanding of what types of organizations are important to DSRIP besides eligible performing providers, as well as the extent to which these data may be important to collect in future evaluation efforts.

CHAPTER 11
LEARNING COLLABORATIVES
AS A QUALITY IMPROVEMENT PROCESS

INTRODUCTION

The learning collaborative is a model of shared learning that brings together teams of healthcare providers and other stakeholders to achieve quality improvement goals established by the team (Institute for Healthcare Improvement, 2003). Learning collaboratives are a core component of the Texas Healthcare Transformation and Quality Improvement Waiver Program waiver ("Program"), and are implemented through the Regional Healthcare Partnerships (RHPs).

The guidance within the RHP Planning Protocol included key elements for learning collaboratives and continuous quality improvement (provided by the Centers for Medicare and Medicaid Services (CMS)), as well as optional project milestones and metrics to assist RHPs in measuring progress of their learning collaborative.[30] On July 9, 2013, the Texas Health and Human Services Commission (HHSC) conducted a webinar, led by Fran Griffin with the Center for Medicare and Medicaid Innovation, on models for improvement collaboratives. The webinar covered improvement models such as the Institute for Healthcare Improvement (IHI) Breakthrough Series Model and provided details on learning collaborative structure and implementation.

Under the Program, each RHP was given a tier designation based on the distribution of the State's low income population (below 200 percent of the Federal Poverty Limit) residing within the RHP (see Table 11.1). RHPs that were categorized as Tier 1, 2, or 3 were required to develop region-wide learning collaboratives as a mechanism for quality improvement and inter-organizational learning across an RHP. Tier 4 RHPs were not required to lead a learning collaborative if the anchor institution did not have the administrative capacity to do so.

Table 11.1 Regional Healthcare Partnership (RHP) Tiers

RHP Tier	RHPs in Tier	Number of RHPs
1	3	1
2	6, 9, 10	3
3	1, 2, 4, 7,12, 15	6
4	5, 8, 11, 13, 14, 16, 17, 18, 19, 20	10

[30] https://www.hhsc.state.tx.us/1115-docs/RHP/RHP-techcorrects.pdf

All 20 RHPs submitted a Learning Collaborative Plan during demonstration year (DY) 2. The RHPs that developed a learning collaborative were required to submit descriptions of the following:

- Overview of the learning collaborative,
- Aims/goals of the learning collaborative,
- Improvement methodology chosen for the learning collaborative,
- Structured leadership roles within the learning collaborative,
- Measurement plan for monitoring continuous quality improvement (CQI) processes and quality outcome data including Category 3 and Category 4 outcomes, and
- Learning system design.

Tier 4 RHPs that did not develop their own learning collaborative had to submit plans for participating in the statewide learning collaborative or in another RHP's learning collaborative.

The RHPs submitted annual reports for DY3 on December 15, 2014. HHSC requested as part of the annual report a narrative description of learning collaborative activities, any updates to the Learning Collaborative Plan, and any quality, health, and cost measures that were part of learning collaborative activities. When the guidance for three-year projects was issued in January 2014, a new project option was included to allow for Delivery System Reform Incentive Payment (DSRIP) funding of learning collaborative activities.

The evaluation of the RHP learning collaboratives is closely linked to activities under Evaluation Goal 9 and those under Evaluation Goals 6–8. In Evaluation Goal 9 (see Chapter 10) the RHPs were asked to identify changes in collaboration brought about by the Program and DSRIP specifically. Evaluation Goals 6–8 (see Chapter 13) explore implementation of DSRIP projects across the state in an effort to evaluate project and patient outcomes.

METHODS

Data for evaluation of the learning collaboratives' efforts was extracted from four sources: the RHP Learning Collaborative Plans, the DY3 RHP annual reports, the DSRIP project narratives as of October 2014, and qualitative data associated with Evaluation Goals 6–8 and 9.

Learning Collaborative Plans

The following data elements were extracted from the RHP Learning Collaborative Plans:

- Status of plan submission,
- Whether the RHP is leading their own learning collaborative,
- Whether DSRIP project funding was used for the learning collaborative,
- Whether the RHP planned to participate in the learning collaborative activities of any other RHPs,

- Whether the learning collaborative is open to outside members (e.g., outside RHP members or other regional stakeholders),
- The improvement methodology employed (e.g., IHI Breakthrough Series Model),
- The leadership structure within the learning collaborative,
- Whether CQI partners were or would be engaged,
- Whether there were defined management roles in the learning collaborative,
- Whether member participation was required,
- A summary of the measurement plan/strategy,
- Whether designated topics were already defined in the plan,
  - If yes, which topics?
- Whether there was a plan for identifying the first or new topics,
- A summary of the learning collaborative process (e.g., how information was disseminated, planned frequency of meetings, etc.), and
- Whether there was a schedule for the first meeting.

Demonstration Year 3 Annual Report

The information available in the narrative updates from the DY3 RHP annual reports was somewhat less consistent than the information available in the Learning Collaborative Plans. When available, the following data elements were extracted:

- Number of learning collaborative groups formed,
- Number of events,
- Types of events (e.g., in-person meetings, webinars, teleconferences, etc.),
- Number of participants at the events,
- Topics addressed through the learning collaborative,
- Any participation in learning collaborative activities of other RHPs,
- Any updates to the Learning Collaborative Plan,
- Identified measures, and
- Frequency of reporting on measures.

When possible, data were coded numerically (e.g., documentation of whether an RHP is leading their own learning collaborative was coded as a 0 for *no* or 1 for *yes*). When numerical coding was not possible, descriptive summaries were documented in Excel for content analyses.

DSRIP Project Narratives

Each DSRIP project narrative effective October 1, 2014 was reviewed. Each project's plan for participation in the learning collaborative process was gathered and organized into five groups:

- Statewide learning collaborative participation,
- Region-wide learning collaborative participation,
- Topic-specific learning collaborative participation,

- Organization-specific learning collaborative participation, and
- None specified.

An updated list of approved DSRIP projects, including the newly approved 3-year projects, was also reviewed to identify if any RHP had a new approved DSRIP project related to their learning collaborative.[31] The list was reviewed specifically for projects under project option 1.10 – Enhance Performance Improvement and Reporting Capacity.

Evaluation Goals 6-8: Case Study Results

Finally, in the context of the case studies outlined to address Evaluation Goals 6–8 (see Chapter 13), staff at different levels involved in DSRIP-funded care navigation projects was asked about their participation in any learning collaborative activities and whether or not they celebrated successes.

RESULTS

The Excel spreadsheets were used to tabulate available quantitative data. Qualitative data, such as summaries of learning collaborative activities, quality improvement topics, and identified measures, were content-analyzed for patterns of activities across RHPs. The responses from the comparative case studies were analyzed using ATLAS.ti qualitative software.

Overall Profile of RHP Learning Collaboratives

All 20 RHPs submitted Learning Collaborative Plans with details about their planned learning collaborative activities or their expected participation in other RHP learning collaboratives. The majority of RHPs (75 percent) submitted plans to lead their own learning collaboratives (see Table 11.2). This includes all Tier 1, 2, and 3 regions, as well as five (50 percent) of the Tier 4 regions that were not required to lead their own learning collaborative if their administrative capacity was limited. Two Tier 4 regions implemented a "hybrid" model for their learning collaborative where they committed to implementing limited in-RHP learning collaborative activities (limited primarily by administrative capacity, but still focusing on core concepts of continuous quality improvement), and providing opportunities for RHP members to actively participate in the learning collaborative activities of other RHPs.

[31] Approved project list available at https://www.hhsc.state.tx.us/1115-docs/050815/Active-DSRIP-Projects-with-Cat-3-20150505.xls (posted 5/8/2015).

Table 11.2. Status of Regional Healthcare Partnership (RHP) Learning Collaborative Implementation Strategies (n=20)

Implementation Strategies	Number of RHPs
Leading RHP learning collaborative	15
Developed hybrid model with limited in-RHP learning collaborative activities and participation in another RHP learning collaborative	2
Participating in another RHP learning collaborative and/or the statewide learning collaborative (eligible Tier 4 RHPs only)	3

Three of the RHPs indicated in their original Learning Collaborative Plan that they had an approved DSRIP project for their learning collaborative activities. Although the option for adding a three-year project to support learning collaborative activities was made available, it does not appear that any RHPs received this additional funding.

RHP Learning Collaborative Plans

This section summarizes the content of the Learning Collaborative Plans for those RHPs either leading their own learning collaborative or having developed a hybrid model with some in-region learning collaborative activities (N=17). All RHPs indicate plans for using the IHI Breakthrough Series Model with Plan-Do-Study-Act or Plan-Do-Check-Act cycles for continuous quality improvement.

Learning Collaborative Leadership and Structure

The RHP anchor institutions provide administrative leadership for their learning collaboratives, including meeting planning, coordination of communication, and data monitoring. Some RHPs outlined structured staffing for their learning collaborative groups. For example, one RHP identified two separate learning collaborative groups, each with support from a director, project manager, coordinator, and an improvement advisor. Another RHP indicated that they planned to hire a director to lead their learning collaborative activities. Seven of the RHPs indicated that they had an executive or advisory committee responsible for learning collaborative oversight, with some helping to identify topics for the quality improvement efforts.

All RHPs planned to develop learning collaborative cohorts, workgroups, or quality improvement teams to implement learning collaborative activities. These groups are named differently across RHPs and, for the purpose of this report, will be referred to as cohorts. The number of cohorts in an RHP tends to be related to the number of learning collaborative topics identified (see Table 11.2 for more information on the selected topics). These cohorts generally have an individual leading the quality improvement process; the lead may be a staff person from the RHP or a volunteer performing provider representative.

Learning Collaborative Participants

In general, participants in the RHP learning collaboratives include performing providers participating formally in the Program through Uncompensated Care (UC) or DSRIP, or in both. In eight of the RHPs, it was clear that RHP member participation was required. Others either stated that membership was voluntary or did not state either way. Performing providers may participate as members of a learning collaborative group and, in some regions, can serve as group leaders.

Twelve RHPs noted that their learning collaborative was open to outside members such as other stakeholders within their region (e.g., providers not formally participating in the RHP or Program) and participants from other RHPs. This information was not specifically requested in the plan so this number may underestimate the number of learning collaboratives with open membership.

Learning Collaborative Topics

Twelve of the RHPs identified learning collaborative topics in their plan. The number of identified topics ranged from one to five, with some regions having a very specific clinical focus area (e.g., specialty care access) and others identifying systems and processes as targets for quality improvement (e.g., increasing community and patient engagement). In total, there were 19 topic areas identified across RHPs (see Table 11.3). Four RHPs identified improving patient and community engagement as a topic area—the only topic with greater than three RHPs identifying it as a focus. Access to primary care, patient care navigation, and DSRIP project implementation, strategic planning, and/or reporting were identified by three RHPs. The remaining topics were identified by only one or two RHPs as focus areas. In at least one region, these were identified as "candidate topics" and, therefore, not definite topics to be undertaken by the learning collaborative.

Table 11.3. Quality Improvement Topics Identified in the Regional Healthcare Partnership (RHP) Learning Collaborative Plans

Learning Collaborative Topic	Number of RHPs Designating Topic
Improve patient and community engagement	4
Access to primary care	3
Care navigation	3
DSRIP project implementation, strategic planning, and/or reporting	3
Behavioral health access and/or integration	2
Care transitions	2
Chronic care prevention and management	2
All-cause 30 day readmission rates	1
Diabetes in adult patients	1
Emergency department utilization	1
Health promotion and disease prevention	1
Measurement strategies	1
Medical homes	1
Palliative care	1
Potentially preventable readmissions	1
Primary care expansion	1
Right care, right setting	1
Access to specialty care	1
Tele-health/tele-psychiatry	1

In RHPs where learning collaborative topics were not identified (N=5), the plan included a process for identifying the learning collaborative topics for their region. This typically included a process through which the advisory body would identify DSRIP project areas undertaken by a majority of performing providers in the region, and select those as topics for the learning collaborative. Other RHPs suggest there would be a process for engaging RHP members in identifying topics.

Learning Collaborative Measurement Strategy

The RHPs have varying strategies for data measurement, and each had differing levels of specificity outline in the Learning Collaborative Plan. The RHPs that had not yet identified learning collaborative topics did not outline specific measures, but most noted that they would identify measures based on the topics eventually selected. Most of these RHPs indicated a plan to focus on Category 3 and/or Category 4 measures.

Among those RHPs having already selected topics for their learning collaborative, the measurement strategies typically included routine data submission (generally monthly or quarterly) on Category 3 and/or Category 4 measures common to most of the performing providers, or measures specific to their topic area. When multiple measures were available, some RHPs planned to leave the specific measurement plan up to the learning collaborative cohorts,

with some general guidelines provided (e.g., that each cohort would select one to three measures to report).

The mechanism by which reporting occurred also varied by RHP. Some RHPs indicated that they were using a web-based data management system that would allow performing providers to submit and review data electronically. Other RHPs suggested that they would prepare data collection tools for use in the learning collaborative.

RHP Learning Collaborative Updates in DY3 Annual Report

All RHPs that planned to organize and host their own learning collaboratives reported learning collaborative activities during DY3. The RHPs held in-person meetings, webinars, and teleconferences to conduct learning collaborative activities. Not all regions reported the number of events held, but the range is wide with some RHPs holding only one to three events (primarily in-person) and others reporting over 40 events (some in-person and others via teleconference) in DY3.

RHPs report high levels of attendance at the learning collaborative events. For example, one RHP had 14 out of 17 performing providers participate in their learning collaborative meeting, while another reported having over 350 participants from all across the state. Although participation is generally high, the RHPs report challenges related to maintaining momentum and engagement in learning collaborative activities. One RHP described:

> *"Learning Collaborative activities are valuable and truly capture the spirit of the waiver as providers work together on system-level issues which are often outside the bounds of their specific DSRIP projects. Committing time and resources to these 'above and beyond' endeavors can be challenging for providers and anchors."*

Other RHPs expressed similar challenges, particularly those with a larger number of rural providers. One rural RHP stated:

> *"It has been challenging to garner cohort participation from the providers….Part of this challenge is that [many] providers…are rural and wear many hats; therefore, they may not have the time and resources to add even more to their plate. This leads us to find creative ways to meet the learning collaborative goals for our region while addressing the needs of the regional providers."*

This RHP reported modifying their Learning Collaborative Plan to include a "DSRIP Road Trip" to take learning collaborative activities into rural communities and engage more providers.

Among the five RHPs that had not identified learning collaborative topics in their plan, four identified focused topic areas (ranging from one to three topics per RHP). These included:

- Behavioral health access and/or integration (three RHPs),
- Primary care (one RHP),

- Readmissions (one RHP),
- Chronic care prevention and management (one RHP),
- Gaps in care across DRIP programs to identify where DSRIP is not meeting community needs (one RHP), and
- DSRIP reporting on outcome measures (one RHP).

The fifth RHP did not report a specific focus of their learning collaborative but did indicate that their learning collaborative activities had focused on shared learning around DSRIP.

The three Tier 4 RHPs that did not lead their own regional learning collaborative each participated in the learning collaboratives of other RHPs and/or in the statewide learning collaborative held in September 2014. One of these RHPs participated in the learning collaborative activities of a nearby RHP; another participated in the activities of four other RHPs. Despite not formally organizing a learning collaborative, the third RHP reported holding meetings for participating performing providers to share information and participate in group problem solving to address challenges.

Not all RHPs reported on quality, health, and cost measures in their DY3 annual report. This is likely due to DY3 being the first year in which most learning collaborative activities were implemented, with all RHPs expecting these activities to extend into DY4 and DY5. Where possible, a summary of these measures and progress in measurement and outcomes will be summarized in the final evaluation report.

DSRIP Project Narratives

The project narratives for the 1,476 active DSRIP projects on October 1, 2014 were reviewed for any reference to the project staff's participation in any learning collaborative. Participation was grouped into five categories: statewide, region-wide, topic-specific, organization specific, or none specified (see Table 11.4). Projects may have indicated that they intended to participate in multiple learning collaboratives. Therefore, the column total does not equal the total number of projects reviewed. If a project indicated they planned to participate in a learning collaborative but did not specify the geographic or organizational context, it was assumed to be a region-wide collaborative.

Overall, 91 percent of the projects indicated that they would participate in a learning collaborative. Most (84 percent) indicated that they would participate in a region-wide learning collaborative and 33 percent indicated they would participate in a topic-specific learning collaborative. Fewer (seven percent) indicated they planned to participate in the statewide learning collaborative. One hundred and thirty-eight (138) projects did not indicate any plan to participate in a learning collaborative. However, while project narratives effective October 2014 were examined, the narratives may not have been updated since the original plan was submitted. Therefore, while 138 projects did not identify participation in a learning collaborative, the project staff may still be participating.

Table 11.4. DSRIP Project Participation in the Learning Collaboratives

Learning Collaborative Categories	N	Percent
Statewide	101	7%
Region-wide	1,239	84%
Topic-specific	483	33%
Organization-specific	9	1%
None Specified	138	9%
TOTAL	1,338	91%

Comparative Case Study

Under Evaluation Goals 6–8, a comparative case study design has been used to evaluate implementation of DSRIP-funded patient care navigation projects at 10 sites across the state. The case study included interviews with key project informants, patient care navigators, and other front line staff at organizations implementing projects related to reducing emergency department use among high utilizing patients. In these interviews, key informants (typically executives) were asked, "Is this project involved in any [1115] waiver-related learning collaboratives?" and project staff was asked, "Do you compare what you're doing in care navigation with any other organizations? Share best practices?" Based on responses to these two questions, the following summarizes findings from these questions. A complete summary of findings in the case study is available in Chapter 13.

- Three sites mentioned that the learning collaboratives had been helpful in developing their programs and getting information on how others have accomplished shared goals. For example, one site representative noted:

  "*We really believe in the learning collaboratives that are being promoted by all the regions to the anchors. We certainly participate actively in those. Those have been very helpful because we do know that we're not the only ones doing this. … We want to hear how they are doing things.*"

- Of those that did participate in learning collaboratives, at the time of the initial site visits (fall 2013 to fall 2014) most had *"corporate level"* participants versus front line staff, although in follow up interviews frontline staff has more commonly mentioned such participation.
  - During the initial site visits, most patient care navigators did not participate or know what a learning collaborative was.
  - Only two sites had patient care navigators and frontline staff involved in learning collaboratives.
- One small non-system site responded that they did not participate in learning collaboratives.
- Learning collaborative information, at times, may be hard to understand and disseminate broadly.
  - One large urban hospital system has a team that listens to the learning collaborative calls and provides the rest of the group with any useful information regarding DSRIP project

activities. However, they noted that the information may not always translate well to those not actively participating in the learning collaborative, stating:

"They're very useful. The only thing is, sometimes, what we do is we participate; we listen. Then we let our team digest it a little bit for us, and then give us the DSRIP for Dummies book. Even sometimes that language just escapes me."

CONCLUSION

Regional learning collaboratives are underway across the RHPs. The learning collaboratives vary in terms of quality improvement topic areas and in implementation and measurement strategies, suggesting that the RHPs are focusing learning collaborative activities in a way that meets provider needs. All RHPs are hosting their own and/or participating in learning collaborative activities of other regions. Early reports indicate that the learning collaboratives are experiencing high levels of participation, but the anchors report challenges in maintaining this when providers face a number of priorities in terms of project implementation and reporting. The case study results indicate that learning collaborative participation may be more at the management level of organizations than at the project level, and that communication between these levels may not always be productive when sharing information for and about the learning collaboratives. As of the date of this report, quality improvement outcomes are not yet available but are expected for the final report.

Limitations

With the exception of the case study analysis, this evaluation of the learning collaboratives focuses primarily on document review. The Learning Collaborative Plans included consistent information across RHPs, allowing for a more structured analysis of the elements of the planned learning collaborative activities. The DY3 annual reports were highly variable, with some including extensive details about learning collaborative activities and others only referencing activities that occurred. This limits the current review by preventing a full analysis of activities across all RHPs. However, a more detailed analysis is expected for the final report, once RHP learning collaborative activities have been fully implemented.

CHAPTER 12
DSRIP COMPARATIVE CASE STUDY: EVALUATION GOALS 6, 7, AND 8

GOAL SUMMARY

As outlined at the beginning of this document, projects funded through the Delivery System Reform Incentive Pool (DSRIP) are intended to enable Regional Healthcare Partnerships (RHPs) to improve quality, cost, and health cost outcomes. Hospitals and other participating providers may thereby earn performance-based payments for projects that improve system performance in specific ways approved by the Texas Health and Human Services Commission (HHSC) and the Centers for Medicare and Medicaid Services (CMS). Such anticipated benefits include improving access to preventive care, improving outcomes for the populations served by specific projects, and enhancing regional health and human service delivery capacity through enhanced collaboration. The purpose of this portion of the interim report is to provide preliminary findings related to the evaluation of the impact of DSRIP projects on outcomes.

To determine whether the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") DSRIP projects improved cost, quality, and health outcomes the evaluation had three goals:

Evaluation Goal 6: Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the **quality** of care.

Evaluation Goal 7: Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the **health** of the population served.

Evaluation Goal 8: Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the **cost** of care.

INTRODUCTION

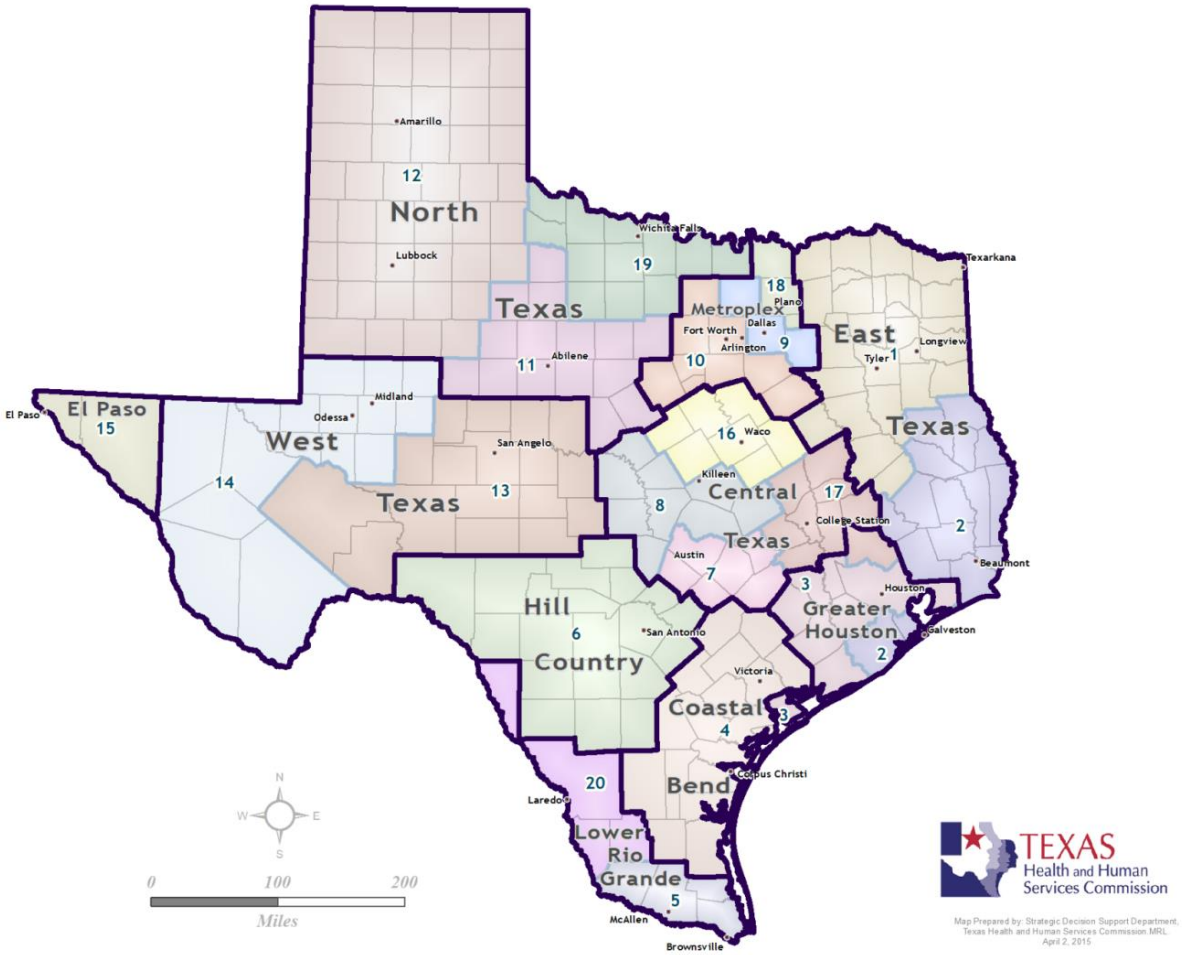
Comparative Case Study Project Category Selection

DSRIP projects are the primary mechanism through which the Program seeks to transform Texas healthcare. Understanding if and how this new performance-based approach to healthcare delivery works is essential to making evidence-based decisions about the future structure of Medicaid in Texas. Based on the multi-faceted causal factors affecting DSRIP projects, the lack of experimental control, the range of data available, and ability to trace DSRIP project evolution as it occurred, the evaluators identified a prospective, multiple case study methodology as optimal (Yin, 2009).

The labor intensive nature of the multiple case study approach chosen made it necessary to "follow each case in considerable detail," and thus to have a "relatively small" sample (Real & Poole, 2005, p. 88). The pay-for-performance design of the Program also raises the prospect of socially desirable response bias to the extent to which project representatives may feel pressure to demonstrate success. Given this increased need for robust data triangulation, the evaluation focused on a single type of DSRIP project to address Evaluation Goals 6–8. Selecting projects as similar to each other as possible in design makes it possible to mitigate confounding factors due to potential differences in interventions when examining how projects affected quality, health outcomes, and costs.

At the same time, HHSC required that the evaluation include all major geographic regions of Texas (see Figure 12.1). In addition, the comparative case study of the DSRIP projects needed to include a mix of rural and urban service areas because of potential differences in population needs, provider supply, and local infrastructure (most notably transportation) (Miles & Huberman, 1994). Finally, the evaluation needed to focus on a project type with substantial potential health benefits for populations served as well as financial impact on providers and taxpayers.

Figure 12.1. Case Study Geographic Sampling Areas



After a detailed analysis of the most common project area options (see Tables 8.10 and 8.12 in Chapter 8) project area option 2.9.1 (care navigation services to target patients at risk of disconnect from institutionalized healthcare) was selected as the project area option for the comparative case study. Specifically within this category, the largest single relatively homogeneous set of projects were those that focused on reducing inappropriate emergency department (ED) use through care navigation. Emergency department use was deemed a critical area for inquiry given the high personal and societal costs associated with what is widely viewed as substantial and increasing misuse of this unit of healthcare.

Several additional RHP projects assigned to other project option numbers by their developers that shared a significant focus on care navigation and reducing ED use were also included in the final list of 55 DSRIP projects related to reducing inappropriate ED use through care navigation. From these 55 projects, the final ten were chosen to include a mix of urban and rural sites. These included two in Texas's largest cities, three different types of providers state-wide who had proposed this type of project, and a representative range of local population demographics.

Emergency department admissions for potentially preventable or avoidable conditions present complex healthcare delivery and organizational challenges for national, state, and community leaders. In Texas the problem of preventable ED use is of such magnitude that the 82nd Legislature instructed HHSC through H.B. 1, 82nd Legislature, Regular Session, 2011, to submit "steps to reduce non-emergent ED use in Medicaid". Many of the DSRIP projects focus on reducing preventable ED use by expanding primary care capacity, implementing chronic disease management, and developing behavioral health crisis services.

Nationally, ED admissions for conditions clinicians believe would best be treated elsewhere—whether through prevention or through treatment of the emergent condition in lower intensity settings—are estimated to cost Medicaid and Medicare over $18 billion annually (National Association of Community Health Centers, 2007, p. 16). Ambulatory care sensitive conditions are acute or chronic health conditions that can be managed or treated in an outpatient setting (National Committee for Quality Assurance, 2015). As such, they are considered potentially preventable events. One of [Texas'] key strategies to reduce non-emergent ED use is to steer clients to more appropriate sources of care. These DSRIP projects are designed to reduce potentially preventable ED visits and reduce the rising costs of care while maintaining, or (preferably) improving, overall quality of care and health of populations served. Among the Program strategies are navigator-facilitated ambulatory care services. Patient care navigators, also called care coordinators and case managers, facilitate transitions across care settings and may also provide ongoing coordination to ensure that clients' needs are met (Dy, Apostol, Martinez, & Aslakson, 2013). While each DSRIP project is tailored to its specific population needs, all have the potential to reduce high-cost ED visits.

Adding to the complexity of addressing rising costs associated with inappropriate or preventable ED use are federal mandates such as the Patient Protection and Affordable Care Act (ACA) (42 U.S.C. § 18001); Health Care Quality Improvement Act of 1986 (42 U.S.C. § 11101); Emergency Medical Treatment and Active Labor Act (EMTALA) (42 U.S.C. § 1395dd(a}); and the Joint Commission for the Accreditation of Healthcare Organizations and National Committee for Quality Assurance accreditation standards. Each of these mandates impact hospitals' and

communities' ability to provide emergency care. On one hand the ED is regarded as an often misused venue by individuals with conditions easily managed by regular ambulatory care, while, on the other, EMTALA obligates hospitals to ensure that anyone who enters the ED is medically stable before discharging them (Bitterman, 2006; United States Government Accountability Office, 2001). These external factors must be considered in the evaluation.

Prior Empirical Findings on Emergency Department Use

The ED has been described as a "room with a view," providing a look into the status of our healthcare system and population health (Asplin & Knopp, 2001; Kellermann & Martinez, 2011). Studies have documented that a disproportionate share of ED visits (63 percent) are by individuals who visit the ED two or more times in a given year (Hunt, Weber, & Showstack, 2006; Niska, Bhuiya, & Xu, 2010). Medicaid enrollees are also disproportionately represented among frequent ED users (Texas Health and Human Services Commission, 2012a). Of ED visits in the Texas STAR Medicaid managed care (MMC) program, 63 percent were deemed potentially preventable and accounted for nearly $80 million in SFY2010 expenditures for Medicaid alone (Texas Health and Human Services Commission, 2012a).

In keeping with common practice in the literature, frequent users are defined as individuals who have used the ED five or more times per year, and often have multiple comorbidities or disease burden (Hansagi, Olsson, Sjoberg, Tomson, & Göransson, 2001; Lacalle & Rabin, 2010; Lucas & Sanford, 1998). Over two decades of research documents show that potentially preventable ED visits are:

- Related to ambulatory care sensitive conditions with frequently observed comorbid mental health conditions (Johnson et al., 2012; Oster & Bindman, 2003; Yoon et al., 2012);
- Associated with minority and underserved population groups (Johnson et al., 2012; Yoon et al., 2012); and
- Disproportionately common among uninsured, low-income or Medicaid beneficiaries (Johnson et al., 2012; Oster & Bindman, 2003; Yoon et al., 2012).

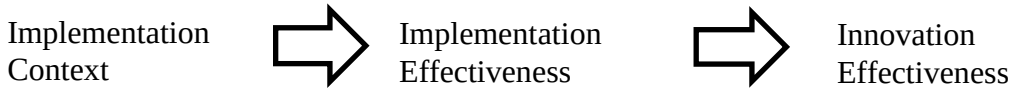
Many studies have documented the relevance of insufficient access to primary care, which may also include a lack of coordination and poor continuity of care for chronic conditions (Hoot & Aronsky, 2008; Johnson et al., 2012; Newton, Keirns, Cunningham, Hayward, & Stanley, 2008; Oster & Bindman, 2003; Sanderson & Dixon, 2000; Tang, Stein, Hsia, Maselli, & Gonzales, 2010; Yoon et al., 2012). Furthermore patient self-referrals have been identified by primary care providers as a rising cause for frequent ED visits (Morganti et al., 2013). All of these factors intersect with EMTALA's mandate that all patients be medically stabilized to contribute to frequent use of EDs.

Key Research Gaps

Of the system factors affecting inappropriate ED use, the essence may be inadequate access to preventive or more appropriate emergent care. Although the DSRIP theory of change behind care navigation is not explicit in the RHP Planning Protocol, it can be inferred that care navigation programs are premised on the prediction that better coordination will improve access to alternative healthcare providers and thus reduce ED use. The few studies examining strategies for addressing preventable ED use found that interventions emphasizing alternative care locations, such as adjacent urgent care or primary care, were associated with decreased ED use (Kravitz et al., 1998; Pines, Batt, Hilton, & Terwiesch, 2011). However, Kravitz et al. (1998) examined ED use among clients of the Department of Defense's health insurance system, which raises questions of generality to other contexts. Another strategy of combining housing and case management for the homeless also resulted in fewer visits to the ED (Sadowski, Kee, VanderWeele, & Buchanan, 2009). In another study, case management alone was found to reduce both ED visits and costs of care in a randomized trial (Shumway, Boccellari, O'Brien, & Okin, 2008). However, other studies have not found multidisciplinary treatment teams or case management interventions to reduce ED use (Lee & Davenport, 2006; Spillane & Thompson, 1997). Overall, the causal chain from care navigation to reduced ED use has not been well demonstrated.

Care navigation programs may be most constructively examined as complex process innovations. These innovations are new to their adopting organizations (Scott, 1990) and are embedded within hospitals' relationships with other local health and human services providers as well as clients. Substantial evidence now suggests that several factors affect process implementation across a range of organizational settings. In their Consolidated Integrative Implementation Framework, Damschroder et al. (2009) categorize these factors as innovation characteristics, the outer and inner settings, implementation climate, individuals involved, and implementation process (see Figure 12.2).

Figure 12.2. How Implementation Contexts Affect Innovation Outcomes



Consistent with other recent reviews (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005; Greenhalgh, Robert, Bate, Macfarlane, & Kyriakidou, 2005), Damschroder et al. (2009) found a range of factors across dimensions to affect implementation effectiveness. These include inter- and intra-agency coordination; how staff members experience their work environments; the availability of training and technical assistance; and front line staff members' knowledge and beliefs. In turn, projects that are implemented with greater fidelity to evidence-based models and at sufficient "dosages" have demonstrated much greater success in achieving intended outcomes (Durlak & DuPre, 2008).

Findings from the implementation literature yield remarkable consistency across organizational

sectors (Fixsen et al., 2005). However, recent research has found that the distinctive dynamics of public health and human services systems can affect the nature of implementation in these settings (Wells & Gifford, 2013). Thus, the particular characteristics of EDs and the social importance of better serving their clients, merit investigation of how care navigation projects unfold in these specific contexts.

Research Questions

In summary, Evaluation Goals 6–8 address whether DSRIP projects improve quality, health, and cost outcomes in the context of individuals who frequently use EDs. Three research questions (RQs) emerge from the evaluation goals addressed in this section:

RQ1: Will ED use and related outcomes improve more for people with high baseline ED use in EDs involved in DSRIP care navigation projects than for individuals in otherwise comparable EDs without these projects?

RQ2: Which aspects of DSRIP care navigation project contexts affect how these projects are implemented over time?

RQ3: What aspects of implementation effectiveness improve outcomes for DSRIP care navigation projects?

METHODS

Sample and Unit(s) of Analysis

Although the primary unit of analysis is the project (n=11 attempted, and 10 that became operational), the investigation also includes how organizational, local service, and geopolitical contexts affect project implementation and outcomes. In an attempt to compare changes in quality, health, and cost outcomes over time between sites with and without care navigation projects, this study entailed a comparison ED for each DSRIP care navigation facility that was as similar as possible to the "intervention" project site's ED in attributes believed to affect project implementation and outcomes (see Table 12.1). These included:

- Ownership type (government vs. non-profit or for-profit),
- Number of ED visits,
- Whether the hospital belonged to a network or was contract managed,
- Emergency department payer mix,
- Hospital safety net designation, and
- Local income and racial/ethnic composition.

The choice of these EDs was also validated as comparable to the focal EDs through discussions with three former Texas hospital Chief Executive Officers (CEOs). The planned evaluation is

therefore systematic and substantial, resulting in both internal and external validity (see Table 12.1).

Table 12.1. Case Study Projects versus All DSRIP Emergency Department (ED) Care Navigation Projects

Statistics	Case Study Site (n=11)[2] Means/Percent	All Eligible DSRIP ED Care Navigation Projects (n=55) Means/Percent
Based in a public provider	52%	47%
Based in a private provider	24%	45%
Provider ownership unknown	0%	7%
Hospital-based	90%	82%
Category 2 Valuation (across all four years)	$5.7 million	$6.1 million
Urban (RUCC[1] = 1 or 2)	38%	61%
Suburban (RUCC between 3 and 7)	33%	31%
Rural (RUCC= 8 or 9) (over-sampled by design)	29%	8%
% county < Federal Poverty Line	20%	17%
% county Hispanic	46%	30%
% county African-American	6%	13%
Population of primary county served	~ 788,000	~1,050,000
Number of persons in Medicaid[3]	~ 186,000	~ 140,000

[1] Rural-Urban Continuum Code (RUCC).
[2] Including the project site that never became operational.
[3] In the county where the project site is housed.

Preparation

Prior to case study site visits, two focus groups were conducted with current ED nurses and physicians to gain a better understanding of ED processes, flow, roles, and factors contributing to preventable use. These were used to refine study processes and interview instruments. Patient in-person interview and phone survey were pilot-tested in English and Spanish, and both instruments were refined for greater efficiency and clarity.

Measures

Data sources and their related measures are outlined in Table 12.2. See Appendix L for more details on the measures used in this section of the evaluation. Various methods were used to measure innovation effectiveness, implementation effectiveness, and implementation context:

- Patient interview and survey reports of their experiences of care navigation, health service use, and health status;
- HHSC data and reports;

- Key informant interview accounts of project structure and progress;
- Care navigator and administrator interview accounts of their work and context thereof; and
- Partner agency staff responses about their interactions with care navigation staff.

Table 12.2. Planned Data Sources and Measures for Evaluation Goals 6–8

Construct(s)	Measures	Source	Timing
Nature of project implementation and factors affecting implementation	Consolidated Framework for Implementation Research	Project Plans Interviews Documentation Observations	2013–2016
Quality of coordination between care navigators and key agency partners	RC[1]	Care navigators and their key partners	2013–2016
Patient knowledge of healthcare options	ECHO[2]	Patient surveys	2014–2015
Patient experience of care	CAHPS®[3], RC	Patient surveys	2014–2015
Patient health	Short Form (SF)-8[4]	Patient surveys	2014–2015
Project accomplishment of specified goals	Vary	Required reports to HHSC	2015–2016
Costs of care	ED[5] costs	Medicaid claims data	2012–2016
Quality of care	Ambulatory Sensitive ED Visits	Medicaid claims data	2012–2016

[1] Relational Coordination Survey (RC). http://rcrc.brandeis.edu/survey/RC%20Survey.html.
[2] Experience of Care & Health Outcomes Survey (ECHO). https://cahps.ahrq.gov/surveys-guidance/echo/about/Development-ECHO-Survey.html.
[3] Consumer Assessment of Healthcare Providers and Systems Survey (CAHPS)®. https://cahps.ahrq.gov/.
[4] Optum™ SF-8® Health Survey. https://www.optum.com/optum-outcomes/what-we-do/health-surveys/sf-8-health-survey.html.
[5] Emergency Department (ED).

Primary Data Sources

Interviews with Professionals

To learn how projects were initially designed and operated, each site was visited between fall of 2013 and fall of 2014, as close as possible to 30 days after each project became operational. During those visits, participants with a range of roles in each project were interviewed, for a combined total of 62 interviews. In one interview at each project site, a staff member was asked to identify up to five of the internal or external partners with which they worked most closely to meet patient needs (e.g., medical assistance programs, local churches, or food banks). A version of the Relational Coordination survey (Gittell, 2003) was adapted to the current study context to ask a representative of each patient care navigation project about the quality of their interactions with each key partner. Multiple attempts were subsequently made to contact each key partner, and, when feasible, the same questions were asked about their interactions with the patient care navigation project as were asked of the care navigators.

One-year follow-up phone interviews with key informants began in December 2014. These interviews were used to verify information collected in the initial site visit as well as learn about project evolution throughout its first year.

In-Person Interviews with Families

Interviews were conducted with an average of six clients and family members at each DSRIP care navigation site (48 clients plus 10 family members, for a combined total of 58). Interviews were typically conducted in their own homes. These interviews focused on what led them to use the ED, how the clients experienced patient care navigation, and how these services affected their health and healthcare use.

Phone Surveys with Clients

By the end of 2014, phone surveys of frequent ED users across 20 sites were conducted, including ten DSRIP patient care navigation sites and ten comparison sites. At the time of this report, 586 clients have been surveyed, 561 of whom had used an ED five or more times in the prior year (not all projects required high baseline ED use for participation).

Data Collection Timeline

Table 12.3 provides the timeline for data collection. Data collection began in fall 2013 and will conclude in fall 2016.

Secondary Data Sources

Secondary data were compiled on project sites and their local contexts from a range of sources. These included DSRIP project plans, articles shared by project leadership as models for their projects, project policies and procedures, data on hospitals from the annual American Hospital Association survey, and local demographics from the United States Census. HHSC also provided Medicaid claims and encounters data to compare trends in ED use at the ten study sites and comparison sites from 2012 (baseline) through 2015. This interim report includes data from 2012 and 2013.

Table 12.3. Timetable for Case Study (Evaluation Goals 6–8) Data Collection

[1] Emergency Departments (ED).

Instruments for Ten Selected EDs[1]	Use at Comparable EDs?	# People x # Sites	Patient Phone Surveys (Separate Panel without Replenishment) Wave 1	Wave 2	Wave 3	Fall 2013–Fall 2014 Site Visit	Fall 2014–Fall 2015 Phone Call	Fall 2015–Fall 2016 Site Visit
Key Informant Interview (Typically Administrator)	X	1 x 21[2]				X	X	X
Front Line Staff Interview (Care Navigator)		1 x 10				X	(Not requested, but some sites have included)	X
Front Line Staff Interview (Other)		1-3 x 10				X	(Not requested, but some sites have included)	X
Key Partner Phone Survey		3-5 x 10				(after each project site's visit)		(after each project site's visit)
Patient Face-to-Face Interview (sometimes in Spanish)		3-8 x 10				X		X (likely to be different than those during first site visit)
Patient Phone Survey (Now in third wave)	X	Average ~25 x 20	X	X	X			

[2] Twenty one (21) sites were included at wave one, including one that did not become operational.

ANALYSES

Qualitative Analysis

Baseline interviews conducted in 2013 and 2014 were professionally transcribed and checked for accuracy and removal of all identifying information. Initial data preparation for each project included development of "context charts" depicting each care navigation project's coordination intra-organizational structure (see Figures 12.3 and 12.4 examples). Data also included information on ties with key external partners (e.g., nursing homes), observational memos written by evaluation team members, a timeline of each project's major implementation milestones, a checklist matrix of key project attributes (e.g., number of care navigators, type of organization hosting, etc.), and a narrative case summary (Miles & Huberman, 1994).

Figure 12.3. Rural Site Context Chart Example

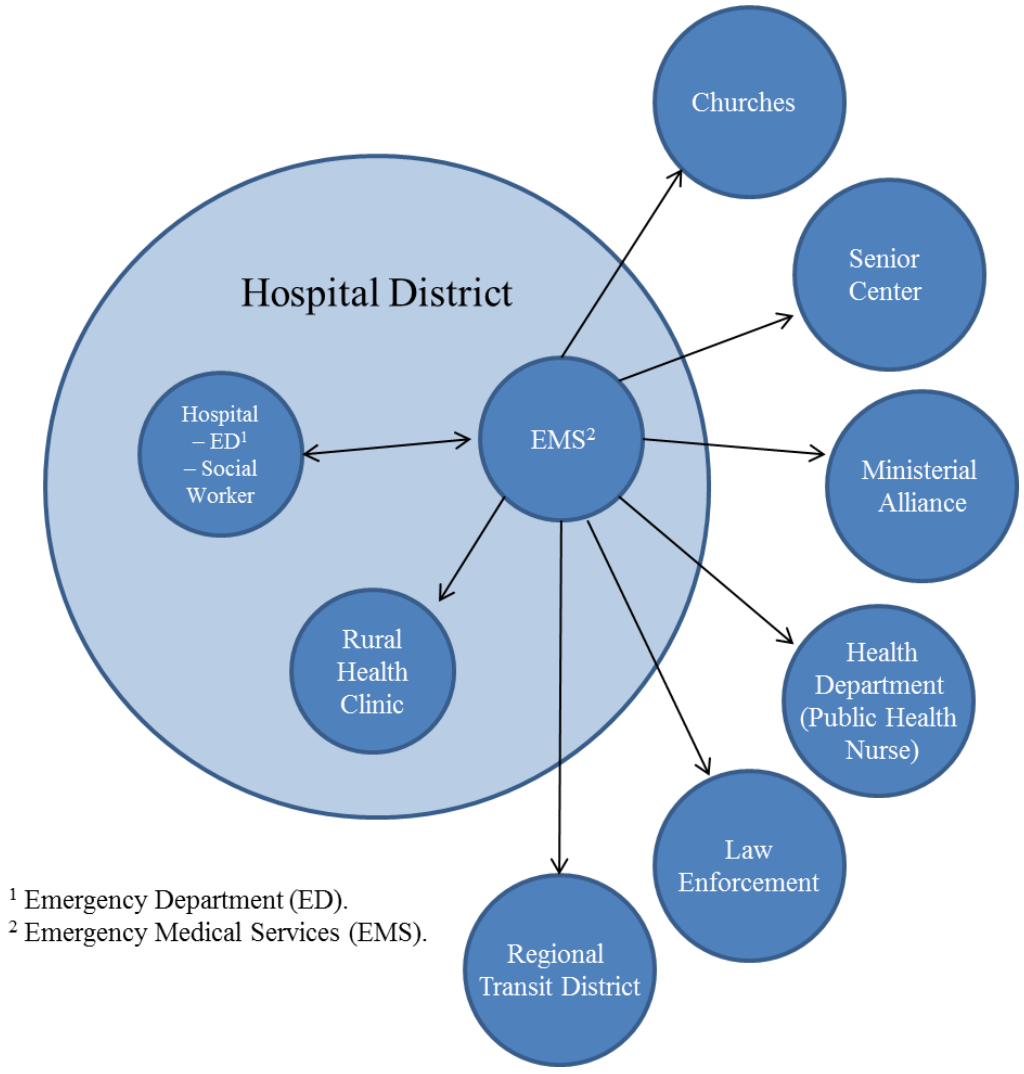
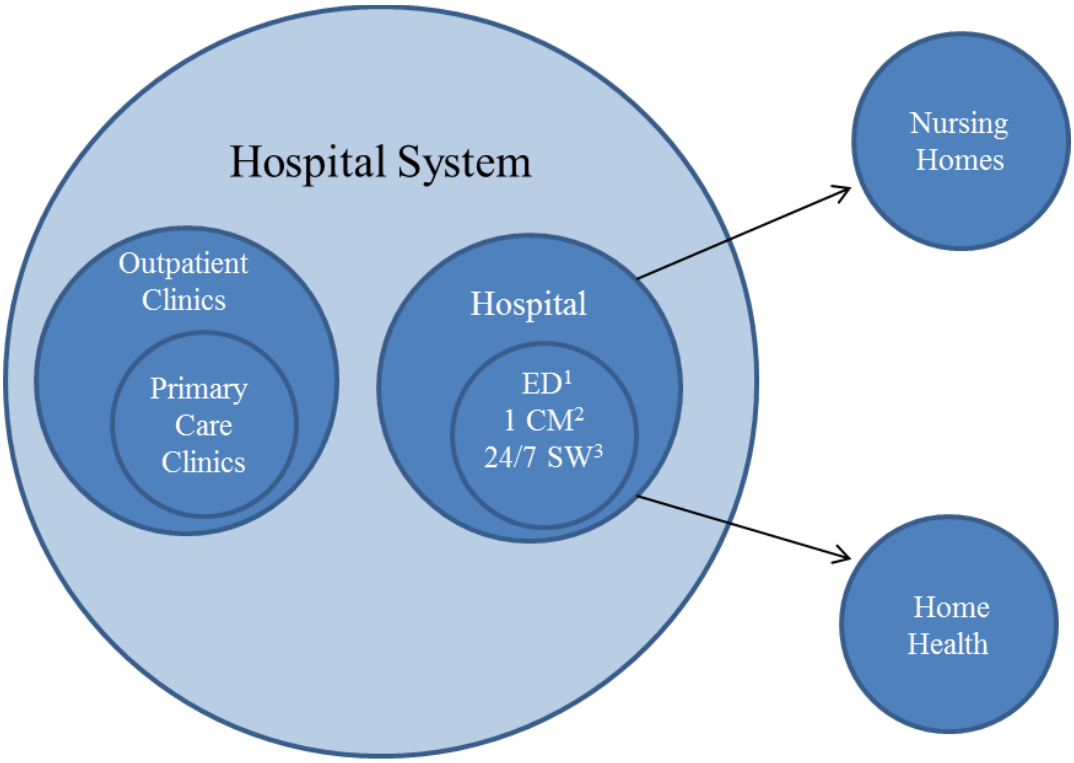


Figure 12.4. Urban Site Context Chart Example



[1] Emergency Department (ED).
[2] Case Manager (CM).
[3] Social Worker (SW).

Figures 12.3 and 12.4 depict some of the differences in contexts across rural and urban sites. For instance, the rural site appeared to have more external partners than the urban health system may have needed, given the range of resources available within the urban site.

ATLAS.ti qualitative software was used to analyze data, primarily from transcripts, but also from DSRIP project plans, researcher observations, and project documentation provided by staff at the participating facility. Initial codes were based on the Consolidated Integrative Implementation Framework (Damschroder et al., 2009), which was chosen based on its focus on health services, emphasis on the contextually specific nature of innovation implementation, and systematic incorporation of prior research. "First cycle" coding was completed in December 2014, through review by three study team members to the point of agreement on all initial codes. These were used to share initial results with key informants. As of early 2015, this data is being used to elicit key informant feedback during follow-up phone calls, thus correcting any factual inaccuracies, as well as collecting data on developments in the last year (Corbin & Strauss, 2008).

Preparation for more refined and inferential "Second cycle" coding, was ongoing at the time of this report. As of May 2015, several members of the evaluation team were meeting weekly to

review first cycle coding, and noting ("memoing on") changes made to improve consistency of coding and eliminate codes for factors that had not turned out to be salient. During the summer of 2015, this team will move into second cycle coding, identifying new, emergent themes, and how they inter-relate, as well as overarching themes related to how patient care navigation projects have evolved; further, identifying factors that appear to have affected project evolution, and analyze the different dimensions of project outcomes. Continued meetings and memoing of group decisions will ensure rigor and high inter-rater reliability in coding.

Quantitative Analysis

Surveys

The survey data have been prepared with a focus on checking the validity of the data such as confirmatory factor analysis for the relational coordination measure. Descriptive analysis was run comparing all measures between the selected DSRIP sites to the comparison sites. A profile was developed for each study site using all measures compared to the appropriate base type, where four main types of project sites (large urban, small rural, Community Mental Health Center (CMHC)-based, and Emergency Medical Services (EMS)-based) were defined. For small sites that had fewer than ten clients, the site specific profile was not developed due to privacy issues.

Claims Data Analysis

HHSC extracted all clients who had at least one ED visit to one of the selected sites or a downstream ED site from the selected site (total of 26 sites). HHSC provided, for each of these clients, all inpatient, outpatient, and vender drug claims, for both fee-for-service (FFS) and MMC encounter data. Analysis of this data was used to develop a measure to construct ED use and cost, primary care service use, and comorbidity measures. Pharmacy data will be used to backfill missing information (e.g., diagnosis from statin) where needed.

RESULTS

For the interim report, only baseline data is presented. None of these results answer Evaluation Goals 6–8's research questions, all of which relate to how projects evolve and affect healthcare quality, health, and cost health outcomes over time. However, the data that follow provide:

- Revealing insights into the range of activities Texas hospitals, both with and without DSRIP-funded patient care navigation projects, are employing that may reduce ED use;
- Perceived early successes within patient care navigation projects and early adaptations, including more active outreach and education to clients who were reluctant to seek help; and
- Severity of illness of frequent ED users at the study sites.

Profile of Participating Sites

Quantitative profiles of study sites were gleaned from a range of data sources:

- Qualitative profiles of projects derived primarily from interviews conducted during the initial 2013–2014 site visits;
- Quantitative profiles of the frequent ED users who participated in this study's phone survey, as well as their perceived healthcare and health status; and
- Separate sample of frequent ED users extracted from Medicaid enrollment and claims files.

This report includes 21 sites around Texas—11 DSRIP-funded patient care navigation sites, and ten comparison sites. One of the DSRIP-funded projects was not operational during the planned time period; however, their CEO graciously described their experiences for learning purposes. Although the comparison sites were chosen in part because they did not have DSRIP-funded patient care navigation projects, most were participating in other DSRIP and non-DSRIP projects, many of which could affect ED use. The profiles include such additional related initiatives at both DSRIP-funded care navigation and comparison sites.

In order to compare each participating site to similar facilities, the 21 sites were divided into:

- **Small rural sites** (n=5): 3 DSRIP-funded care navigation sites and 2 comparison sites,
- **Large urban sites** (n=8): 4 DSRIP-funded care navigation sites and 4 comparison sites,
- **CMHC-based sites** (n=4): 2 DSRIP care navigation sites and 2 comparison sites, and
- **EMS-based sites** (n=4): 2 DSRIP care navigation sites and 2 comparison sites.

Table 12.4 provides summary statistics for all 21 sites in this study, both those with and without DSRIP-funded patient care navigation projects (i.e., either described as such by project leadership or categorized as such during the initial selection period for some projects that had been given different titles by their leadership).

Table 12.4. Organizational Profiles of All Participating Sites (Including Both Those with and without DSRIP-Funded Patient Care Navigation Projects)[1]

Categories	Overall (N=21)	Large Urbans (N=8)	Small Rurals (N=5)	CMHC-based and EDs comparable to those affected (N=4)	EMS-based and EDs comparable to those affected (N=4)
Most Frequent ED Trauma Level Within This Group	4	1	4	4	4
Critical Access[2]	24%	0%	60%	0%	50%
Safety Net Hospital	38%	100%	0%	0%	0%
Ownership					
Government	52%	63%	40%	25%	0%
Non-profit	24%	25%	40%	25%	0%
For-profit	24%	13%	20%	0%	75%
Belong to a Network	29%	25%	60%	0%	25%
Contract Managed	19%	0%	40%	25%	25%
ED Payer Mix (2011)					
Percent of ED Visits Covered Through Medicare	22%	14%	35%	25%	18%
Percent of ED Visits Covered Through Medicaid	22%	21%	13%	33%	23%

[1] Data for all of the rows below the safety net hospital row are from the hospitals' 2011 response to the American Hospital Association annual survey. Contract management refers to contracting with an external organization to oversee operations; this is more common among smaller facilities with accordingly smaller in-house management teams. For the Community Mental Health Center (CMHC) and Emergency Medical Services (EMS) projects, the focus was on Emergency Departments' (EDs) "downstream" of their interventions as well as additional EDs comparable to those EDs.

[2] Information about critical access status (http://www.hrsa.gov) is maintained by the University of North Carolina (http://www.flexmonitoring.org/data).

Table 12.5 provides a summary of the local context. Specifically, it provides data on the common rural/urban codes, the percent of county residents living in poverty, and the percent of county residents that are Black/African-American or Hispanic. Relative to Texas as a whole, the counties in the current study have slightly higher rates of poverty (18 percent for Texas), fewer African-Americans (12 percent for Texas), and more Hispanics (38 percent for Texas).

Table 12.5. Local Contexts of All Participating Sites

Categories	Overall (N=21)	Large Urbans (N=8)	Small Rurals (N=5)	CMHC-based[4] and EDs[5] comparable to those affected (N=4)	EMS-based[6] and EDs comparable to those affected (N=4)
Most Common Rural-Urban Continuum Code [1]	6	1	8	6	7
Local Demographics (2011)					
Percent County Residents Living in Poverty[2]	20%	20%	15%	27%	20%
Percent of County Residents Black/ African-American[3]	6%	10%	3%	5%	5%
Percent of County Residents Hispanic	46%	52%	25%	66%	38%

[1] http://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx.
[2] The 2011 poverty threshold for a family of four was $23,000/year. http://www.census.gov/hhes/www/poverty/data/threshld/index.html.
[3] Race and ethnicity data are also from the US Census Bureau. http://quickfacts.census.gov/qfd/index.html.
[4] Community Mental Health Center (CMHC).
[5] Emergency Departments (EDs).
[6] Emergency Medical Services (EMS).

Many sites both with and without DSRIP-funded patient care navigation projects are experimenting with a range of initiatives that may reduce ED use among frequent users. The data for Table 12.6 are primarily from interviews during site visits. This table undoubtedly understates the frequency of these initiatives; the numbers will become more accurate as each project is asked about their other initiatives during the second set of interviews. Data were left as missing in some places where sufficient information was lacking; hence some sample sizes are slightly smaller than the total number for any given group. The primary purpose of these tables is to show the range of relevant identified projects during the initial site visits. Only activities occurring by the time of the initial site visit (as early as fall 2013 for some facilities) were included in the tables.

Table 12.6. Profiles of Resources Potentially Affecting Emergency Department (ED) Use *Outside* the DSRIP-funded Patient Care Navigation Projects[1]

Categories	Overall (N=10)	Large Urbans (N=4)	Small Rurals (N=2)	CMHC-based[2] and EDs comparable to those affected (N=2)	EMS-based[3] and EDs comparable to those affected (N=2)
Hospital has other case managers serving ED clients	47%	100%	20%	0%	0%
ED has systematic processes to connect clients to primary care homes	50%	86%	25%	0%	0%
System has primary care initiatives such as patient-centered medical homes	29%	67%	0%	0%	0%
System has a chronic care management program	40%	67%	0%	0%	50%
System operates call center for people considering ED	7%	20%	0%	0%	0%
System runs a discharge care transitions project, beyond usual discharge planning	31%	60%	0%	0%	25%
System provides home healthcare to high need clients	17%	17%	33%	0%	0%
System provides other home visiting that is not part of DSRIP care navigation	23%	50%	0%	0%	0%

[1] Data drawn from information provided by project staff.
[2] Community Mental Health Center (CMHC).
[3] Emergency Medical Services (EMS).

Table 12.7 provides a summary of the key attributes of the ten operational DSRIP-funded projects. The number of small rural EDs is shown here as two because one of the three small rural hospital patient care navigation projects had not become operational.

Table 12.7. Key Project Attributes Profiles of the 10 Operational DSRIP-Funded Patient Care Navigation Projects[1]

Categories	Overall (N=10)	Large Urbans (N=4)	Small Rurals (N=2)	CMHC-based[2] and EDs[3] comparable to those affected (N=2)	EMS-based[4] and EDs comparable to those affected (N=2)
Number of patient care navigation full-time equivalent staff	3	6	1	3	1
Any exclusion of especially challenging clients	33%	25%	0%	0%	100%
Care navigators call clients	100%	100%	100%	100%	100%
Care navigators educate clients	100%	100%	100%	100%	100%
Care navigators refer clients to non-healthcare resources	90%	100%	50%	100%	100%
Care navigation includes home visiting	64%	50%	0%	100%	100%
Clients have evening or weekend access to care navigators	60%	25%	50%	100%	100%
How long project had been operational at time of first site visit (mean number of months)	3	5	3	2	3
Care navigation based on identified evidence-based practice	44%	75%	0%	50%	0%
Care navigators underwent training specific to this role	90%	100%	100%	100%	50%
Care navigators have electronic medical record access	80%	100%	100%	50%	50%
Staff have adapted care navigation since start to work better	50%	75%	0%	50%	50%
Interview participants say they celebrate successes	64%	60%	50%	100%	50%

[1] Data drawn from information provided by project staff.
[2] Community Mental Health Center (CMHC).
[3] Emergency Department (ED).
[4] Emergency Medical Services (EMS).

Unsurprisingly, the average number of full-time equivalent staff was larger at urban sites. In contrast, at one rural site no staff time was fully devoted to patient care navigation. This responsibility was shared by a number of clinical staff members. The exclusion of challenging clients was an emergent finding: Two sites initially excluded clients in more geographically distant, harder to reach, areas; one site excluded people with serious mental illness; and another site's patient care navigator dropped clients who were not engaging actively in navigation services.

Less surprising, given the definition of patient care navigation in the RHP Planning Protocol as "helping patients navigate through the continuum of healthcare services," some facets of these services were universal, or nearly so including:

- Making phone calls to clients,
- Educating clients, and
- Referring individuals to non-healthcare resources when those were identified as needed.

Staff was asked whether the model the organization implemented for care navigation services was evidence-based, or a model with prior research suggesting positive outcomes. Models cited by care navigation sites included Cherokee (Mauch & Bartlett, 2013), an adaptation of Wagner (Wagner et al., 2001), Coleman (Coleman, Mahoney, & Parry, 2005), and home-grown projects developed after initial literature searches failed to yield any prior models facility leaders identified as sufficiently applicable to their needs. The fact that over half of the projects were not based on any specific evidence-based models, despite DSRIP leaders' efforts to find such models, suggests that the current evaluation may address a gap in the literature about how patient care navigation can best affect ED use.

One other facet of patient care navigation was not included in Table 12.7 because of insufficient data. This is the percent of projects whose clients only receive care navigation, which from the data collected appeared to be approximately one month. This may not be enough time to change entrenched behaviors, although it is understood that facilities are also trying to serve as many people as possible with limited resources.

Qualitative reports on initial implementation: General DSRIP Themes

Several themes emerged from initial site visits.

- Although top management was never opposed to the DSRIP-funded patient care navigation projects, in all organizational types except the CMHC-based project sites, some top managers appeared ambivalent about these complex additional initiatives. Two hospital administrators noted some concern about the financial impact of reducing ED use, given the high fixed costs of operating these facilities.
- Care navigators at both large urban and small rural sites had access to electronic medical records (EMRs), and some care navigators at both CMHC-based and EMS-based project sites had such access as well. However, access to other providers' electronic medical records was very limited.

- At all but one project site, clients interviewed were not always aware that they were receiving patient care navigation, even when the facility had identified them as such.
- At all organization types except small rural project site, patient care navigators were found going beyond making referrals to more active advocacy on behalf of clients.
- At all but one small rural project site, patient care navigators referred clients to non-healthcare as well as healthcare resources.
- At two large urban project sites and one CMHC-based project site, staff reported providing some type of care navigation services—not always officially—to individuals who did not meet inclusion criteria.
- Just a few months into project operations, several project sites, across all four organization types, had adapted services to improve engagement among clients, often because extreme poverty impeded preventive healthcare and disease self-management.
- At large urban, CMHC-based, and EMS-based project sites, some clients were reluctant to use patient care navigation services. This appeared, in some instances, to be due to the lack of expressing a need for help and, in others, to the desire not to bother care navigators.

Qualitative Reports on Initial Implementation: Small Rural Sites

Interviews with staff and clients revealed two relative strengths of small rural hospitals relative to large urban hospitals:

- Easier communication because of the limited number of people involved in coordination, and
- Program stability due to having long-time staff involved.

Resources and Support

Given the complexity of patient care navigation projects and small rural hospitals' lack of economies of scale, it was harder for small rural hospitals than for large urban hospitals to create and sustain these initiatives.

> "To try to do best practices at such a small facility, sometimes doesn't work. I mean we're already doing best practices probably for a rural community, but to compare us to an academic medical center best practice, the resources are different."

> "Nurses are not only nurses. Sometimes they have to collect money. Sometimes they have to be a social worker. They wear many hats, too. I think that over time, we will get this program going. I think it's gonna take us longer than it will in a … larger setting. Just because of that problem."

The CEO of the hospital that had not yet launched care navigation also acknowledged a limited initial understanding of the scope of this DSRIP project and the cost implications:

> "Let alone when we entered in to—when I put the plan down, I thought it sounded great, but I didn't know what all was involved. There are some full-time equivalents that I'd have to have. A nurse that's going to sit down there and track the patients as they do. I've got the nurses now that are in there and they handle the patient load that's coming in, but that's all taking

> care of the patient right then and there. The physicians are doing that, and the physicians aren't gonna to sit down and do that paperwork. You gotta add people to do that ... The cost starts ratcheting up."

Other priorities such as the Hospital Consumer Assessment of Healthcare Providers and Systems Patients' Perspectives of Care Survey, EMR changes, International Statistical Classification of Diseases and Related Health Problems 10th revision requirements, and other DSRIP projects also compete with DSRIP-funded patient care navigation for management and staff time.

Reaching Clients

Project staff at both small rural patient care navigation sites reported having difficulty reaching clients by phone, often due to disconnected numbers. This pattern also occurred in large urban project sites, although not in CMHC sites (which were serving current clients) or in EMS sites, where emergency medical technicians (EMTs) engaged with clients primarily through home visits. At a small rural site, the patient care navigator was considering going to people's homes in an attempt to reach them.

Client Perceptions

Clients at all but the medical screening site praised the amount of time the care navigators spent with them and the extra effort expended on their behalf. Clients seemed to interpret a medical screening initiative as indicating a lack of caring. However, only a few people at each site for this part of the study were interviewed, and so these views may not have been representative.

Qualitative Reports on Initial Implementation: Large Urban Sites

Resources and Support

Staffing at large urban project sites tended to be larger and more differentiated (e.g., both registered nurses and social workers, as well as ancillary personnel) than at smaller facilities. A staffing challenge identified included turnover that may undermine project continuity and at least one site that experienced difficulty engaging physicians.

Leadership were described as strongly supportive of the DSRIP patient care navigation project at three of the four large urban sites visited: One of these sites described that leadership support included a willingness to budget funds with an uncertain financial return. A large urban site appeared to have mixed leadership support; Front line staff reported ambivalence from leadership. However, there appeared to be more engagement among information technology leaders than among some clinical leaders.

Electronic Medical Records

Large urban hospital project sites all benefitted from staff access to EMRs. For instance, at one site, clients identified for care navigation were flagged in the EMR as being selected for the project and the care navigators were notified via the EMR when one of those individuals

presented in the ED. The extent and immediacy of information in EMRs were also noted as helpful in understanding patient needs.

> "We have their history and physical. We have their medication list. We do medication reconciliation oftentimes. We look at their past treatment. We can look at their demographic information, their insurance information. We often have consulting information, even from outside providers—their laboratory, CAT scan, x-rays—everything at our fingertips because we're completely electronic."

However, large urban hospitals generally did not have electronic access to records from external facilities.

> "Unfortunately, we don't have a good reporting mechanism to say, 'Here's our stats of, if they're our patients and they come to our EC [emergency center], they've also gone to another EC.'"

Collaboration

The program staff interviewed also noted positive synergies with other DSRIP projects.

> "…We get together, discuss other projects, discuss lessons learned from one to another, we have opportunities where we can say, 'Look, I fell flat on my face with this one. You may wanna stay away from that decision.' We learned from each other very well."

> "Our focal DSRIP project is part of an overarching health system effort to reduce readmissions."

> [The patient care navigation project] "…fits nicely in the strategic plan."

At the same time, program staff noted some challenges moving patient care navigation projects forward at the same time as many other competing priorities.

Reaching Clients

Adaptations appeared to be largely in the realm of more actively reaching out to potential participants; sometimes serving clients who did not technically qualify for this project; and providing more intensive services than originally planned to the most vulnerable clients. For instance, at one site, navigators began going to meet clients at clinic visits. That site also changed care navigation shift hours to start earlier after realizing that clients were presenting in the ED earlier in the day than they had originally anticipated. Staff at two sites described serving some clients such as one who "… doesn't quite fit into the project, you can't very well say, 'Nope, sorry. Can't see that one.' It's a dance."

Another DSRIP-funded patient care navigation project "… was set up to empower the clients and not teach but to just review the information. I found it that it really wasn't working for us." This site found home visiting very helpful in identifying clients' true needs, such as not having food.

> "They're not gonna tell us. When they're here, they're not gonna tell us, 'Well, I don't have any money for medication.' They just nod and grin and say, 'Yes, I do have it all. Don't worry about it.'" *Provider*

> "He would go in there and tell the doctors, 'Oh, I'm fine, I'm fine,' because he can tolerate pain. He got a high tolerant for pain. When he come to me and he really in pain because I know when he in pain and I could keep asking him, asking him, asking him. He's set in his ways, you know?" *Family member*

Finally, even the large urban hospitals had relatively limited interactions with community partners, which may reflect how new these projects were during the initial visits.

Care Navigation Services

Among their other care navigation activities, care navigators also educated clients on disease management and health behaviors, such as improving nutrition. Some care navigators referred individuals to financial assistance programs, including Medicaid and Social Security benefits, and helped them obtain medications and transportation. They also facilitated access to other health service providers such as podiatry, home health, wound care, physical therapy, and optometry by directly speaking to the physician or clinic to which the patient was referred, setting up meetings with funding programs to finance clients' healthcare, and helping clients fill out applications to these services.

Client Perceptions

Some clients at three of the four large urban sites were not aware that they were receiving patient care navigation, even when the facility had identified them as such. However, at one large urban site, all clients interviewed face-to-face were aware that they had been contacted by a care navigator or were receiving care navigation, and most knew the names of their navigators. Across all large urban sites, those who were aware of care navigation were grateful for the individualized support they received. As one patient care navigator put it:

> "When you least expect, it is very rewarding. 'Cause when you walk out of there, some are crying. They're so grateful because they finally understand their medications... By doing this, they do."

Some clients also described their care navigators as advocating for them, for instance, continuously reassuring them of the fact they could not be turned away.

Qualitative Reports on Initial Implementation: CMHC-based Projects

The two CMHC-based projects included in the study seek to intercept people during acute physical and/or behavioral health episodes. One project begins services when clients present at an emergency department. The other also often begins services in the CMHC, but also goes to community settings including schools and homes to evaluate people in crisis.

Resources and Support

Both projects appeared to benefit from active initial involvement of leaders who had substantial experience within their respective organizations. One CMHC executive director had written the original DSRIP plan, although she was not currently involved in its daily operations. Staff at both projects saw upper management as deeply committed to patient care, in one instance citing this philosophy as a rationale for serving some clients who did not meet inclusion criteria.

> When asked about the agency's top priorities: "…patient care. I think they truly care about the patient. I've had some cases where someone may not meet the criteria, but I go ahead and help them get connected to meds or something. I let them know of course because I do work for them, and they'll go, 'You did the right thing.' They care about getting the patient connected to their needs and making them well. The whole person …"

An apparent strength of both CMHC-related projects was the fact that improving care coordination was cited as a top priority for other participating organizations.

> "My staff was, I mean, anything that we could do to diminish the amount of, in some cases, misuse of the emergency department. When they needed to be in a primary care setting, as opposed to the ER. If we can accomplish that, my staff's gonna be really happy about that. The community health center; of course, this is something right down their alley. I mean, this is what they actually write grants for and what they live and breathe for: To try to take these folks that don't have primary care available through anywhere else, and to try to take them in and try to help them and encourage them to do the things that they need to do in order to improve their health status."

However, executives at both projects expressed frustration with changing guidance from HHSC that required major recalibrations early in the DSRIP process.

> "Because right now, I mean, we've spent all this money, given all this money to the anchors, and you guys do all this work. It's taken just so long, it just seems like. I mean, it was like we were trying to pattern ourselves after the California program. Then it was, like, 'Oh, no, no. We don't want you to pattern yourself. There's too many errors in the California program. You need to develop your own program.' It's, like, 'Okay. You want us to reinvent the wheel. Okay, we'll reinvent the wheel.'"

The multi-agency project also seemed to make efficient use of existing resources, including funding one of the partner organizations had recently procured for primary-behavioral healthcare integration. Participants also noted the benefit of prior history of cooperation among the partner organizations. As one care navigator put it, "…we've known each other for years, and we're really making a great team here."

Electronic Medical Records

At the time of the initial site visit, neither CMHC had access to the local hospital's EMR, which was a limitation given how often services begin in the ED. However, CMHC staff at both projects communicated with hospital staff during initial encounters, and at one project staff noted frequently talking with ED physicians about how clients are doing after an ED visit.

Collaboration

One challenge of this type of inter-organizational project is that weakness in one organization may undermine the whole project. At one site, a few clients interviewed were unhappy with the hospital involved, although one patient appeared gratified that a care navigator took his complaint about an abusive doctor seriously. An executive at the other CMHC-based project described the community hospital as historically averse to serving people with severe mental illness: "They basically said, 'Our doctors are scared of your clients. We don't want them here. Okay, so anything that we can do to keep them out of the door, we will do.'"

The inter-organizational nature of one project also complicated information sharing. Despite outreach efforts, at the point of the initial site visit it appeared that some staff in one participating hospital were not fully aware of the resources provided by the care navigation project. A care navigator noted "That's been … a kind of a barrier educating all the shifts of nurses that work in the ER."

Client Advocacy

Advocacy was inherent in the ways CMHC-based staff already interacted with clients with serious mental illness. This included advocating with hospitals to admit clients; this was often a significant challenge, given inadequate space in state psychiatric hospitals and limited psychiatric beds in community hospitals. CMHC-based staff also reached out to specialists to get clients appointments. Facilitating non-healthcare poverty relief is also part of the normal functioning of CMHCs, many of whose clients have extremely low incomes.

An adaptation documented at one of the CMHC-related sites was similar to another found in other types of care navigation projects, which served a broader range of clients than officially planned. As one care navigator put it, "There have been some cases where even the doctor will just call me and say, 'Hey, they don't meet your criteria, but can ya help 'em?' We just—we don't actually enroll them, but we help them as a resource."

Client Perceptions

Some clients (although not many) refused to participate in care navigation. The mixed patient engagement in CMHC-based patient care navigation seems to be due to two factors.

- These services tended to begin during crises, when clients were typically disoriented; for instance, CMHC staff rushed to the school where an adolescent became agitated, and

facilitated his immediate referral to a therapeutic facility. However, the adolescent's mother was not clear on which staff would have been designated as a patient care navigator.

- Some clients did not believe their crises were psychiatric in nature, and hence, did not opt for ongoing service engagement.

Qualitative Reports on Initial Implementation: EMS-Based Projects

The small sample of DSRIP-funded patient care navigation projects included two based in EMS. This model may have particular applicability to rural areas, where EMTs may have more opportunities between emergency calls to visit with clients, and where clients also more frequently have difficulty than those in more urban areas getting transportation to preventive care.

As with the CMHC-based projects, the inclusion of EMS based projects in this evaluation occurred through necessity due to the inability to find hospital-based patient care navigation projects in all regions of Texas, but ended up yielding an interesting matched pair of a distinctive type of care navigation.

Resources and Support

There was varying leadership support between the two EMS-based DRSIP-funded patient care navigation projects. The hospital CEO and EMS director at one site were both relatively new, and thus were faced with implementing a project that they had not developed, although the CEO described the hospital board and staff as very supportive. The other site's EMS director developed the project and the attendant EMT training curriculum; he was also described as "incredible … an excellent leader…"

The two EMS-based projects differed in how they selected and trained EMTs tasked with patient care navigation. One project included all EMTs, and the other included only a few EMTs chosen largely on the basis of strong interpersonal skills. "Paramedics in general are good at building a relationship over 90 seconds and then leaving… Building a, really a good relationship that someone's gonna trust in and listen and that kinda stuff, it took a little training for us." Training at that site was comprised of a 28-week, 60-hour training course at the local community college and passing a simulation test. However, a participant expressed concern about the high costs of that training:

> "They pay for the training of the EMSs to go through and also the retention of it, so I think that's—any organization has a vertiginous staff that after you're gone through training—… is will they go to another county? Would they use that resource to go somewhere else?"

The lead of the other EMS-based care navigation project expressed having experienced difficulty finding training that was relevant and affordable. In both sites, additional staff also supported the project, maintaining continuity and providing referrals to additional services needed by clients.

Electronic Medical Records

EMTs at one site reported ready access to electronic information about clients as very useful:

> "I've actually seen what they were called for, what we've done for 'em, why we were there, whether we transported or not, or whether we just got a refusal, and how often that happens. That kind of gives me an idea of what I was going into from the very beginning. We have signed HIPAA forms with them, so we can actually communicate with their physicians. We can … talk to their physicians on how they're being treated, what they are being treated for."

At the time of the initial visit, that site was still working on getting more automatic reports from the hospital about when clients enrolled in care navigation had been to the ED, so that they could follow up quickly.

Reaching Clients

Both EMS-based projects were in rural areas. The EMTs who began providing patient care navigation to high ED users during times of non-crisis developed a rapport with those clients similar to that achieved by care navigators in other project types who had ongoing in-person contact with clients.

One of the projects was starting with easier clients to serve before considering including people with serious mental illness and those in harder to reach (more rural) locations. A large urban hospital-based site had also started with a subset of eligible clients, but that was attributed solely to the large service area rather than any patient attributes and entailed rolling out the patient care navigation program from zip codes closer to their facility to more distant areas over time.

EMTs at one site reported that they were sometimes able to establish a rapport with otherwise unwilling participants by bonding over a shared "country" background. Some clients were isolated older adults with limited access to regular care. Clients and family members at this site mentioned various examples of EMT care navigator solicitude, such as helping them procure tele-health services and even conducting minor home repairs such as placing safety bars in their showers, installing wheelchair ramps and sliding chairs, and making other similar repairs to facilitate movement around the home.

Adaptations included an increasing emphasis on education over time:

> "Well, it's evolving into us realizing that it may be more education that we need to take care of. Like diabetics for example. I guess that some of the things that we were assuming when patients get released from physicians or something, that they know more of what they should be doing at home. In reality, unfortunately sometimes it's they're getting released and they, or you, don't know to ask the questions, and so we're figuring out that sometime it's just educating."

That paramedic also cited EMT visits as providing clients with accountability for disease self-management that appeared to be helpful:

> "I would have to say also in addition to that, really close medical monitoring of those patients, because if they know that you're coming to see them, they know somebody's watching them, then your diabetics, for instance, they are very cautious about what they're doing. They know somebody's gonna hold them accountable, so that has also helped as well."

However, despite EMTs' active efforts to develop rapport with clients and customize support to their needs, as in the previous large urban hospital-based site patient quote, there was evidence of clients' hesitance to contact the EMT care navigators because they didn't want to bother them.

> As one put it: "My husband wanted to call [Paramedic A], and I said, 'No, don't call [the paramedic]. Don't wanna wake him up.' We called the EMS for the hospital."

At the other site, some clients initially refused services because they thought they were going to be charged for them, but "Once they know that we're not charging 'em, then they're, 'Oh come on back, of course, anything.'" The care navigators at this site were characterized as accommodating, courteous, congenial, and professional. They knew the clients on a first name basis and displayed a sincere concern for them as individuals.

Client Advocacy

Both sites noted that among their goals was helping the elderly continue to live independently:

> "That's the things that kinda hurts us emotionally, to see the older people having to get put into nursing homes and things like that, and we really wanna avoid that because a lot of older people they don't just, they don't call 9-1-1 until it's too late. We're trying to get it in their heads to that call us early, or get set up with our program, and we can help you so you don't get to a point where you need emergency care kind of things."

At the other EMS-based project site, one example of this commitment to supporting independent living was care navigation staff working with a local church to enable a man who had been falling frequently to get non-911 help in those instances, and thus remain in his own home until he died.

Conclusion on Qualitative Themes

As noted at the beginning of the qualitative section, several themes emerged from initial site visits.

- Top managers were generally supportive of DSRIP-funded patient care navigation projects, but sometimes appeared conflicted about the potential financial implications of decreasing patient volume for EDs with high fixed costs and were often challenged to balance patient care navigation with other pressing organizational priorities.
- Access to electronic medical records was very helpful when present, and more common within than across organizations; this is a challenge some sites are actively addressing, given their interdependence in addressing complex clients' inter-related needs.

- Clients were often unable to identify their patient care navigators. For CMHC-based projects in particular, this confusion appeared to be due to both the overwhelming nature of the crises during which care navigators often first appeared and some clients' disagreement about whether they had psychiatric needs. In general, patient care navigators often first appear during medical crises among many other professionals, and that later phone contact alone does not create a strong interpersonal relationship with clients.
- Instances of advocacy for clients were found in all project site types. However, all types of organizations also included as navigation one-time interactions such as referrals to insurance eligibility. Although these referrals may connect clients to vital resources, they do not necessarily ensure successful transitions across care settings, and clearly do not entail ongoing coordination that allows monitoring for changes in patient needs over time (Dy et al. 2013).
- Some sites provide unofficial services to some individuals who do not meet inclusion criteria. Allowing front line staff such discretion made these programs person-centered (rather than rule-centered) and improved the acceptability of patient care navigation to professionals at implementing sites.
- Adaptations early into DSRIP-funded patient care navigation appeared to be largely in the realm of reaching out more actively to clients than originally planned. Such increased "dosage" is likely to enhance effectiveness with clients served, but is in inherent tension with efforts to serve increasing numbers of people.
- Finally, there were instances of patient reluctance to use available patient care navigation assistance.

Quantitative Data for Case Study

To complement the qualitative data gathered primarily through site visit interviews, phone survey were conducted of approximately 600 frequent ED users from across the study sites, as well as procured Medicaid enrollment and claims data from HHSC for a separate Medicaid sample of frequent ED users at these sites. The final report will include correlational analyses assessing associations between the presence and nature of DSRIP-funded patient care navigation projects and cost, quality, and health outcomes. For this initial report, the goal was simply to begin descriptively profiling the study sample. The text below draws on the first wave of patient phone surveys (2014) as well as baseline (2012–2013) Medicaid data for these descriptive statistics.

Profile of Frequent Emergency Department Users: Client Survey Results

Tables 12.8 through 12.13b compare information from the first round of patient phone surveys in all clients in DSRIP-funded patient care navigation projects ("intervention sites") and all clients in comparison sites. As noted above, often comparison sites had substantial initiatives that could reduce ED use even though they did not have DSRIP-funded patient care navigation projects per se.

Unlike the prior section, which used a combination of publicly available data and professional interviews, Tables 12.8 through 12.13b reflect only patient phone surveys. As noted in the

previous section, one site had not yet become operational. At one other site, none of the very few clients identified thus far for patient care navigation chose to participate in the survey. We also excluded a site that was a chronic illness based site, because the base population of interest was frequent ED users. Hence, the tables in this section reflect data on people at a total of 18 rather than 21 sites.

Each p-value shown in the right-most column reflects the statistical significance of the comparison between the two samples of clients, based on the test appropriate to the given type of variable (e.g., t-test for continuous and chi-square for categorical). For variables that have multiple categories (e.g., education level), the test is for overall comparison of all categories.

Baseline Patient Survey Results

In most respects, frequent ED users at DSRIP-funded patient care navigation sites were similar to those at comparison sites (see Table 12.8). As noted above, the two differences between DSRIP and comparison patient profiles may be due to the nature of how the two groups were sampled. That is, the DSRIP-funded patient care navigation sites have more African-American participants (26 percent) than the comparison sites (14 percent). Also, fewer people at the DSRIP care navigation sites (70 percent) than at the comparison sites (78 percent) have either public or private health insurance coverage. However, most survey participants in the comparison sites were identified using the Medicaid claims data (i.e., as those with five or more ED visits billed to Medicaid in the last year), resulting in a sample with a very high proportion of Medicaid clients. This is an inherent limitation due to the processes necessary to collect data from all sites.

Table 12.8. Demographics of Frequent Emergency Department Users at All Participating Sites

Measure	DSRIP Care Navigation Sites (Number of survey participants =282)		Comparison Sites (Number of survey participants=279)		
	Total N (Asked)	Mean STD[1] or percentage	Total N (Asked)	Mean STD or percentage	p-val[2]
Age	281	48.2 (16.0)	277	45.6 (15.9)	+
Seniors (Older than 65)	282	12%	277	10%	
Male	282	30%	279	26%	
Hispanic	282	54%	279	58%	
African-American	281	26%	279	14%	***
Education level (overall comparison)	281		277		**
Neither high school nor GED		37%		26%	
GED		11%		11%	
High school diploma		23%		22%	
Some college/associates or technical degree		22%		35%	
College degree [Bachelor's]		5%		6%	
Do you work outside the home at this point?	281	27%	278	22%	
Is that less than 40 hours a week? (Of those who worked)	75	60%	60	62%	
Do you live alone?	280	26%	279	25%	
Do you have health insurance? (% yes)	282	70%	278	78%	*
What kind of insurance? (overall comparison)	282		278		***
No insurance		30%		22%	
Medicaid only		16%		33%	
Medicare		9%		7%	
Dual: Medicaid & Medicare		11%		22%	
Other (incl. private, military, multiple, and unspecified)		34%		16%	

[1] Standard deviation (STD)
[2] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001

Health Conditions

Patient survey responses about disease conditions suggest that this is a very sick population, with especially high percentages of hypertension, severe mental illness, and diabetes (see Table 12.9). Prior studies indicate substance abuse prevalence greatly exceed estimates based on self-report (Biemer & Brown, 2005).

The two groups are similar at baseline for most disease types and health behaviors except that more participants from the comparison sites reported having the following three health

conditions: asthma (22 percent in the DSRIP care navigation sample versus 38 percent in the comparison sample), depression or anxiety (51 percent versus 66 percent), and bipolar disorder (14 percent versus 29 percent).

Table 12.9. Health Conditions of Frequent Emergency Department Users at All Participating Sites

Measure	DSRIP Care Navigation Sites (Number of survey participants =282)		Comparison Sites (Number of survey participants=279)		p-val[1]
	Total N (Asked)	Percentage	Total N (Asked)	Percentage	
Hypertension	282	63%	278	64%	
Diabetes	282	41%	279	43%	
Chronic Obstructive Pulmonary Disease	279	22%	277	22%	
Asthma	281	22%	278	38%	***
Major depression or anxiety	279	51%	278	66%	***
Bipolar disorder	278	14%	275	29%	***
Schizophrenia or related illness	278	8%	275	12%	+
Has a relative, friend, doctor, or another health worker been concerned about your drinking or suggested you cut down?	282	12%	279	10%	
During the past 12 months, have you used drugs other than those required for medical reasons?	279	5%	279	3%	

[1] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001.

Access to Healthcare

Table 12.10 provides the mean responses along with the closest response option in words in order to provide the reader with a sense of the meaning of the numeric response to the study participant. The aspects of access to healthcare measured through the four items shown below were similar for frequent ED users at the DSRIP care navigation sites as a whole and the comparison sites with DSRIP funded care navigation projects showing slightly better access. Responses indicate generally good perceived access to care. When there were differences, they were slightly in favor of the DSRIP care navigation sites. However, the effect sizes were very small (e.g., 0.1 for the composite scale) given the 1–5 range of potential response values.

Table 12.10. Access to Healthcare of Frequent Emergency Department Users at All Participating Sites, from Consumer Assessment of Healthcare Providers and Systems (CAHPS®)

Measure[1]	DSRIP Care Navigation Sites (Number of survey participants =282)			Comparison Sites (Number of survey participants=279)			p-val[2]
	Total N (Asked)	Mean Response	Wording of closest response option	Total N (Asked)	Mean Response	Wording of closest response option	
How often was it easy to get the care, tests, or treatment you thought you needed?	270	4.0	Most of the time	270	3.8	Most of the time	*
How often was it easy for you to get appointments with specialists?	263	3.7	Most of the time	253	3.6	Most of the time	
When you needed care right away for an illness, injury, or condition, how often did you get care as soon as you needed?	276	4.0	Most of the time	270	3.9	Most of the time	
Not counting the times you needed care right away, how often did you get an appointment as soon as you thought you needed?	272	3.9	Most of the time	269	3.7	Most of the time	+
Composite scale of these 4 CAHPS® items	246	3.9	Most of the time	238	3.8	Most of the time	+

[1] Response options: *Never (1) / Rarely (2) / Some of the time (3) / Most of the time (4) / All of the time (5).*
[2] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001.

Healthcare Experiences

As expected, more clients at the DSRIP-funded care navigation sites (35 percent) than at comparison facilities (24 percent) reported receiving care navigation services (see Table 12.11). However, a quarter of the clients at comparison sites that did **not** have DSRIP-funded care navigation projects also reported receiving some type of care navigation. Some of this may reflect hospital-based social work, and some may reflect health insurance representative phone calls to clients who use high levels of resources.

The health experiences are otherwise similar between the two groups, except that the DSRIP-funded patient care navigation group was more likely (58 percent) than the comparison group (43 percent) to report not having visited an ED in the last eight weeks. This is a potentially significant finding. However, contrary to the intended impact of DSRIP-funded care navigation projects, a higher percentage of clients at comparison sites (79 percent) than at the DSRIP-funded care navigation sites (71 percent) indicated that they understood that they could refuse treatment. Both results should be interpreted with caution, given the number of potential confounders not reflected in these simple statistics.

Table 12.11. Healthcare Experiences of Frequent Emergency Department (ED) Users at All Participating Sites

Measure	DSRIP Care Navigation Sites (Number of survey participants =282)		Comparison Sites (Number of survey participants=279)		
	Total N (Asked)	Percent of Yes	Total N (Asked)	Percent of Yes	p-val[3]
Healthcare experiences					
Have you had a care navigator?[1] [2]	278	35%	274	24%	**
Are you on any medications? [2]	282	86%	279	88%	
Do you know what each of your medications does?[2]	239	94%	245	94%	
When was the last time you went to the emergency department for your own needs?[2] (overall comparison)	278		274		**
In the last 2 weeks		17%	274	20%	
Between 2 and 4 weeks ago		13%	274	16%	
Between 4 and 8 weeks ago		12%	274	21%	
More than 8 weeks ago		58%	274	43%	
If that happened again, would you go to an emergency department (that ED or any other)?[2]	278	88%	277	89%	
How often was it easy to get providers to agree with each other on the best way to manage your health condition? (Consumer Assessment of Healthcare Providers and Systems (CAHPS®) V.4.0)	271		268		
All of the time		47%	268	37%	
Most of the time		25%	268	32%	
Some of the time		16%	268	16%	
Rarely		7%	268	9%	
Never		5%	268	5%	
Do you get care from a doctor or other health provider besides your personal doctor? (CAHPS® V.4.0)	280	53%	273	57%	
Was your personal doctor usually or always informed and up-to-date about the care you received from other doctors or health providers? (CAHPS® V.4.0)	144	82%	277	39%	
Following items from Experience of Care and Health Outcomes Survey Scale:					
In the last 6 months, were you given information about different kinds of education or treatment that are available?	280	46%	146	84%	
In the last 6 months, were you given as much information as you wanted about what you could do to manage (control) your condition?	279	62%	276	56%	
In the last 6 months, were you given information about your rights as a patient?	276	75%	276	81%	+
In the last 6 months, did you feel you could refuse (say no to or reject) a specific type of medication, test, or treatment?	269	71%	266	79%	*

[1] The full item wording was: "Has someone from [performing provider] been helping you manage your health condition, so you don't need to go to the hospital as much? Sometimes those people are called care navigators (care coordinators or case managers; typically nurses or social workers). They often help people with things like monitoring their health conditions, doctors' visits, and medication. The people doing that at [performing provider] are [name(s) of patient navigator(s)]."
[2] Developed for the purpose of the evaluation.
[3] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001

Relational Coordination

The Relational Coordination Scale was developed to measure teamwork quality, and has been extensively validated with inter-disciplinary healthcare teams (e.g., Gittell, 2002). This was among the first studies to apply these questions to how clients experience their relationships with healthcare professionals. Clients were only asked these questions if they had reported receiving care navigations services. The scale is comprised of eight items, whose responses are assigned values ranging from 1 (Never) to 5 (All of the time). Also included was a prefatory question about how often clients thought they needed help from their patient care navigators that is not part of the Relational Coordination scale itself. In addition, the means of the responses along with the closest response option in words were presented.

Clients were generally positive about their interactions with their patient care navigators (see Table 12.12). Overall, clients in DSRIP-funded care navigation sites were slightly more positive in their appraisals of relationships with their care navigators than were clients at comparison sites ($p<0.10$ for composite scale), although the effect size was quite small. Although there are no DSRIP-funded care navigation projects in the comparison sites, there can be care navigation projects that are **not** funded by DSRIP. Hence, clients were asked these Relational Coordination questions whenever the clients indicated that they received any type of patient care navigation services. It is noted that the comparison sites have DSRIP projects which are not care navigation projects. In total, 24 percent of clients in the comparison sites reported having received care navigation services.

Table 12.12. Frequent Emergency Department Users' Experiences of Interactions with Patient Care Navigators at All Participating Sites, Continued, from Relational Coordination

Measure[1]	DSRIP Care Navigation Sites (Number of survey participants = 282)			Comparison Sites (Number of survey participants=279)			p-val[2]
	Total N (Asked)	Mean Response	Wording of closest response option	Total N (Asked)	Mean Response	Wording of closest response option	
How often do you need help from the care navigator to manage (control) your health condition?	90	3.3	Some of the time	65	3.4	Some of the time	
Following items belong to Relational Coordination Scale							
When you need something from the care navigator, how often do you get it?	84	4.0	Most of the time	57	4.0	Most of the time	
How often does the care navigator give you what you need as quickly as you need it?	82	4.3	Most of the time	57	4.1	Most of the time	
How often do you think the information care navigator gives you is accurate (correct, good information)?	84	4.5	All of the time	60	4.3	Most of the time	+
When there is a problem, how often does the care navigator work with you to solve the problem?	91	4.3	Most of the time	63	4.3	Most of the time	
How often does the care navigator know about how you manage your health (take care of your health)?	91	4.2	Most of the time	64	3.9	Most of the time	+
How often does the care navigator respect the work you do to manage your health (take care of your health)?	94	4.3	Most of the time	63	4.3	Most of the time	
How often does the care navigator have the same goals as you do for managing your health (taking care of your health)?	94	4.4	Most of the time	65	4.1	Most of the time	*
How often do you have a say in what the care navigator does about your healthcare?	92	4.5	All of the time	65	4.3	Most of the time	
Composite scale of eight Relationship Coordination items above	76	4.4	Most of the time	53	4.2	Most of the time	+

[1] Response options: *Never (1) / Rarely (2) / Some of the time (3) / Most of the time (4) / All of the time (5)*
[2] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001

Health Status

Every item of the Short Form-8 item (SF-8®) Health Survey indicates that the participants from the DSRIP-funded patient care navigation sites have slightly better quality of life (indicated by higher scores) than those at the comparison sites (see Table 12.13a and 12.13b). For these tables, the report includes the individual items upon which the company that owns the SF8, Quality Metric, computes overall scores, because the Quality Metric scale had no interpretable ranges. Based on Quality Metric output comparing the current study sample to the general United States population (not shown), the health status of the study sample was much lower health status than the US overall average.

Table 12.13a. Frequent Emergency Department Users' Health Status at All Participating Sites

Measure	DSRIP Care Navigation Sites (Number of survey participants =282)			Comparison Sites (Number of survey participants=279)			p-val[1]
	Total N (Asked)	Mean Response	Wording of closest response option	Total N (Asked)	Mean Response	Wording of closest response option	
Optum™ Short Form (SF)-8® Measures of Overall Health							
Overall, how would you rate your health during the past 4 weeks?	278	3.6	Fair	279	3.3	Fair	
Response Options: Very Poor (1)/Poor/ Fair/ Good/ Very good/Excellent (6)/							
During the past 4 weeks, how much energy did you have?	282	3.3	Some	279	2.5	Some	*
Response options: None (1)/A little/Some/ Quite a lot/ Very much(5)							
How much bodily pain have you had during the past 4 weeks?	282	3.7	Moderate	279	3	Moderate	*
Response options: Very severe (1)/Severe/Moderate/Mild/Very mild/ None(6)							
During the past 4 weeks, how much did physical health problems limit your usual physical activities (such as walking or climbing stairs)?	280	2.9	Somewhat	276	2.8	Somewhat	*
Response options: Could not do physical activities(1)/Quite a lot/Somewhat/Very little/ Not at all(5)							
During the past 4 weeks, how much difficulty did you have doing your daily work, both at home and away from home, because of your physical health?	278	3	Somewhat	279	3.1	Somewhat	
Response options: Could not do daily work(1)/Quite a lot/Some/ A little bit/ None at all(5)							
During the past 4 weeks, how much have you been bothered by emotional problems (such as feeling anxious, depressed, or irritable)?	282	2.7	Moderately	279	3.1	Moderately	+
Response options: Extremely(1 /Quite a lot/Moderately/Slightly/ Not at all (5)							
During the past 4 weeks, how much did personal or emotional problems keep you from doing your usual work, school or other daily activities?	281	2.8	Somewhat	277	3.1	Somewhat	
Response options: Could not do daily work(1)/Quite a lot/Somewhat/A little bit/ None at all(5)							
During the past 4 weeks, how much did your physical health or emotional problems limit your usual social activities with family or friends?	281	2.8	Somewhat	278	3	Somewhat	+
Response options: Could not do social activities(1)/Quite a lot/Somewhat/Very little/ Not at all(5)							
During the past 4 weeks, how much did your physical health or emotional problems limit your usual social activities with family or friends?	281	2.8	Somewhat	278	3	(Somewhat)	+
Response options: Could not do social activities (1)/Quite a lot/ Somewhat/ Very little/ Not at all(5)							

[1] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001

Table 12.13b. Frequent Emergency Department Users' Health Status Look-Back Items at All Participating Sites

Measure	DSRIP Care Navigation Sites (Number of survey participants =282)			Comparison Sites (Number of survey participants=279)			p-val[1]
	Total N (Asked)	Mean Response	Wording of closest response option	Total N (Asked)	Mean Response	Wording of closest response option	
Look-Back items Added to Optum™ Short Form (SF)-8®							
Thinking back 6 months ago, was this better or worse than [being bothered by emotional problems (such as feeling anxious, depressed, or irritable)]?	274	1.9	Same as now	275	2	Same as now	+
Response options: More often than now(1)/Same as now/ Less often than now(3)							
Thinking back 6 months ago, was this better or worse than [how much personal or emotional problems kept you from doing your usual work, school or other daily activities]?	277	1.9	Same as now	277	2	Same as now	
Response options: More often than now(1)/Same as now/ Less often than now(3)							

[1] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001.

Profile of Frequent Emergency Department Users: Medicaid Claims Analysis

While emergency departments serve a broader population, in order to analyze ED utilization, Medicaid claims data were used as proxy for all clients served by the ED at both the DSRIP and comparison sites. Table 12.15 draws on Medicaid claims and encounters data for clients who had an ED visit to any of the participating sites in calendar year 2012 (the year before Program activities began). Eligibility was then restricted to individuals who were:

- Frequent ED users (five or more visits in 2012) at these 20 study sites,
- Eighteen years or older on July 1st, and
- Continuously eligible for Medicaid during the full 12 months.

If clients visited more than one study site in the year, they were attributed to the most frequently visited ED, rather than double counting them.

This data cover both inpatient and outpatient services. Medicaid participants in both FFS and MMC were included. Emergency department claims were identified using Current Procedural Terminology (CPT) codes 99281–99285, W0004, W0005, Y0011 or revenue codes 450–452, 456, 459, and 981 (see Tables L.2 and L.3 in Appendix L). All ED claims that occurred on the same day were counted as one ED visit.

For non-emergent ED visits, ambulatory care sensitive visits were defined using Healthcare Effectiveness Data and Information Set (HEDIS®), Frew, and the Texas Department of State Health Services (DSHS) practices.[32] The National Committee for Quality Assurance (NCQA) website defines HEDIS® as "a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service" (National Committee for Quality Assurance, 2015). The HHSC Frew Advisory Committee and DSHS adapted these measures for Texas facilities. This definition of ambulatory care sensitive visits is ED visits with CPT codes 99281–99283 or certain primary diagnosis codes. Among the most frequent diagnoses used to indicate ambulatory care sensitive conditions were strep sore throat, viral infection not otherwise specified, scabies, dehydration, hypopotassemia, anemia unspecified, epilepsy, migraine, conjunctivitis, and pneumonia.

As with the survey data, frequent Medicaid ED users were generally younger than expected in both the DSRIP funded care navigation sites and comparison sites, with the mean age at 47 years (see Table 12.14). The base population for sites with DSRIP funded care navigation projects was different from the comparison sites in terms of gender, race, and ethnicity. There were more males and African-Americans and fewer whites and Hispanics in the DSRIP funded projects. The general profile of the claims based population for the DSRIP funded sites differs from the survey data mainly due to one large site which had a very small sample in the phone survey. The site serves a large number of African-Americans and few Hispanics. The percentage of males was somewhat higher in these claims sample than in the survey sample. This could be explained by a greater tendency for women to participate in surveys. There were also differences in the composition of FFS and MMC participants in the two groups. About 30 percent of the clients in

[32] **FREW V**. **JANEK**, No. 14–40048., March 05, 2015 - US 5th Circuit.

both groups moved between FFS and MMC programs in 2012. More changed from FFS to MMC, but there were also many changing from MMC to FFS. Among those that stayed with one program during the full 12 months, in the DSRIP funded care navigation sites, there was an even split between FFS and MMC. However, for comparison sites, there were many more FFS participants than MMC participants (41 percent versus 28 percent).

The mean number of ED visits per year was 12 for the DSRIP funded sample of individuals with five or more ED visits per year and 10 for the comparison group. Most clients (roughly 70 percent) had between 5 to 9 ED visits, with roughly 30 percent having between 10 to 29 ED visits, but some with more than 30 ED visits in one year. About a third of these ED visits seemed to be non-emergent: 37 percent for the DSRIP-funded group and 33 percent for the comparison group. Finally, ED visits were examined in 2013, when some DSRIP funded projects began. This made it possible to get some information about two years of baseline data prior to when most DSRIP-funded patient care navigation projects started. A little less than 80 percent of the participants were continuously Medicaid eligible for the full calendar year 2013. A little less than 10 percent of the high ED users in 2012 had no ED visits in 2013 while about 40 percent were again high users in 2013. For those who were still continuously eligible for Medicaid in 2013, the mean number of ED visits were 10 for the DSRIP funded group, and 8 for the comparison group. The number of ambulatory care sensitive decreased from 4.5 percent in 2012 to 3.6 percent in 2013 for DSRIP funded group while for comparison group it decreased from 3.3 percent in 2012 to 2.6 percent in 2013.

Table 12.14. Demographics and Emergency Department (ED) Use from 2012 Medicaid Claims Data at All Participating Sites

Measure	DSRIP Care Navigation Sites (Number of survey participants =3,717)		Comparison Sites (Number of survey participants=4,193)		p-val[4]
	Total N (Asked)	Mean (STD[3]) or Percent	Total N (Asked)	Mean (STD) or Percent	
Age	3717	46.6 (16.1)	4193	47.2 (17.9)	
Seniors (Older than 65)		12%		16%	***
Male	3717	43%	4193	31%	***
Race (overall comparison)	3717		4193		***
White		18%		28%	
African-American		43%		11%	
Hispanic		24%		48%	
Other		15%		13%	
Program	3717		4193		***
FFS[1]		35%		41%	
MCO[2]		35%		28%	
Participated in both during 2012		29%		31%	
ED Use					
2012 (ED visits in 2012 for Frequent ED users, >=5, in 2012)					
Number of ED visits	3717	12.0 (13.4)	4193	9.6 (8.3)	***
5-9 visits		64%		71%	
10-29 visits		30%		27%	
30+ visits		6%		2%	
Number of Ambulatory Care Sensitive visits	3717	4.5 (6.4)	4193	3.3 (4.5)	***
2013 (ED visits in 2013 for Frequent ED users, >=5, in 2012)					
Number of ED visits for those with continuous eligibility	2568	10.0 (14.6)	2860	7.6 (8.3)	***
Number of ED visits	3717		4193		***
no visits		9%		8%	
1-4 visits		29%		30%	
5-9 visits		19%		22%	
10-29 visits		17%		15%	
30+ visits		5%		2%	
Not continuously eligible in 2013		22%		23%	
Number of Ambulatory Care Sensitive visits for those with continuous eligibility	2568	3.6 (7.7)	2860	2.6 (4.3)	***

[1] Fee-for-Service (FFS).
[2] Managed Care Organization (MCO).
[3] Standard Deviation (STD).
[4] p-val: + < 0.10; * < 0.05; ** < 0.01; *** < 0.001.

CONCLUSION

The Evaluation Goals 6–8 report began by noting the goal to examine how DSRIP projects affect quality, health, and cost outcomes throughout Texas. The report then outlined the rationale for a prospective comparative case study of a very small, but important, sub-sample of DSRIP projects, and explained why ED-related patient care navigation was chosen as the focus for this part of the Evaluation. The report then described the methods used for Evaluation Goals 6–8, including interviews and other primary data collection at 21 sites around Texas, as well as patient phone surveys and Medicaid claims data of separate samples of individuals with high ED use. This multi-method approach capitalizes on the strengths of each method (e.g., triangulating across participants' accounts of their lived experiences of project implementation to understand how these DSRIP projects have actually unfolded, and why; and developing prevalence estimates of healthcare and health outcomes from survey and claims data). Results include quantitative summaries of the attributes of project sites, descriptions of emergent qualitative themes across all four types of project sites; quantitative descriptive statistics of the health and healthcare experiences of clients around the state who participated in the phone survey; and background attributes of Medicaid clients served at both the DSRIP and comparison sites.

Findings thus far both fit those from prior research and have yielded some tentative new insights.

- Data from patient phone surveys with individuals throughout Texas who had frequently used the ED indicated that they often had major chronic illnesses, often including severe mental illness. The sample was also disproportionately Hispanic and African-American, relative to Texans as a whole. Most survey participants reported good access to non-emergent care. What interview participants often noted was a lack of access to urgent care alternatives to the ED.
- By definition, the DSRIP-funded patient care navigation projects examined in this study shared a common emphasis on patient education and connection to needed services. However, there was wide variability across projects in structure even among those based in hospitals, ranging from a medical screening initiative that simply re-directed clients to primary care when they presented with non-emergent symptoms, to programs that included home visiting and services that for some particularly vulnerable clients lasted many months and could include accompanying clients to medical visits and maintaining ongoing communication with providers.
- In general, large urban sites had the resources to implement more comprehensive patient care navigation services than small rural facilities were able to provide. Project leadership had generally either substantially adapted prior care coordination models to fit the goal of reducing ED use, or developed their own programs based on a composite of available information and consideration of local resources and needs.
- Staff at some projects noted serving patients who did not meet official participation criteria, but whom clinicians had identified as having need. Although the projects were generally quite young at the point of initial site visits, some sites had already adapted services to provide more active education and outreach and thus better engage and support clients.

- Overall, clients surveyed who knew they had received patient care navigation services were satisfied with their interactions with their care navigators. However, one potential obstacle to reducing ED use may be clients' hesitance to admit how much help they need.

This initial report does not follow causal chain from care navigation to potential changes in ED use. However, the findings reported here do help characterize the needs and experiences of individuals who use EDs frequently, as well as the range of DSRIP-funded projects in Texas now seeking to provide alternatives to these expensive and high stress care contexts.

Limitations

Challenges of this portion of the evaluation included the complexity of DSRIP projects, the absence of any evaluator control over projects, the dynamic interplay of factors anticipated between projects and their intra- and inter-organizational contexts, and the fact that Texas's 20 RHPs collectively submitted over 1,300 project proposals to HHSC even in the first round from which the study team selected case study projects. Opportunities included HHSC having given RHPs menus from which to choose project options, thereby creating natural categories of project types; a range of complementary data available on these projects, including RHPs' community health assessments, project proposals, and subsequent required reports to HHSC; the fact that all DSRIP projects needed to be new initiatives and thus could be examined at comparable stages in their life cycles (i.e., the first few years); and a four year study period to trace this development as it unfolds. The prospective, multiple case study design with concurrent comparisons was the most rigorous available approach, but it is impossible to definitively disentangling causality in this context.

There are limits to how well findings from eleven projects generalize to the universe of what are now almost 1,500 DSRIP projects. Most notably, many other types of DSRIP projects were much simpler than patient care navigation, which entails changing behavior among multiple providers as well as clients. However, patient care navigation provides an "extreme case" of complex process innovations with findings applicable to a much broader range of DSRIP projects.

Quantitative sampling was also limited in ways that may affect generality. For instance, at some sites, the evaluation was not able to include enough clients in the phone survey to develop robust site-specific descriptive statistics. At other sites, the evaluation had to rely exclusively on Medicaid enrollment and claims files to recruit clients for the phone surveys, thus excluding privately insured and indigent clients. However, even these limitations yield potential analytic benefits, such as systematically quantifying how similar samples selected from Medicaid data are to the broader population of frequent ED users.

CHAPTER 13
UNCOMPENSATED CARE COSTS: EVALUATION GOAL 5

GOAL SUMMARY

The Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") entails interventions intended to expand Texas' Medicaid managed care (MMC) programs, STAR and STAR+PLUS, statewide, and to establish two funding pools that will assist providers with uncompensated care (UC) costs, and promote health system transformation. Uncompensated care is defined as the costs of providing services to individuals who are uninsured or covered by Medicaid, less any payments received for such services (labeled the "uninsured shortfall" and the "Medicaid shortfall" respectively). The new methodology under the Program replaces the previous Upper Payment Limit (UPL) program with two new funding pools:

- A UC pool to reimburse UC costs as reported in the annual UC application[33]; and
- A Delivery System Reform Incentive Payment (DSRIP) pool to incentivize hospitals and other providers to transform their service delivery practices to improve quality, health status, patient experience, coordination, and cost-effectiveness.

To determine whether the two new funding pools developed under the Program were effective mechanisms for assisting Texas hospitals with their UC costs, the evaluation had one goal:

> **Evaluation Goal 5:** Evaluate whether any changes in UC costs are attributable to the Program interventions.

The objective for the final Evaluation Goal 5 report is to determine the effect of Texas hospitals' participation in DSRIP projects on corresponding UC claims during the waiver period. However, an objective of this interim report is to highlight challenges in achieving this ultimate goal, given time lags in the availability of the requisite UC data, coupled with delays in the implementation of DSRIP projects. As a result, the quantity of post-DSRIP UC cost data available for analysis for the final evaluation report will be inadequate to allow any valid inferences regarding the quantitative impact of the Program on UC cost. Accordingly, an extension of the Program timeline is needed to make the analysis required for the final evaluation feasible.

The interim report begins with a brief background discussion of the specific changes in the methods used for addressing the costs of UC, as well as specific aspects of the Program potentially affecting UC cost among participating hospitals. The potential impact of the ongoing implementation of the Patient Protection and Affordable Care Act (ACA) and changes in the overall health insurance environment in Texas on the level of UC is briefly reviewed (42 U.S.C. § 18001). The report also provides a descriptive analysis of UC cost data available to date. The

[33] http://www.hhsc.state.tx.us/rad/hospital-svcs/1115-waiver.shtml

report closes with a summary of data lag and implementation delay issues, and the implications for the feasibility of analyses planned for the final evaluation report.

INTRODUCTION

Potential Impact of the Program on UC Cost

The most immediate impact of the Program on UC cost was the change in the mechanism used to determine provider payments for UC. Prior to the Program, payments to facilities were determined under the UPL system. The UPL system operated under the requirements of 42 C.F.R. §447.272, which limited supplemental payments to facilities to a reasonable estimate of the amount that would be paid for the services furnished by these facilities to Medicaid recipients under Medicare payment principles.

Under the Program, the UPL pool system was replaced with two new funding pools to offset the costs of providing care to Medicaid recipients and uninsured individuals and transform the healthcare delivery system in Texas: the UC pool and the DSRIP pool. The UC pool is intended to reimburse providers for the uncompensated costs of providing care to Medicaid recipients and the uninsured population. The DSRIP pool provides reimbursement to providers for successful achievement of performance benchmarks for a range of projects intended to improve the local delivery of health care. The non-federal share of UC and DSRIP payments is typically funded through intergovernmental transfers (IGTs). These IGTs are public matching funds used to draw down the federal share.

More specifically, hospitals report the extent of costs for services provided to the uninsured less any payment received (uninsured shortfall) and the costs of services provided to Medicaid patients less any Medicaid payments received (Medicaid shortfall). Due to the two-year delay in the measurement of the uninsured and Medicaid shortfalls, the combined total is adjusted by an inflation factor to provide an estimate for the payment year (see Table 13.1). Subtracting from this adjusted total any payments received by providers under the Disproportionate Share Hospital (DSH) program yields the hospital's total unreimbursed costs. In addition to the estimate of UC relating to hospital services, the hospitals are allowed to include UC related to hospital-affiliated physician, clinics, and pharmacy services for reimbursement from the UC pool. Under the Program, claims for payment from the UC pool are independent of participation in DSRIP projects. However, UC recipients are required to participate in a Regional Healthcare Partnership (RHP) and, beginning with demonstration year (DY) 3, to complete DSRIP population focused Category 4 reporting requirements. The DSRIP pool provides payments for DSRIP projects that meet identified performance metrics, which provide an incentive for participating organizations to enhance the efficiency and effectiveness of service delivery.

Table 13.1. Timing of Availability of UC[1] Program Data

UC/UPL[2] Data to HHSC	Payment Period between		Reflecting Costs Incurred between		Cost Data for Program Demonstration Year (DY)	Notes
UPL2011	**10/1/2010**	**9/30/2011**	**10/1/2008**	**9/30/2009**		**Data available for interim report**
UC2012	**10/1/2011**	**9/30/2012**	**10/1/2009**	**9/30/2010**		
UC2013	**10/1/2012**	**9/30/2013**	**10/1/2010**	**9/30/2011**		
UC2014	10/1/2013	9/30/2014	10/1/2011	9/30/2012	DY 1	Data available for final report
UC2015	10/1/2014	9/30/2015	10/1/2012	9/30/2013	DY 2	
UC2016	10/1/2015	9/30/2016	10/1/2013	9/30/2014	DY 3	DSRIP projects operational
UC2017	10/1/2016	9/30/2017	10/1/2014	9/30/2015	DY 4	Data unavailable during demonstration
UC2018	10/1/2017	9/30/2018	10/1/2015	9/30/2016	DY 5	

[1] Uncompensated Care (UC)
[2] Upper Payment Limit (UPL)

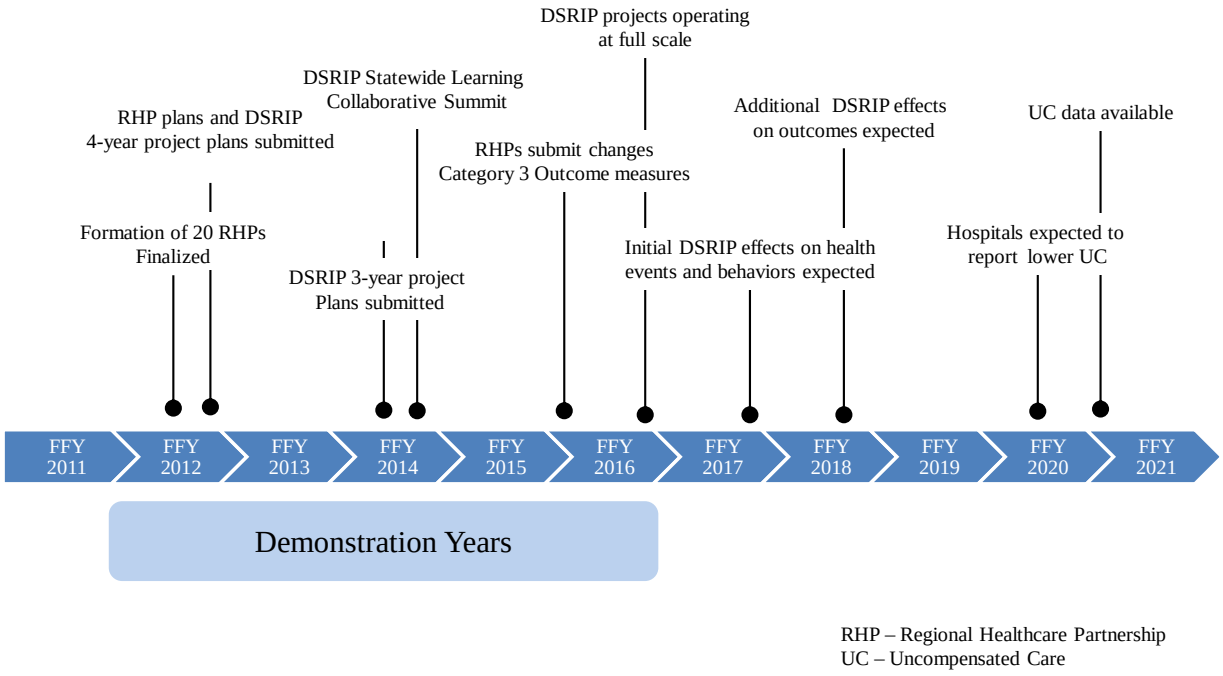
Other aspects of the Program could also affect the amount of UC and, correspondingly, the amount of payments to providers. One example is the patient care navigation DSRIP projects intended to reduce inappropriate emergency department (ED) visits among patients with frequent ED visits. If successful, these programs would reduce the costs of providing services to these patients by ensuring they are provided in the most appropriate, cost-effective setting. Similarly, the Program expanded MMC to new service delivery areas and carved non-behavioral health inpatient services into managed care, which were previously covered through a traditional fee-for-service (FFS) payment system. To the extent managed care delivers services more efficiently than FFS, UC in the form of Medicaid shortfalls should decrease as the share of Medicaid enrollees in managed care increases. Also, some past studies suggest that increasing the share of Medicaid enrollees in managed care reduces the number of individuals who are Medicaid eligible but not enrolled, presumably due to the incentive for the managed care organization (MCO) to enroll more members to secure additional capitation payments (Currie & Fahr, 2005; Holahan, Zuckerman, Evans, & Rangarajan, 1998). If so, then the shift to MMC might be associated with a reduction in hospitals' total unreimbursed cost due to a shift from the uninsured shortfall to the Medicaid shortfall. However, the strength of this phenomenon may be influenced by changes in Medicaid enrollment resulting from implementation of new ACA provisions and provisions for retroactive enrollment of Medicaid-eligible patients who are hospitalized.

DSRIP Project Implementation Timeline

The Program's official demonstration period of 10/1/2011–9/30/2016 could create the false impression that DSRIP projects began as early as 2011. In fact, CMS approved the first round of DSRIP proposals in mid-2013, with additional approvals occurring until mid-2014. Most of the first round DSRIP projects were complicated by receiving Centers for Medicare and Medicaid Services (CMS) approval very shortly before they were due to become operational in DY3 (10/1/2013–9/30/2014). Projects typically began operations with an initial emphasis on staffing and intra- and inter-organizational coordination, as well as frequently infrastructure

development, with relatively few patients affected until DY4. At the initial stages of project implementation, providers generally planned projects to operate at full scale in DY5 (10/1/2015–9/30/2016). In addition to the inherent complexity of the DSRIP projects, leaders were challenged by significant changes in Category 3 outcome measures in February 2014 and May 2014. These changes led to the finalization of Category 3 outcomes in August 2014 with baseline outcomes reporting in October 2014 and first year outcomes measures due in October 2015.[34] Given all of the dynamics described above, the full-scale initial health and related effects of the Program, such as preventable hospital events, are not likely to occur until 2017 and 2018. These dates are after the end of the initial five-year approval period for the Program (10/1/2011–9/30/2016) and two years immediately following the full implementation of DSRIP projects. In turn, these potential changes would affect UC costs reported by hospitals two years later, in 2019–2020, with UC data being available by 2020–2021 (See Figure 13.1).

Figure 13.1. DSRIP Project Timeline[1]



RHP – Regional Healthcare Partnership
UC – Uncompensated Care

[1] *Source: Texas HHSC, 2015b*

Other Factors Potentially Affecting UC

The most obvious and far-ranging changes occurring contemporaneous to DSRIP-program implementation are associated with the ongoing phased implementation of ACA. While the Program does not affect payments made to hospitals for UC under the DSH program, an

[34] Category 3 outcomes include health outcomes such as blood pressure, hemoglobin, and Body Mass Index. These are generally the anticipated results of changes in individuals' health behaviors and disease self-management that are likely to take months to occur and affect health.

anticipated impact of ACA is to reduce the number of uninsured and, thereby, reduce the overall costs to hospitals of providing care to the uninsured. As a result, ACA as originally enacted included planned reductions in aggregate DSH payments over time, ranging from a nationwide reduction of $500 million in Federal Fiscal Year (FFY) 2014 to $3 billion in FFY2020 (Kaiser Family Foundation, 2013). However, as part of the budget agreement passed into law in December 2013, the planned DSH payment cuts were delayed until FFY2017, with DSH cuts of $1.8 billion in FFY 2017, rising to $5 billion in FFY 2023 before falling to $4.4 billion in FFY 2024 and $0 thereafter.[35]

Past studies assessing the impact of reductions in DSH payments on the provision of care to the uninsured provide mixed results. Lo Sasso and Seamster (2007) find no overall impact of lower DSH payments on hospital provision of care to the uninsured, whereas Bazzoli, Lindrooth, Kang, and Hasnain-Wynia (2006) and Hsieh and Bazzoli (2012) conclude that lowering DSH payments induces hospitals providing substantial UC to reduce their provision of UC, but had no impact on hospitals providing modest levels of UC. In general, any impact of anticipated DSH payment reductions on UC for Texas hospitals, given the recent implementation delays, would be limited to the end of the demonstration period, though future DSH payment reductions may be a relevant consideration for an extension or renewal of the waiver. The most likely impact of DSH payment reductions on Texas hospitals would be changes in the uninsured shortfall component of UC, with a larger effect size for hospitals historically incurring more substantial costs of providing care to the uninsured.

Although Texas did not elect to expand Medicaid eligibility under ACA, the most commonly cited micro-simulation forecasting models (e.g., Buettgens, Holahan, & Recht, 2015) conclude that the implementation of ACA will increase Medicaid enrollment whether a state elects to expand Medicaid eligibility or not. It is suggested that the individual insurance mandate is likely to encourage those previously Medicaid eligible but not enrolled to seek insurance. If such individuals seek insurance through the state insurance exchange, the exchanges incorporate simplified "no wrong door" enrollment for those eligible for Medicaid. Of course, many factors affect Medicaid enrollment, but the most recent preliminary Texas Medicaid enrollment data indicate an 11.4 percent increase in enrollment from the first quarter of calendar year (CY) 2014 to the first quarter of CY2015, with no notable change in enrollment over the prior two calendar years statistics (see Table 13.2).

Table 13.2. Average Monthly Texas Medicaid Enrollment, Calendar Year (CY) 2012–CY2015[1], 1st Quarter (Q1)

	CY2012 Q1	CY2013 Q1	CY2014 Q1	CY2015 Q1
Average Monthly Enrollment	3,667,026	3,640,689	3,653,899	4,071,749
Year-over-Year Change (%)	--	-0.7	0.4	11.4

[1] *Source: Texas HHSC website (n.d.a), as of May 15, 2015.*

[35] Cindy Mann. "Medicaid Provisions in Recently Passed Federal Budget Legislation," CMCS Informational Bulletin (December 27, 2013).

Looking beyond Medicaid to the overall Texas health insurance environment, based on estimates from the Current Population Survey (CPS) data for 2013, among the nearly 16 million people in Texas aged 19 to 64, about 54 percent had employer-sponsored health insurance coverage, 6 percent had other private coverage (notably non-group purchased plans), and 8 percent had Medicaid coverage, leaving approximately 28 percent of this group as uninsured. That equates to around 4.5M working aged Texans lacking health insurance coverage in 2013 (Kaiser Family Foundation, 2015). The number and percentage of uninsured in the state had been fairly stable between 2010 and 2013.

Estimates of insurance coverage based on the 2013 CPS data are the most recent available; estimates based on 2014 CPS data are expected to be released in September 2015. However, recent data from the Baker Institute at Rice University suggest that the number of uninsured working-age adults in Texas has decreased substantially over the last year, declining from 25 percent in September 2014 to 17 percent in March 2015 (Ho & Marks, 2015). The researchers conclude that much of this change was from an increase in the percentage of respondents with non-group private plans, from 10 percent in September of 2013 to 18 percent in March of 2015.

Although the Baker Institute analysis is limited by a reliance on an internet-based survey with a completion rate of approximately five percent each quarter, their findings are consistent with other data on the impact of ACA. The ACA had its first open enrollment period between September 1, 2013 and March 31, 2014, but this enrollment period was fraught with technical difficulties (especially for federal-default insurance exchanges like Texas). Despite these difficulties, total enrollment was 745,339 over the first year of operation for the Texas exchange. Some of these people, of course, had lost private coverage or transitioned from Medicaid, but others were newly covered (Carman & Eibner, 2015). In the second enrollment period, November 15, 2014 through February 15, 2015, enrollment through the exchange in Texas was 1,251,270, an increase of 68 percent. The increase of over 500,000 in Texas was only exceeded by California and Florida (Levitt, Cox, & Claxton, 2015).

The health insurance exchange market in Texas has expanded between its first and second year of operation. A 2014 case study of the Texas market (Warner, Richardson, & Colvin, 2014) found that there were 11 health insurance carriers participating in the federal-default Texas exchange:

- Blue Cross Blue Shield of Texas provided coverage in all 254 counties,
- FirstCare provided coverage in 108 counties,
- Scott & White provided coverage in 51 counties, and
- Aetna provided coverage in 49 counties.

The other seven carriers offered coverage in many fewer counties, typically in selected regions in the state. The authors concluded that counties with more carriers had lower premiums, after adjusting for other factors affecting premiums across counties. In that context, it is important to note that three new carriers entered the Texas exchange market between the first and second open enrollment period: AssurantHealth, United HealthCare, and WelcomeHealth. Moreover, there was at least one new carrier offering coverage in virtually all of the 25 metropolitan areas; in many metro counties there were several new carriers. Unlike year one, no metro county in

year two had only a single qualified insurer offering coverage.[36] Thus, if greater insurer competition within the state insurance exchange led to lower insurance premiums over time, the recent increase in enrollment could stem, in part, from an improvement in the affordability of exchange-purchased health insurance.

To date there is no direct evidence of the effects of post-ACA changes in the Texas insurance market on the extent of UC. A recent case study by Coughlin, Long, Peters, Rudowitz, and Garfield (2015) drew on interviews with representatives of nine safety-net hospitals (including two located in Texas) concerning their 2014 experiences after ACA implementation which resulted in five observations relevant to the Texas experience.

- The Texas safety-net hospital representatives saw no significant changes in the volume of either Medicaid or uninsured patients during 2014.
- Through the fall of 2014, these hospitals saw few patients covered by the health insurance exchange.
- One of the hospitals had developed a qualified health plan included in the exchange, but had only modest enrollment.
- Both hospitals were re-evaluating their charity care policies in light of the existence of subsidized plans available through the exchange.
- Both hospitals were concerned about the reductions in DSH payments under ACA.

While one cannot generalize from two hospitals, their experience is perhaps suggestive and likely consistent with the trends in Texas insurance coverage prior to 2015.

METHODS

UC Allocation Methodology

The total UC pool is split into distinct UC pools for different types of providers (including large public, small public, and private hospitals). If UC costs in a pool exceed the funds allocated to that pool, payments are reduced in the pool so that the total payments from the pool do not exceed funds allocated for that pool. Pool size is based on the ratio of each pool's "UC need" to the total of all "UC need" across the pools, where "UC need" is defined as the total unreimbursed costs plus an amount related to DSH IGT as appropriate. For large public hospitals, it is the amount equal to the IGT provided to private hospitals and their own hospitals in the form of DSH payments. For small public hospitals, it is an amount equal to the IGT provided to their own hospitals in the form of DSH payments. For private hospitals, by definition there are not IGT related amounts to add (Texas Health and Human Services Commission, 2015e).

[36] Personal communication, Michael A. Morrisey, Texas A&M University, School of Public Health (May 4, 2015). Data drawn from: https://www.healthcare.gov/health-plan-information/

UC Tool Data

The UC data reported in the descriptive analysis presented were obtained from the Texas Hospital Uncompensated Care Tool (UC Tool) files for 2012 and 2013. The first year of UC payments were based on data reported from October 1, 2009 to September 30, 2010 and reported in the 2012 UC Tool. Similarly, the 2013 UC payments are based on data reported from October 1, 2010 to September 30, 2011 and reported in the 2013 UC Tool. This data lag is due to the need for hospitals to have time to reconcile and finalize their financial data (see Table 13.1). DY1 of the Program started on October 1, 2011. The two-year lag in the data means that for this interim report there are no available data on hospital UC after the Program implementation. More detail is provided in the conclusion section about the need for additional follow up time due to this data limitation.

In 2012, 301 hospitals reported total unreimbursed costs or the hospital unreimbursed costs plus uncompensated physician, clinic, and pharmacy costs (see Table 13.3). In 2013, 348 hospitals reported total unreimbursed costs. The actual UC payments each year are based on the total unreimbursed costs for each hospital and available UC pool funding. To focus on changes in UC cost, the descriptive data analysis sample only includes the 291 hospitals that had a positive value for total unreimbursed costs in both the 2012 and 2013 UC Tool files.

Key Data Elements

Table 13.3 provides a description of the key data elements included in the analysis. These include the Medicaid shortfall, the uninsured shortfall, the inflation adjustment, the Hospital Specific Limit (HSL), hospital reimbursed cost, hospital-affiliated services, and total unreimbursed costs.

Table 13.3. Key Data Elements[1]

Data Element	Description
Medicaid shortfall	The Medicaid costs not covered by Medicaid rates (both inpatient and outpatient): • Medicaid rates cover approximately 58% of Medicaid costs, on average, for general Medicaid hospitals (excluding children's, rural, and state-owned) • Medicaid rates cover 67% of Medicaid costs, on average, for all Medicaid hospitals. • For outpatient care, for general hospitals, rules limit payments to 72% of cost for high volume providers and 68% of cost for all other hospitals. • For children's, rural and state-owned hospitals, outpatient rules limit payments to 76% for high volume providers and 73% for all others
Uninsured shortfall	Costs for both inpatient and outpatient services delivered to persons during the data year which have no payments made to the hospital by another third party
Inflation Adjustment	Due to the two year data lag, the sum of Medicaid shortfall and uninsured shortfall is adjusted for inflation to reflect current value.
Hospital Specific Limit (HSL)	The sum of the hospital's Medicaid shortfall and the hospital's unreimbursed costs of caring for the low-income uninsured individuals (uninsured shortfall). Each hospital that is eligible may receive combined Disproportionate Share Hospital (DSH) and Uncompensated Care payments up to its HSL, if there are sufficient non-federal funds to support these payments.
Hospital Unreimbursed Costs	HSL minus the DSH payments
Hospital-affiliated physician, clinic, and pharmacy services	Under the Program, hospitals may also receive payments for the uncompensated physician, clinic, and pharmacy costs.
Total Unreimbursed Costs	Hospital unreimbursed costs plus uncompensated physician, clinic, and pharmacy costs

[1] *Source: Texas HHSC, 2015b & Texas HHSC, n.d.b*

Descriptive Analysis

The descriptive analysis begins by reporting the Medicaid and uninsured shortfall for all 291 hospitals in the sample for 2012 and 2013, followed by reporting the reduction in total UC associated with DSH payments, resulting in hospital unreimbursed costs. Finally, the total unreimbursed costs for the 291 hospitals are reported by adding in the hospital-affiliated physician, clinic, and pharmacy services to the hospital unreimbursed costs.

Subgroup analysis is reported for different hospital types as follows.

- **Public versus Private**. As discussed above, the total UC pool is split into distinct UC pools for different types of providers. This distinct pool methodology was not implemented until 2014. Thus, UC patterns were examined separately by public, private, and state hospitals for both years. This report includes the UC cost comparison for public hospitals and private hospitals only because state hospitals (N=23) operate under very different financial arrangements.

- **RHP Tiers.** Although most Evaluation Goal 5 analyses use the hospital as the unit of analysis, the RHP is also relevant as the basic geographic region created for purposes of the Program. Each RHP was given a tier designation based on the distribution of the State's low income population, below 200 percent of the Federal Poverty Limit (FPL), residing within the RHP. Even UC-only hospitals that do not engage in any DSRIP projects are required to participate in an RHP. Thus, UC cost is examined separately by RHP Tier as a means of comparing RHPs according to the proportion of the State's low-income population served. This is relevant because of the Program's emphasis on the underserved. Hence, the comparison of the four Tiers provides a tractable means of comparing sets of RHPs that share a meaningful commonality in the populations they serve.
- **Urbanicity.** There are many ways to conceptualize urbanicity. This study used two different urban-rural classification systems to differentiate changes in UC costs for urban and rural hospitals.
- **The 2013 Rural-Urban Continuum Codes (RUCC)** are released by the USDA Economic Research Service based on population size, urbanization, and proximity to urban areas. RUCC was chosen as the national standard for categorizing counties according to urbanicity. Urbanicity tends to be associated with varying population needs, provider availability, and travel times to healthcare.
- **Rider 38 Hospitals.** Through a special budget provision, the Texas Legislature requires Medicaid FFS and encourages Medicaid MCOs to pay close to full costs for rural hospitals due to the diseconomies of scale and hence financial vulnerability of these small facilities. Separate analyses were conducted on this subset of rural hospitals (n=133) to facilitate comparison with other State reports because the identification of Rider 38 hospitals does not fully match categories derived from RUCC codes.

Stakeholder Perceptions

In addition to the UC program data, for Evaluation Goals 10 and 11, stakeholders whose organizations were affected by the UC program were asked about their perceptions of the strengths and weaknesses of UC compared to the previous UPL program, as well as their recommendations for improvement. Results from the stakeholder survey data are summarized briefly in the results section of this report but are reported in more detail in Chapter 9.

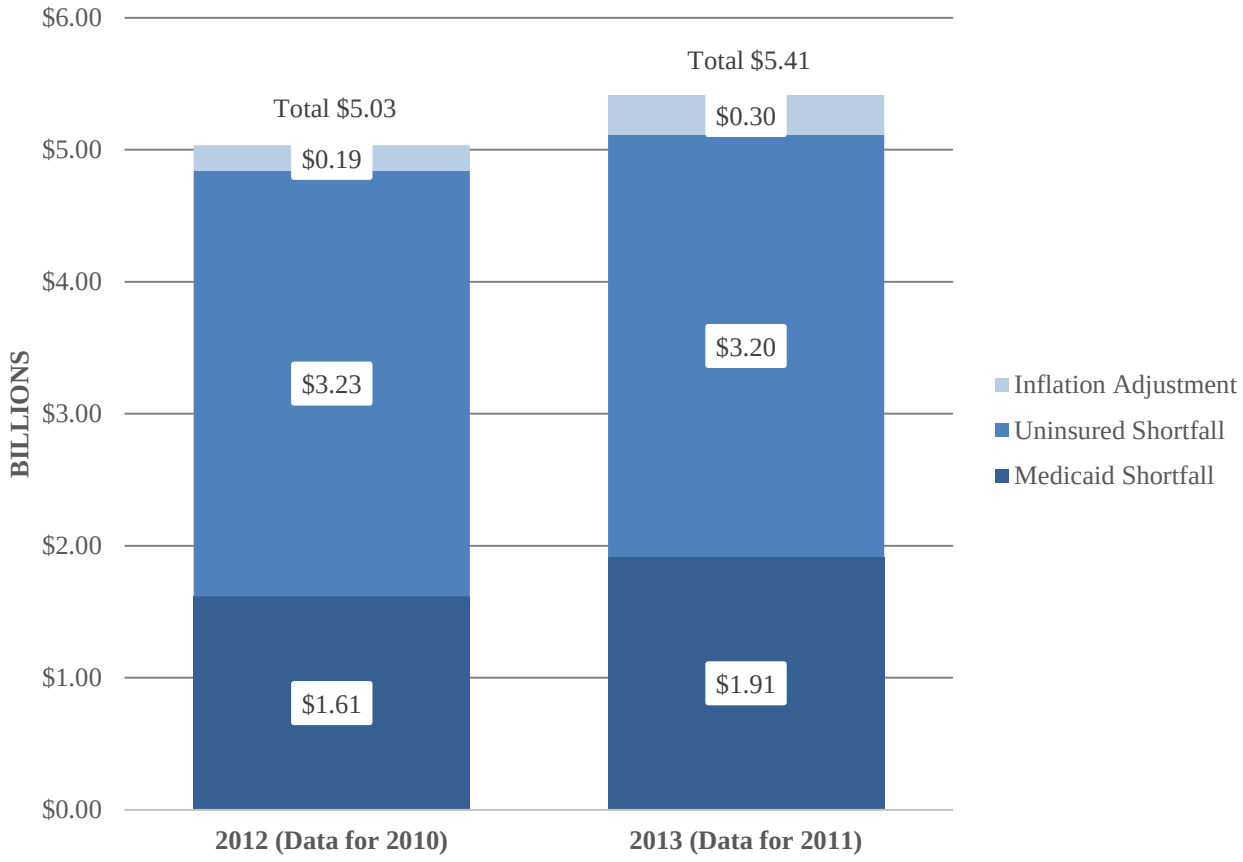
RESULTS

Descriptive Analysis of Current UC Data

The main components of reported hospital UC are the Medicaid shortfall and the uninsured shortfall. As these cost data represent costs two years prior to the reporting year, an inflation adjustment factor is added to yield an updated total hospital UC estimate for the payment year. In federal fiscal year (FFY)12, the inflation adjustment rate was four percent and in FFY13 it was just under six percent. As shown in Figure 13.2, from FFY10 to FFY11 (UC Tool data years FFY12 and FFY13), overall hospital UC increased from $5B to $5.4B (reflecting an eight

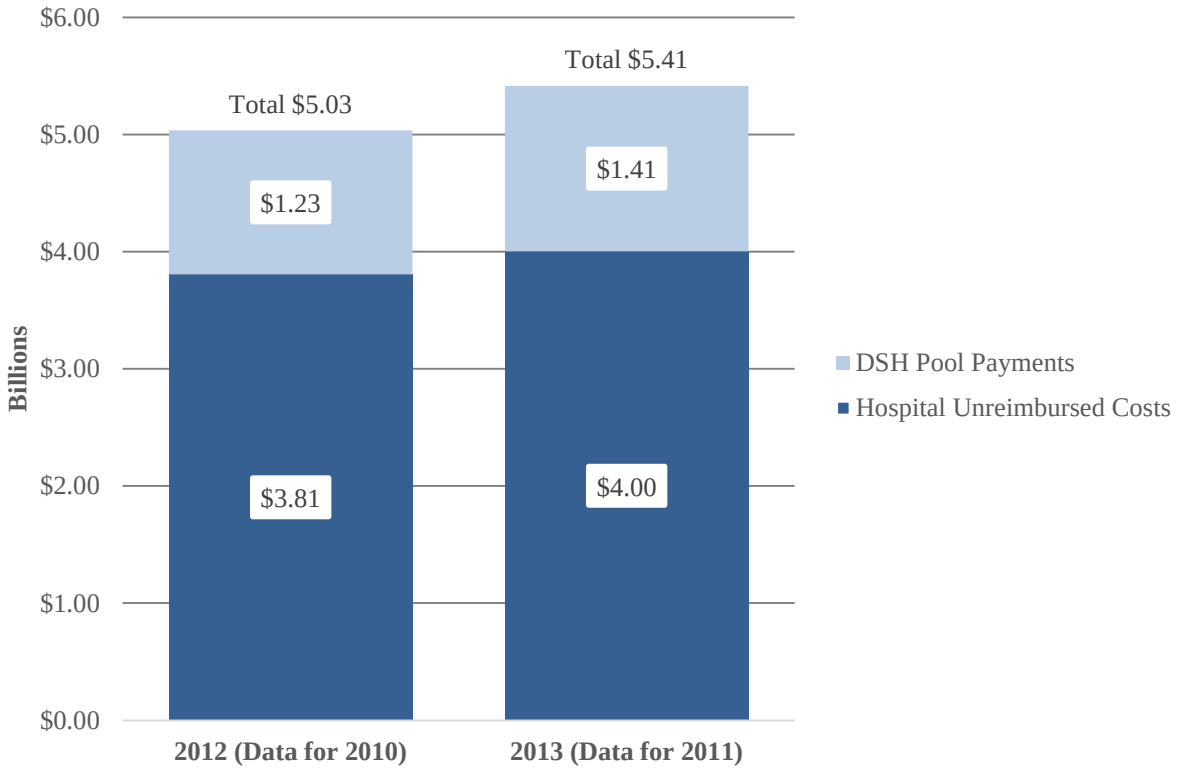
percent increase), with a $299M (19 percent) increase in the Medicaid shortfall accounting for most of the overall increase. There was a slight decrease (one percent) in uninsured shortfall from FFY10 to FFY11.

Figure 13.2. Components of Hospital Uncompensated Care Reported for Federal Fiscal Year 2010 & Federal Fiscal Year 2011 (N=291)



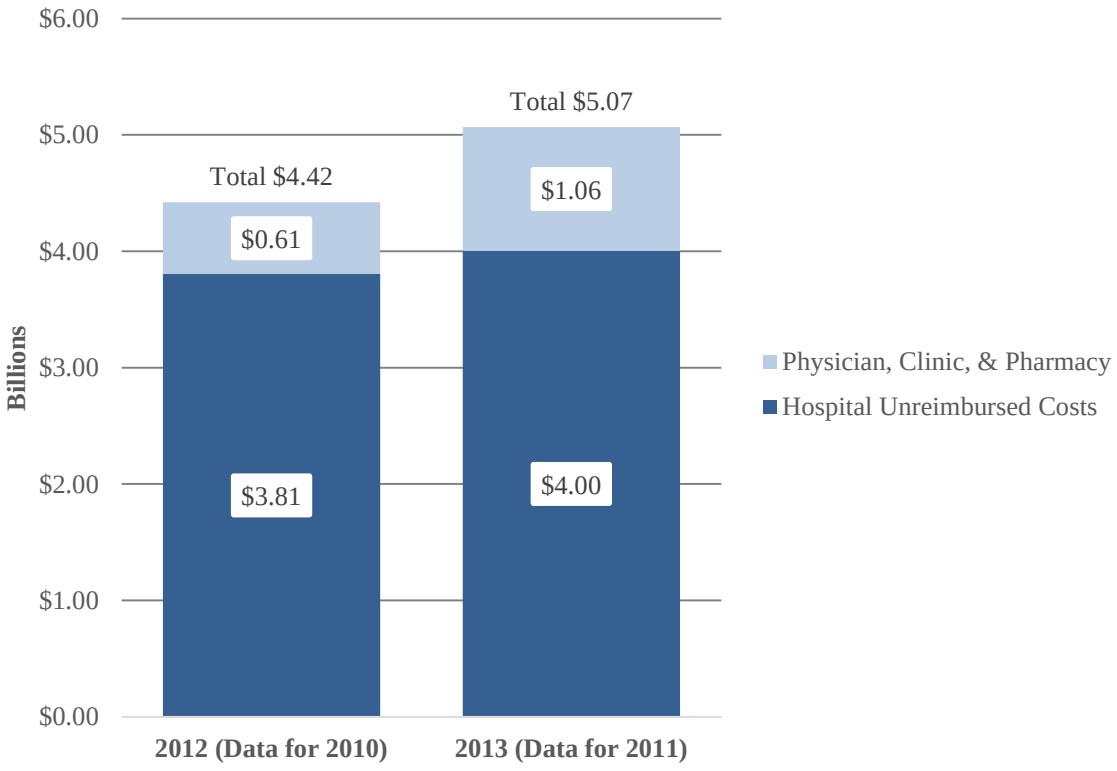
The total hospital UC estimate was adjusted for the level of DSH payments received by the hospital to yield an estimate of the hospital unreimbursed costs. Total DSH payments overall increased from FFY10 to FFY11 (fifteen percent), but the residual hospital unreimbursed cost increased by five percent (see Figure 13.3). Note as well that these data predate the phased reductions in DSH payments under ACA, now scheduled to begin in FFY17.

Figure 13.3. Hospital Unreimbursed Costs after Disproportionate Share Hospital (DSH) Payments (N=291)



In addition to the estimate of UC relating to hospital services, the UC tool allows hospitals to report UC related to hospital-affiliated physician, clinic, and pharmacy services. As shown in Figure 13.4, this latter component of total unreimbursed costs has been small relative to the hospital component, but from FFY10 to FFY11, it grew substantially, from $613M to $1.1B (a 74 percent increase).

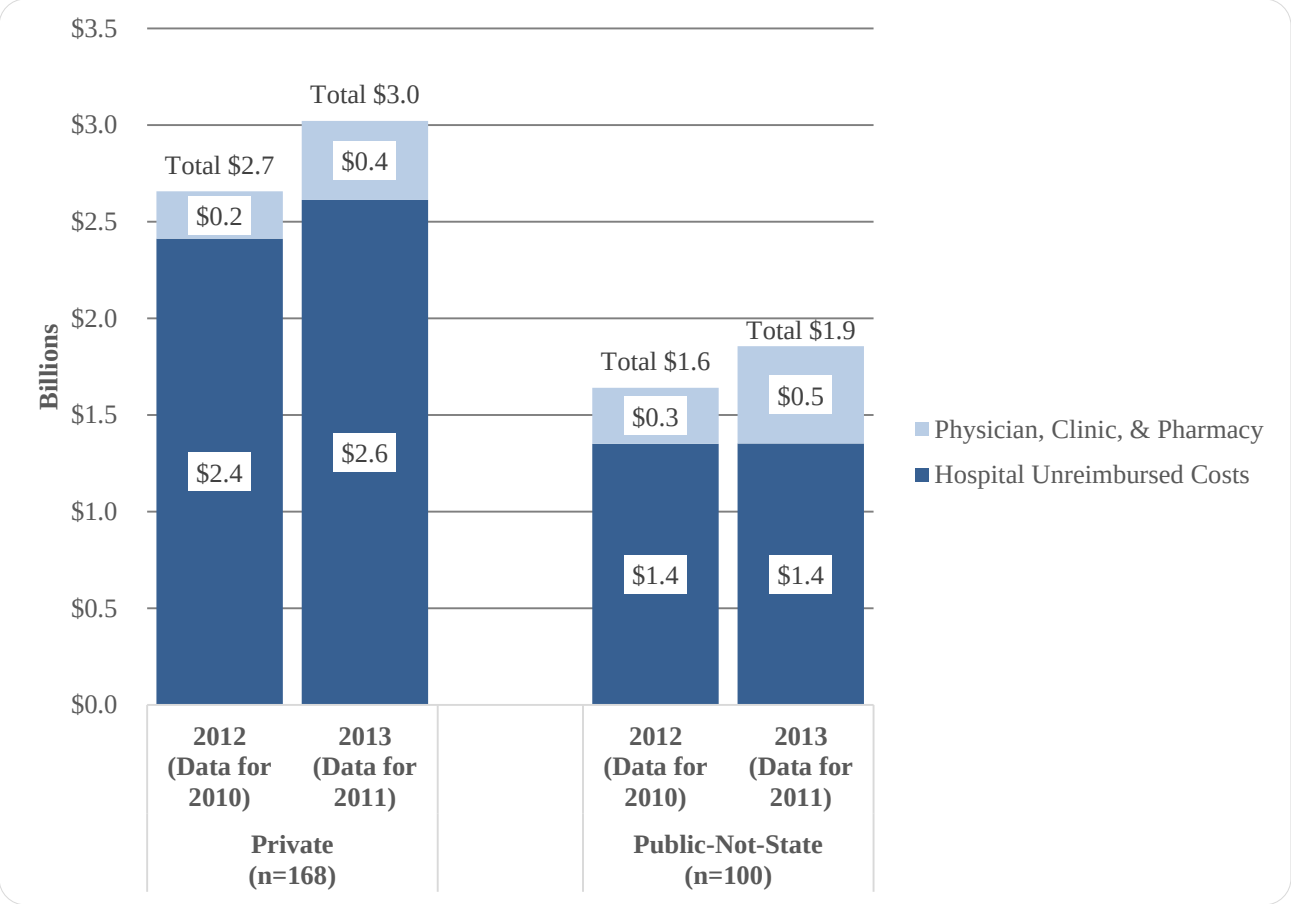
Figure 13.4. Total Unreimbursed Costs: Hospital and Physician, Clinic, and Pharmacy (N=291)



UC by Hospital Subgroups: Private vs. Public-Not-State

For this analysis, state owned hospitals (N=23) were excluded, as their finances work differently from the other hospitals. As shown in Figure 13.5, the overall percentage increase in total unreimbursed costs from FFY10 to FFY11 was similar for Private and Public-Not-State hospitals (14 percent and 13 percent respectively). Hospital unreimbursed costs were relatively stable for both types of hospitals, in part due to modest increases in DSH payments: Six percent and five percent for Private and Public-Not-State hospitals respectively (not shown in Figure 13.5). However, hospital-affiliated physician and ancillary services unreimbursed costs increased by 67 percent for Private hospitals and 74 percent for Public-Not-State hospitals.

Figure 13.5. Total Unreimbursed Costs: Hospital and Physician, Clinic, and Pharmacy by Ownership (N=268)



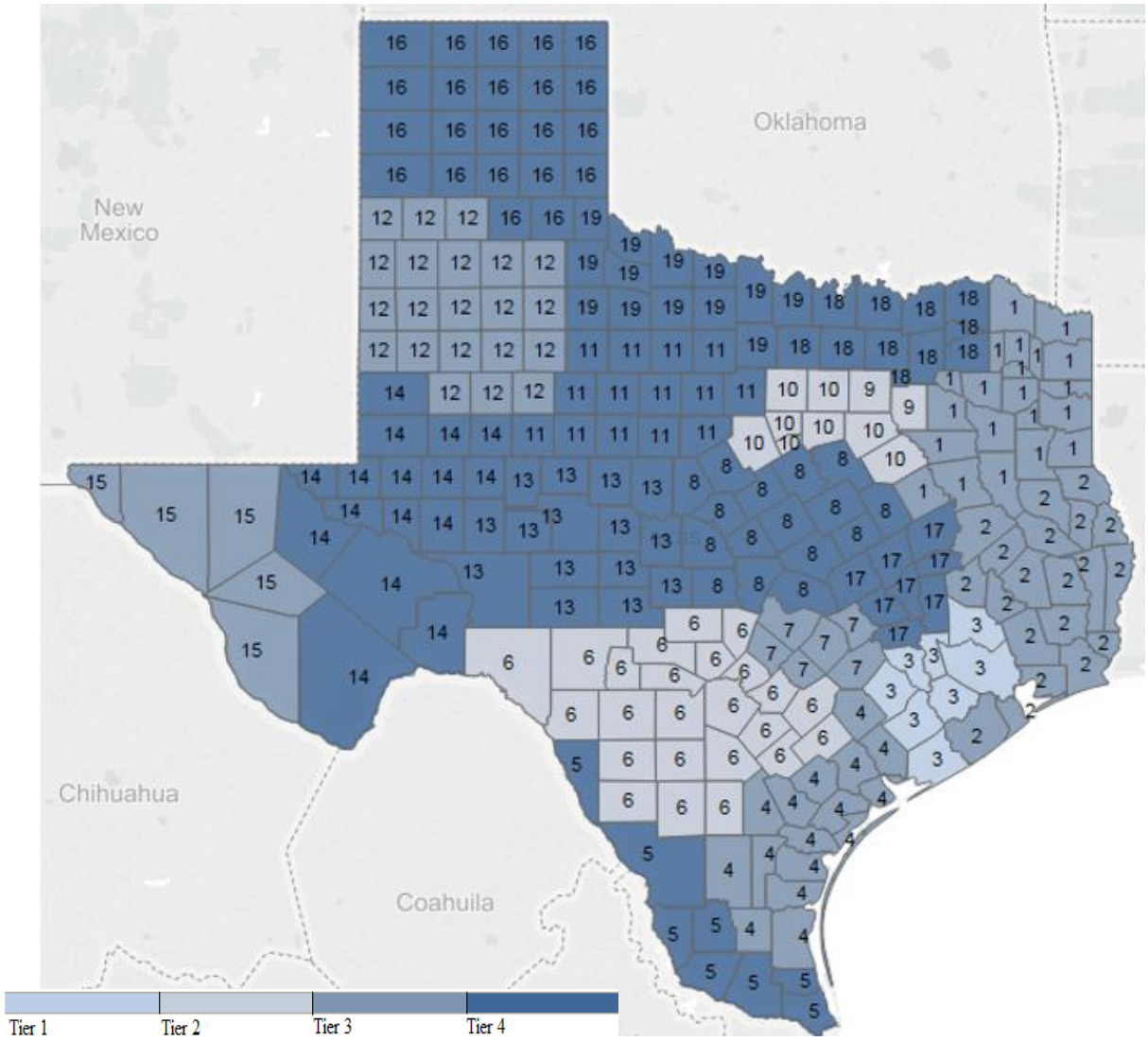
UC Costs by Hospital Subgroups: RHP Tiers

RHP is the basic geographic region created for purposes of the Program. All hospitals, including those participating only in the UC program, must participate in an RHP. Each RHP is classified into one of four Tiers based on the distribution of the State's low-income population residing within the RHP. Thus, the UC costs were examined by RHP Tiers.

- Tier 1 RHP: Contains more than 15 percent share of the statewide population under 200 percent FPL for 2006–2010;
- Tier 2 RHP: Contains at least 7 percent and less than 15 percent share of the statewide population under 200 percent FPL for 2006–2010;
- Tier 3 RHP: Contains at least 3 percent and less than 7 percent share of the statewide population under 200 percent FPL for 2006–2010;
- Tier 4 RHP: An RHP is classified as Tier 4 if one of the following three criteria are met:
    - The RHP contains less than 3 percent share of the statewide population under 200 percent FPL as for 2006–2010;
    - The RHP does not have a public hospital; or
    - The RHP has public hospitals that provide less than 1 percent of the region's UC.

The percentage of the population under FPL was determined using the 2006–2010 American Community Survey. These tiers approximately represent a spectrum from the most urban to the most rural regions. For example, the only Tier 1 RHP is the Houston region. Figure 13.6 depicts the different tiers by RHP (number indicated inside the region).

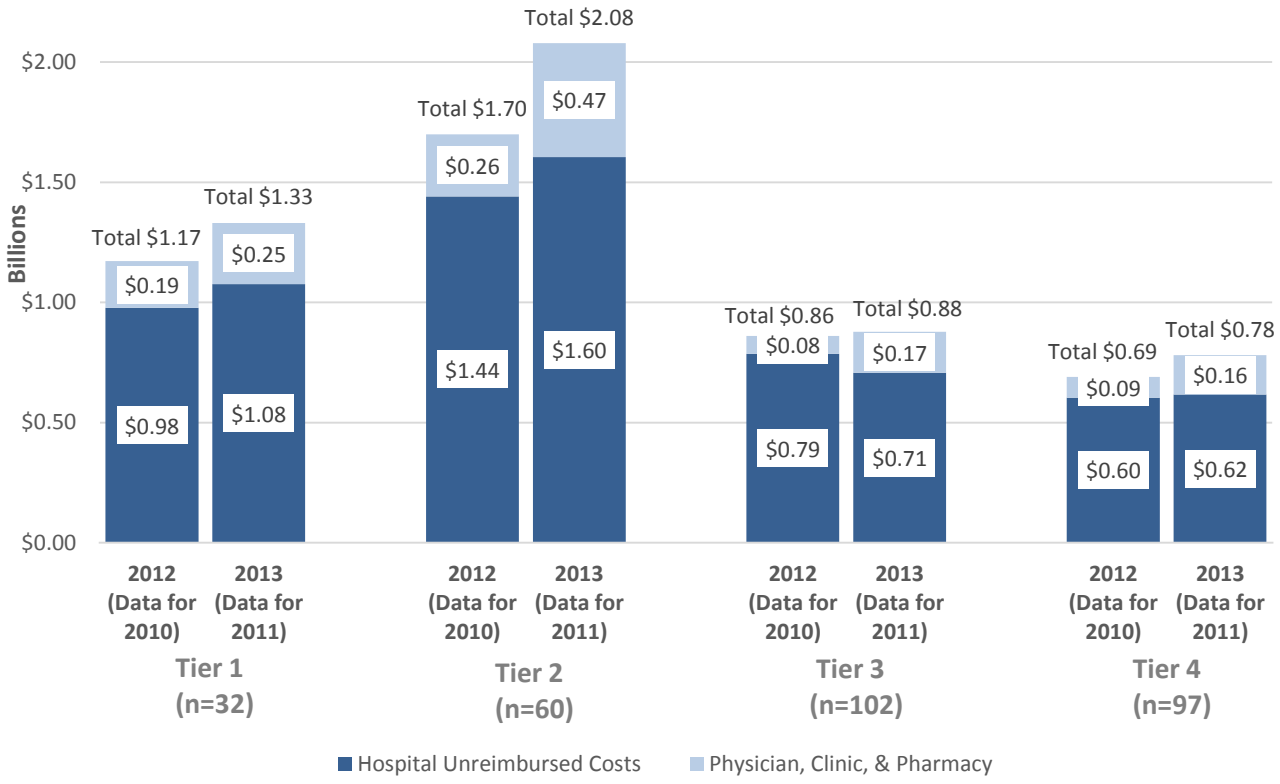
Figure 13.6. Regional Healthcare Partnership (RHP) Tier Map[1]



[1] Numbers shown in the map designate RHPs.

As shown in Figure 13.7, hospitals in the RHP Tiers with the greatest shares of low-income population (Tiers 1 and 2) had greater hospital unreimbursed costs compared to hospitals in RHPs in Tiers 3 or 4. Hospitals in Tier 2 RHPs had the greatest level of total unreimbursed costs, and the largest increase from FFY10 to FFY11 (22 percent, compared to 14 percent for Tier 1, 13 percent for Tier 4, and 2 percent for Tier 3). The higher rate of growth in hospital unreimbursed costs for Tier 2 hospitals was in part a result of an eight percent decrease in DSH payments, compared to increases in DSH payments for hospitals in other tiers (97 percent for Tier 4; 31 percent for Tier 3; and 4 percent for Tier 1—DSH data not shown in Figure 13.7). For all four tiers, hospital-affiliated physician and ancillary services unreimbursed costs increased faster than hospital unreimbursed cost (128 percent for Tier 3; 92 percent for Tier 4; 84 percent for Tier 2; and 31 percent for Tier 1).

Figure 13.7. Total Unreimbursed Costs: Hospital and Physician, Clinic, and Pharmacy by Regional Healthcare Partnership Tier (N=291)



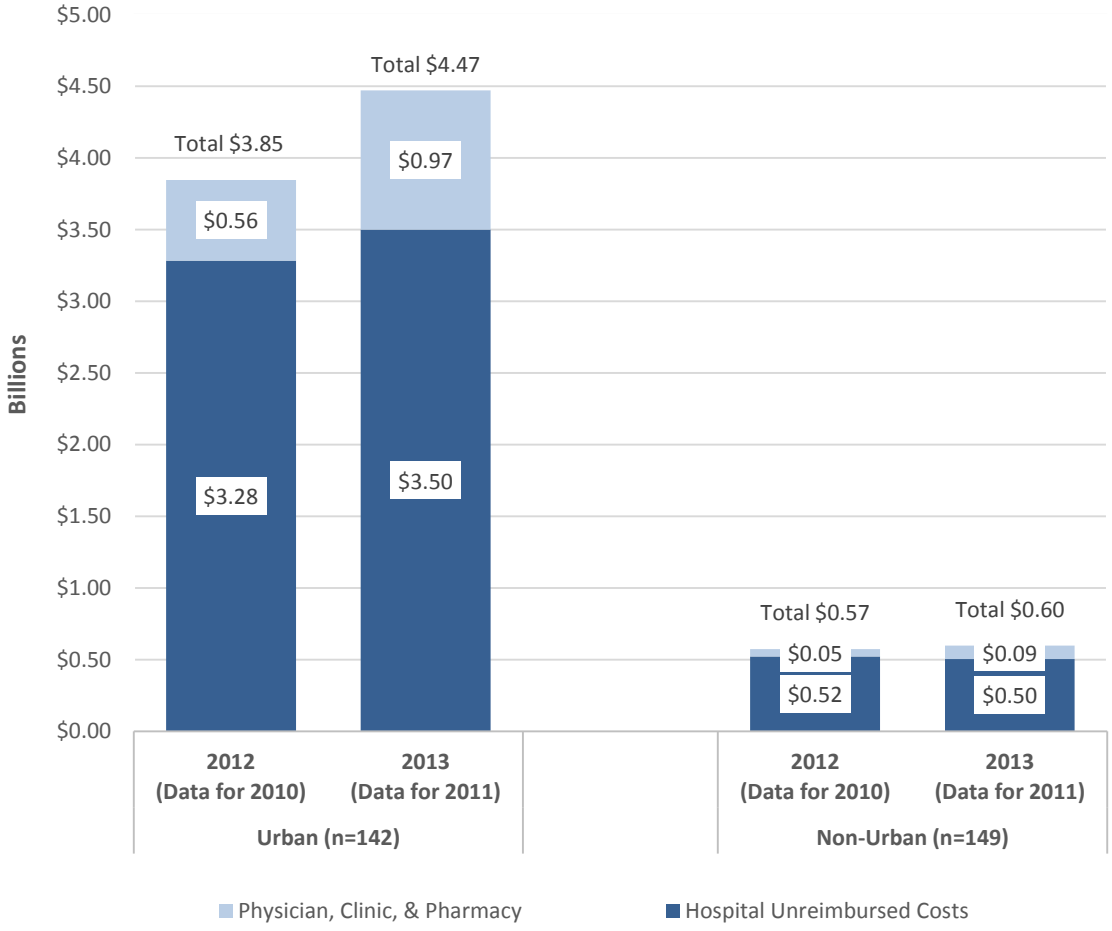
UC Costs by Hospital Subgroups: Urban/Rural Hospitals

RUCC Classification

Two different urban-rural classification systems were used to differentiate changes in UC for urban and rural hospitals. The first is the 2013 RUCC by the United States Department of Agriculture (USDA) Economic Research Services (United States Department of Agriculture, n.d.). RUCC classifies the degree of urbanization for each county along a continuum of nine codes based on the population size of metro areas within metropolitan counties, and by the degree of urbanization and adjacency to a metro area for nonmetropolitan counties. Each hospital was assigned the RUCC code for the county in which the hospital was located. To differentiate beyond the default USDA metro–non metro dichotomization, RUCC codes 1 and 2 were defined as urban, 3 to 7 as suburban, and 8 or 9 as rural. Due to the small number and small magnitude of UC costs for rural hospitals (RUCC=8 and 9), the data reported in Figure 13.8 combined suburban and rural categories to focus on differences for urban (RUCC=1 and 2) and non-urban (RUCC=3 through 9) hospitals.

As shown in Figure 13.8, hospitals with an RUCC urban classification had greater levels of total unreimbursed costs than suburban and rural hospitals combined, and the rate of increase from FFY10 to FFY11 for urban hospitals (16 percent) exceeded the rate for suburban and rural hospitals combined (4 percent). The lower rate of growth for non-urban hospitals was in part a result of a 107 percent increase in DSH payments, compared to a 2.4 percent increase for urban hospitals. There was a particularly dramatic increase in DSH payments for rural hospitals, from $520K in FFY10 to $1.9M in 2011 (DSH data not shown in Figure 13.8).

Figure 13.8. Total Unreimbursed Costs: Rural-Urban Continuum Codes Urban and Non-Urban Hospitals

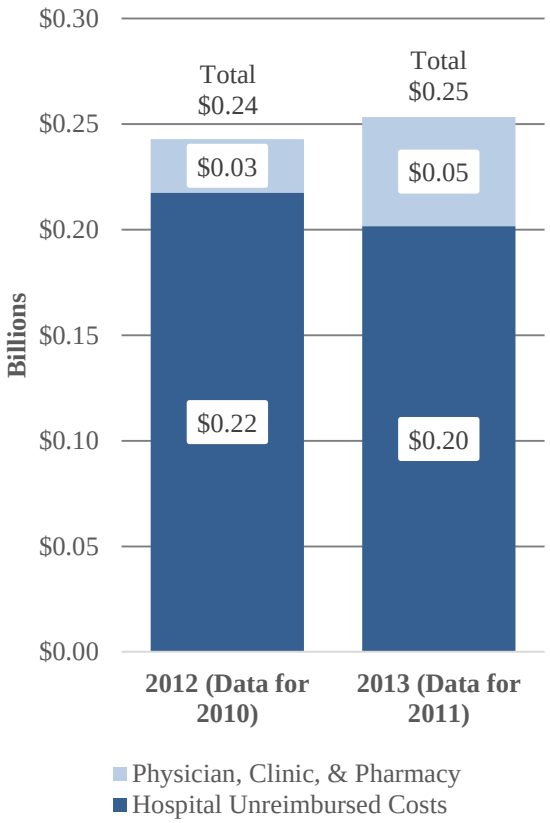


Rider 38 Rural Hospitals

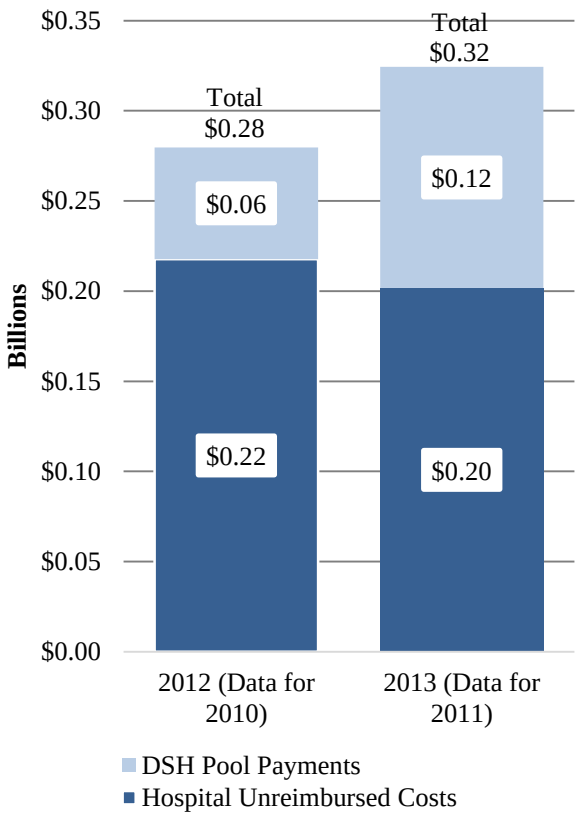
Rural hospitals that met the Rider 38 qualification criteria (N=133) were also examined. Again, these criteria do not align directly with the RUCC classification. Rider 38 directs HHSC to reimburse rural hospital inpatient rates at a level to approximate full cost. The rider directs Medicaid MCOs to consider these full cost rates while contracting with rural hospitals. As shown in Figure 13.9(a), total unreimbursed costs increased modestly for Rider 38 hospitals (four percent), despite a seven percent decrease in hospital unreimbursed costs, due to a 105 percent increase in hospital-affiliated physician and ancillary services unreimbursed costs. As shown in Figure 13.9(b), the decrease in hospital unreimbursed costs among Rider 38 hospitals was mainly due to a 98 percent increase in DSH payments. As noted, DSH payments are now scheduled to decrease from FFY17 through FFY23 under ACA.

Figure 13.9. Rider 38 Rural Hospitals (N=133)

(a) Total Unreimbursed Costs, Hospital and Physician, Clinic, and Pharmacy



(b) Hospital Unreimbursed Costs after Disproportionate Share Hospital (DSH) Payments



UC Costs in 2012 and 2013

The descriptive analyses of the UC cost data for FFY10 and FFY11, used to derive UC payments for FFY12 and FFY13, using the two different urban/rural classifications generally produce qualitatively similar results. Urban hospitals tend to have had both greater levels of total unreimbursed costs and had higher rates of growth in total unreimbursed costs, compared to more rural hospitals. More rural hospitals benefited from a higher rate of growth in DSH payments compared to more urban hospitals. However, as noted, aggregate DSH payments are scheduled to decrease under ACA every year through FFY20. It is not clear whether the differential advantage for rural hospitals in DSH payment trends from FFY10-FFY11 relative to more urban hospitals will extend into smaller percentage reductions in future DSH payments under ACA.

Stakeholder Perceptions

A detailed discussion of these findings is provided in Chapter 9. A summary of the results are provided below.

- Stakeholders identified three key strengths of the UC program relative to the former UPL program:
  - Increased available resources,
  - New incentives to improve outcomes, and
  - Increased collaboration and participation in the program.
- Stakeholders identified weaknesses:
  - The complexity of UC relative to UPL,
  - Untimely and unpredictable payments,
  - Reduced payments compared to UPL, and
  - The exclusion of certain providers and services from the UC program.
- Recommendations included:
  - Simplifying the program, and
  - Improving the timeliness of payments by implementing a quarterly payment schedule.

Need for More Follow-up Time for Final Evaluation Goal 5 Report

The level of each hospital's total unreimbursed costs, which are partially reimbursable from the UC pool for the current year, is determined by adjusting the levels of costs from two years prior, accounting for inflation. That is, hospitals complete a "UC Tool" report on their financial data from two years prior, which produces estimates of the hospital's costs of providing services to the uninsured and to Medicaid patients, less any payments received during the reporting period (i.e., the uninsured and Medicaid shortfall amounts). Once these estimates have been evaluated, the level of payments to a hospital to provide reimbursement for UC can be determined. Unfortunately, this process requires two years or more from the date of the UC tool data to complete, meaning that the availability of complete UC program data is lagged approximately two and a half to three years.

Thus, as illustrated in Table 13.1, the first year of complete UC data collected under the new system was for data pertaining to UC levels for individual hospitals in FFY10, and the most recent currently available data pertains to UC levels for individual hospitals in FFY12. By the time the final Evaluation Goal 5 report will be due, the most recent available data at that time will be for FFY13. Thus, complete UC data will not be available for Program after DY3. As outlined previously, most first round DSRIP projects began operations in DY3, and even those were generally affecting few or no patients at that point in time. Thus, essentially no complete post-DSRIP UC cost data will be available for the final evaluation under the original evaluation timeline.

The original evaluation plan focuses on estimating the effect of the Program on UC with an analysis plan that shows "how the effects of the Demonstration [on UC] shall be isolated from other initiatives occurring in the State." This task requires some form of multivariate statistical model to estimate the impact of the Program on UC adjusting for other changes in Texas likely to impact UC. For example, a "differences in differences (DID)" modelling approach was considered as one option (see e.g., Dimick & Ryan, 2014). Generally, the precision of the DID estimator improves with a longer time trend pre/post intervention. Thus, at least two years of pre-intervention and two years of post-intervention data would be required. Such data will not be available during the current evaluation timeline.

CONCLUSION

The Program was designed to reduce the need for UC by improving disease prevention and management through managed care expansion and delivery system innovations. Analysis of UC cost data for FFY10 and FFY11 revealed that urban hospitals tend to have had both greater levels of total unreimbursed costs and higher rates of growth in total unreimbursed costs, compared to more rural hospitals. These results reflect in part the greater total population and population growth rate in urban compared to non-urban areas. Unfortunately, data were not available to reflect on the trends of UC costs during the Program period. Due to the combination of delays in DSRIP project implementation and a two-year lag inherent in UC cost reporting, no causal inferences can be made at this point, or even in the final report about the impact of the Program on UC costs. Hence, although the State will continue to monitor both DSRIP implementation and UC costs, HHSC will need more time after the current five-year period to measure the impact of the Program on UC costs.

CHAPTER 14
NEXT STEPS

Preliminary evaluation results highlighted challenges related to the implementation of the Texas Healthcare Transformation and Quality Improvement Program waiver ("Program") and recommendations to address those issues. While it is premature to report on Program health outcomes, the increased organizational collaboration and coordination of services suggest the initiation of active system transformation efforts. Overall, additional time is necessary to further examine the impact of Interventions I and II of the Program on client health outcomes and uncompensated care (UC) costs.

Texas will be able to provide a more comprehensive analysis of these health outcomes, indicators of system transformation, and costs in the final report to the Centers for Medicare and Medicaid Services (CMS), as described in the Medicare and Medicaid Services Special Terms and Conditions 11-W-00278/6 (STCs). Most of the scope of the final report has been set from the time of CMS' original approval of Texas' 1115(a) waiver application. However, legislative changes to Medicaid managed care (MMC) enacted in 2013 were implemented in 2014 and 2015, more recently than the reporting period for this interim report. CMS approved revisions to the STCs, including the addition of evaluation questions that address the recent changes to MMC.

The scope of the final report on the Program evaluation is briefly summarized below.

INTERVENTION I: MMC EXPANSION

The evaluation of Intervention I (the expansion of MMC) for the final report will address Evaluation Goals 1–4. Compared to the interim report, the final report will extend analyses to Program demonstration years (DYs) 2014–2015 and add any state legislative or federal changes to the Program since implementation. In summary, the final report will include the following.

STAR

- An extension of the evaluative analyses timeline to DYs 2014–2015 for each measure will examine the impact of MMC expansion on the State of Texas Access Reform (STAR) population.
  - Process indicators evaluating the impact of MMC expansion on STAR care coordination will be addressed in the final report.
  - Health outcome indicators evaluating the impact of MMC expansion on STAR pharmacy benefit carve-in, preventable emergency department utilizations, and preventable hospitalizations admissions and readmissions will be addressed in the final report.
- Senate Bill (S.B.) 58, 83rd Legislature, Regular Session, 2013 carved in mental health rehabilitation and targeted case management services into MMC on September 1, 2014. The

final report will evaluate the impact of carving in behavioral health services to STAR populations on quality of care and care coordination as compared to the carving out of behavioral health services in the NorthSTAR program (Amendment STC 70.a.i.E). This may be examined using a measure regarding health service utilization, such as diabetes screening of members ages 18–64 who have schizophrenia or bipolar disorder and who are using antipsychotic medications (HEDIS®).

STAR+PLUS

- An extension of the evaluative analyses timeline to DYs 2014–2015 for each measure will examine the impact of MMC expansion on the STAR+PLUS population.
  - Process indicators evaluating the impact of MMC expansion on STAR+PLUS care coordination will be addressed in the final report.
  - Health outcome indicators evaluating the impact of MMC expansion on STAR+PLUS pharmacy benefit carve-in and preventable hospitalizations readmissions will be addressed in the final report.
- On September 1, 2014, STAR+PLUS benefits were expanded to 164 Medicaid Rural Service Area (MRSA) counties (S.B. 7, 83rd Legislature, Regular Session, 2013). Due to this expansion, the final report will extend analyses geographically to MRSA areas and may include an existing Service Delivery Area (SDA) as a comparison site (e.g., Harris, Travis, or Dallas SDA).
- S.B. 58, 83rd Legislature, Regular Session, 2013 carved in mental health rehabilitation and targeted case management services into MMC on September 1, 2014. The final report will evaluate the impact of carving in behavioral health services to STAR+PLUS populations on quality of care and care coordination as compared to the carving out of behavioral health services in the NorthSTAR program (Amendment STC 70.a.i.E). This will be examined using a measure regarding one example service, such as diabetes screening of members' ages 18–64 who have schizophrenia or bipolar disorder and who are using antipsychotic medications (HEDIS®).
- As part of the nursing facility carve-in that became effective March 1, 2015, the final report will include a sentinel measure to evaluate the impact of carving in nursing facility services on quality of care (STC 70.a.i.F).

Experience Rebate versus Medical Loss Ratio

- An extension of the evaluative analyses timeline to DYs 2014–2015 to examine the experience rebate versus medical loss ratio and whether changes could be made to either model to improve upon the intended purpose of such mechanisms (STC 70.a.i.C).

INTERVENTION II: HEALTHCARE DELIVERY SYSTEM TRANSFORMATION

The evaluation of Intervention II (healthcare delivery system transformation) will address Evaluation Goals 5–11. The next steps for each evaluation goal are described below.

Changes in Regional Healthcare Partnership (RHP) Collaboration and Stakeholder Feedback

- The final round of data collection for the network analyses is scheduled to begin in November 2015. Data collection will focus on collaborative activities within RHPs during the 12 months prior (approximately DY4), which will allow comparison against data already collected for pre-Program (2011) and DY2 (2013).
- All data for Evaluation Goals 10 and 11 have been collected and initial analyses are included in this report. Future analysis will explore differences between and among organizational characteristics of RHPs that contribute to member experience and satisfaction. These data will be used to contextualize analysis of data in the other evaluation goals for the final report.

DSRIP Comparative Case Study

- The second and final round of site visits to Delivery System Reform Incentive Payment funded patient care navigation projects will begin in October 2015, two years after baseline data collection began. As in the first round of site visits, the second round will include interviews with project leadership, front line staff, and patients. These interviews will enable the study team to examine how projects have evolved in their first two years of operation.
- The team will then use data from site visits, Medicaid claims/encounters, and patient phone surveys to identify initial project conditions associated with more successful implementation. Moreover, facets of project implementation will be disentangled to investigate how they were associated with different key outcomes, such as lower rates of emergency department use.

Uncompensated Care Costs

- Due to unforeseen circumstances, there will be insufficient data to evaluate the impact of the waiver on the UC period using the method originally planned within the waiver evaluation period. Texas will assess the feasibility of using alternative data sources pertaining to aspects of hospital UC, which may be available with a shorter data lag, to provide a partial assessment of the impact of the waiver on UC.

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APPENDIX A

Acronym Directory	
AAP	Adult Access to Preventive/Ambulatory Health Services
ACA	(Patient Protection and) Affordable Care Act
ACSC	Ambulatory Care Sensitive Conditions
AHRQ	Agency for Healthcare Research and Quality
B	Billion
BH	Behavioral Health
CAHPS®	Consumer Assessment of Healthcare Providers and Systems Survey
CAP	Children and Adolescents' Access to Primary Care
CAT	(Medicaid Program) Category
CEO	Chief Executive Officers
CFR	Code of Federal Regulations
CHF	Congestive Heart Failure
CHIP	Children's Health Insurance Program
CM	Case Manager
CMHC	Community Mental Health Center
CMS	Centers for Medicare and Medicaid Services
CNA	Community Needs Assessment
CQI	Continuous Quality Improvement
COPD	Chronic Obstructive Pulmonary Disease
CPS	Current Population Survey
CPT	Current Procedural Terminology
CY	Calendar Year
DADS	Texas Department of Aging and Disability Services
DID	Differences in Differences
DMO	Dental Managed Care Organization
DPH	Designated Public Hospital System
DSH	Disproportionate Share Hospital
DSHS	Texas Department of State Health Services
DSRIP	Delivery System Reform Incentive Payment
DY	Demonstration Year
ECHO	Experience of Care and Health Outcomes (Survey)
ED	Emergency Department
EMR	Electronic Medical Record
EMS	Emergency Medical Service
EMT	Emergency Medical Technician
EMTALA	Emergency Medical Treatment and Active Labor Act
EPSDT	Early and Periodic Screening, Diagnostic, and Treatment (Program)
EQRO	External Quality Review Organization
ER	Experience Rebate

FFS	Fee-for-Service
FFY	Federal Fiscal Year
FPL	Federal Poverty Level
FSR	Financial Statistical Report
HB	House Bill
HCPCS	Healthcare Common Procedure Coding System
HEDIS®	Healthcare Effectiveness Data and Information Set
HHSC	Texas Health and Human Services Commission
HIE	Health Information Exchange
HPSA	Health Professional Shortage Area
HSC	Health Science Center
HSL	Hospital Specific Limit
IBNR	Incurred But Not Reported
ICD-9-CM	International Classification of Diseases, 9th Revision, Clinical Modification
ICF	Intermediate Care Facility
IDD	Intellectual and Developmental Disability
IGT	Intergovernmental Transfer
IHI	Institute for Healthcare Improvement
IT	(Outcome) Improvement Target
K	Thousand
LMHA	Local Mental Health Authority
LTSS	Long-Term Services and Supports
MCO	Managed Care Organization
M	Million
MMC	Medicaid Managed Care
MLR	Medical Loss Ratio
MRSA	Medicaid Rural Service Area
MUA	Medically Underserved Area
NAIC	National Association of Insurance Commissioners
NCQA	National Committee for Quality Assurance
NSA	Non-Stand-Alone
PBM	Pharmacy Benefit Manager
PCCM	Primary Care Case Management
PCMH	Patient Centered Medical Home
PCN	Patient Control Number
PCP	Primary Care Provider or Practitioner
PMPM	Per Member Per Month
POS	Place of Service
PPA	Potentially Preventable Admission
PPC	Potentially Preventable Complication
PQI	Prevention Quality Indicator
Q	Quarter
RC	Relational Coordination (Survey)

RD	Reporting Domain
RHP	Regional Healthcare Partnership
RQ	Research Question
RUCC	Rural-Urban Continuum Codes
SA	Stand-alone
SB	Senate Bill
SDA	Service Delivery Area
SF	Short Form
SFY	State Fiscal Year
SSI	Social Security Income
STAR	State of Texas Access Reform
STC	Special Terms and Conditions
STD	Standard Deviation
SW	Social Worker
TAC	Texas Administrative Code
TANF	Temporary Assistance for Needy Families
TMHP	Texas Medicaid and Healthcare Partnership
TP	Type Program
UBREV	Uniform Bill Revenue
UC	Uncompensated Care
UPL	Upper Payment Limit
USC	United States Code
USDA	United States Department of Agriculture
VDP	Vendor Drug Program
WHO	World Health Organization

APPENDIX B

Presented in chronological order

Refereed Presentations:

Roper-Coleman S. & Sunbury, T. Summary of the Texas Healthcare Transformation and Quality Improvement Program: a section 1115(a) waiver demonstration. American Evaluation Association, Washington, DC, Oct 16–19, 2013. (Oral)

Sunbury, T. & Roper-Coleman, S. Evaluation Design and Analytic Methodology of Texas' 1115 Medicaid Demonstration Waiver Evaluation: Expanding Medicaid Managed Care Statewide. American Evaluation Association, Washington, DC, Oct 16–19, 2013. (Oral)

Wendel M.L. Designing an evaluation for the delivery system reform incentive program supported by Texas' 1115 Medicaid demonstration waiver. American Evaluation Association, Washington, DC, Oct 16–19, 2013. (Oral)

Sunbury T., Kum H., Ghaffari A., & Gregory S. Building an efficient hybrid human machine system for ongoing record linkage. Academy Health Annual Research Meeting, San Diego, CA, Jun 8–10, 2014. (Poster)

Cummings, A., Sunbury, T., & Roper-Coleman, S. Using quality measures to monitor and evaluate the impact of pharmacy carve-in implemented through an 1115(a) demonstration waiver: The Texas healthcare transformation and quality improvement program. American Public Health Association, New Orleans, LA, Nov 15–19, 2014. (Poster)

Roper-Coleman S., Wendel, M., Wells, R., Sunbury, T., & Cummings, A. A pragmatic approach to guide the design of a mixed methods evaluation of a Medicaid 1115(a) waiver: The Texas healthcare transformation and quality improvement program. American Public Health Association, New Orleans, LA, Nov 15–19, 2014. (Oral)

Sunbury, T., Roper-Coleman, S. & Cummings, A. Applying health service utilization models to the Texas Healthcare Transformation and Quality Improvement Program: Advancing theory-based evaluation. American Public Health Association, New Orleans, LA, Nov 15–19, 2014. (Round table)

Sunbury, T., Roper-Coleman, S. & Cummings, A. Texas Healthcare Transformation and Quality Improvement Program: Impacts of Medicaid policy change on quality of care for aged and disabled population. American Public Health Association, New Orleans, LA, Nov 15–19, 2014. (Oral)

Ghaffari, A. Wells, R., Armstrong, T., Creel, L., Kum, HC, Brossart, D., Roper-Coleman, S., Sunbury, T. Applying relational coordination to inter-agency teamwork and patient experiences with providers. Oral presentation at Organizational Theory in Health Care Conference, Richmond, VA, May 27–29, 2015 (Ghaffari presenting – doctoral students).

Wendel M, Creel L, McMaughan D, Roper-Coleman S, Cummings, A. Transforming the health care system: implementation strengths and challenges in Texas' Healthcare Transformation and Quality Improvement Program 1115(a) Medicaid Waiver. *Academy Health 2015 Annual Research Meeting,* Minneapolis, MN, Jun 11–16, 2015. (Poster)

Wendel M, Creel L, Wells R, Gregory S, Roper-Coleman S, Cummings, A. Using network analysis to understand regional differences in collaboration resulting from the Texas 1115(a) Medicaid Waiver. *Academy Health 2015 Annual Research Meeting,* Minneapolis, MN, Jun 11–16, 2015. (Poster)

Tamayo L, Kum HC, Wells R, Du Y, Roper-Coleman S, Sunbury T. Health Status and Health Experience Among Adult, Hispanic, Frequent ED Users. *AcademyHealth 2015 Annual Research Meeting,* Minneapolis, MN, Jun 11–16, 2015. (Poster)

Ghaffari, A. Wells, R., Armstrong, T., Creel, L., Kum, HC, Brossart, D., Roper-Coleman, S., Sunbury, T. Applying relational coordination to inter-agency teamwork and patient experiences with providers. Poster Presentation at 2015 AcademyHealth Annual Research Meeting: Minneapolis, MN.

Wendel, M., Creel, L. Wells, R., Roper-Coleman, S., Sunbury, T. Using network analysis to measure changes in local collaboration resulting from implementation of the Texas Healthcare Transformation and Quality Improvement Program. *APHA Annual Meeting and Exposition,* Chicago, IL, Oct 31–Nov 4, 2015. (Oral, Wendel/Creel presenting)

Wendel, M., Creel, L., McMaughan, Roper-Coleman, S., Cummings, A. Stakeholder Perceptions of Strengths and Challenges in Texas' Healthcare Transformation and Quality Improvement Program. *APHA Annual Meeting and Exposition*, Chicago, IL, Oct 31–Nov 4, 2015. (Oral, Wendel/Creel presenting)

Non-refereed Local Presentations:

Wendel M.L., Wells R., & Gregory S. Intervention II evaluation design. Presentation to the 2013 Evaluation Work Group, Austin, TX, Sept 9, 2013.

Wells R. Evaluation of regional healthcare partnerships within the healthcare transformation and quality improvement program. Presentation to the HHSC Executive Waiver Advisory Committee, Austin, TX, Jul 11, 2013.

Roper-Coleman, S. Evaluating the delivery system reform incentive program supported by Texas' 1115 Medicaid demonstration waiver, Presentation to Regional Health Partnership 15 representatives, El Paso, TX, Jan 22, 2014

Wells R. Evaluating the delivery system reform incentive program supported by Texas' 1115 Medicaid demonstration waiver, Presentation to Regional Health Partnership 15 representatives, El Paso, TX, Jan 22, 2014.

Roper-Coleman S, & Wells R. Evaluating the 1115(a) demonstration waiver – healthcare transformation quality improvement program. Presentation to the Texas Diabetes Council, Apr 24, 2014.

Wendel M, Creel L. Evaluation of the Texas Healthcare Transformation and Quality Improvement Program: 1115(a) Medicaid Demonstration Waiver. *Presentation at the Statewide Learning Collaborative Summit,* Sept 10, 2014.

APPENDIX C

Texas Healthcare Transformation and Quality Improvement Program Demonstration Waiver

Evaluation Plan

Texas Health and Human Services Commission
Strategic Decision Support
November 16, 2012

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EVALUATION PURPOSE

The Texas Healthcare Transformation and Quality Improvement Program (Program) is a Section 1115(a) waiver demonstration approved by the U. S. Department of Health and Human Services Centers for Medicare and Medicaid Services (CMS) on December 12, 2011. The Demonstration started December 12, 2011 and will end September 30, 2016. The Texas Health and Human Services Commission (HHSC) Medicaid/CHIP Division is managing the implementation and oversight of the Program.

The overarching goal of the Program is to support the development and maintenance of a coordinated care delivery system, thereby maintaining or improving health outcomes while containing cost growth. The Program strategy uses **two types of interventions** to achieve the overarching goal:

1) expanding the existing Medicaid managed care programs, STAR and STAR+PLUS, statewide, creating a new children's dental program, while carving in prescription drug benefits; and
2) establishing two funding pools that will assist providers with uncompensated care costs and promote health system transformation.

The Program evaluation will examine the implementation and impact of the two Program interventions through a set of quarterly and annual performance measures throughout the demonstration period (December 12, 2011 through September 30, 2016). The principal focus of the demonstration evaluation will be on obtaining and monitoring data on performance measures for short-term (process measures) and intermediate (health outcomes) of the Program. The performance measures will be used to assess the extent to which the Program accomplishes its goals, track changes from year to year, and identify opportunities for improvement.

DESCRIPTION OF DEMONSTRATION EVALUATION

The following section provides a general description and evaluation goals for the two Program interventions. However, detailed information regarding Program description can be found in the 1115 Waiver.[37]

[37] http://www.hhsc.state.tx.us/Waiver-1115-proposal.pdf. Last accessed November 5, 2012.

Intervention 1: Expansion of Medicaid Managed Care Program Statewide

The first intervention relates to the expansion of the Medicaid Managed Care program statewide. Expansion activities include:

- Expand risk-based managed care delivery system (STAR and/or STAR+PLUS) statewide replacing the primary care case management (PCCM) or fee-for-service (FFS) delivery systems.
- Replace the FFS delivery model for delivering primary and preventive dental care with a managed care model (children's Medicaid dental services).
- Prescription drug benefits, previously provided under the FFS program, will be carved into managed care benefit and capitation rates.

STAR provides services in a managed care delivery system and focuses on acute care and early prevention. Through the waiver, STAR expanded to two new service delivery areas (SDAs). The Hidalgo SDA includes 10 counties in South Texas and has a confirmed total enrollment of 319,763.[38] The Medicaid Rural Service Area (MRSA) includes 164 counties and has a confirmed enrollment of 419,430.[39] The STAR+PLUS program integrates acute care and long-term care services and supports into a Medicaid Managed Care delivery system for people over the age of 65 years, who are blind, or who have disabilities. STAR+PLUS expands to SDAs in Lubbock (11,309 confirmed total enrollment) and El Paso (24,137 confirmed total enrollment) and a new Hidalgo (74,171 confirmed total enrollment) service area. The newly created STAR and STAR+PLUS SDAs will be the primary focus of this evaluation. As members shift from PCCM or FFS to a capitated managed care system it creates an ideal situation to examine the impact of managed care expansion on access to care, coordination of care, quality of care, and cost.

Impact of Managed Care Expansion

The evaluation goals under this domain relate to the impact of managed care expansion on access to care, coordination of care, quality of care, efficiency of care, and cost of care.

- **Evaluation Goal 1:** Evaluate the extent to which *access to care* improved through managed care expansion to new STAR and STAR+PLUS SDAs.
  - Program focus goals include, but are not limited to, access to prescription drugs, dental care for children, non-behavioral inpatient care, adult access to preventative/ambulatory health service, and prenatal and postpartum care.
- **Evaluation Goal 2:** Evaluate the extent to which *coordination of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs.
  - Program focus goals include, but are not limited to, coordination of care among providers and service coordination.

[38] All enrollment data is from Texas Enrollment Broker Confirmed Eligibles Report for October 2012. Accessed at http://www.hhsc.state.tx.us/medicaid/mc/about/reports/confirmed_eligible/201209.pdf

[39] All enrollment data is from Texas Enrollment Broker Confirmed Eligibles Report for October 2012. Accessed at http://www.hhsc.state.tx.us/medicaid/mc/about/reports/confirmed_eligible/201209.pdf

- **Evaluation Goal 3:** Evaluate the extent to which *quality of care* improved through managed care expansion to new STAR and STAR+PLUS SDAs, Dental Services, and Pharmacy Services.
  - Program focus goals include, but are not limited to, quality of dental care for children, effects of automatic re-enrollment after disenrollment, and quality of adult preventive and emergent care.
- **Evaluation Goal 4:** Evaluate the extent to which *efficiency improved and cost decreased* through managed care expansion to new STAR and STAR+PLUS SDAs, and Dental Services.
  - Program focus goals include, but are not limited to, reduction of member costs, increased utilization rates, and an analysis of the experience rebate provision.

Intervention 2: Formation of Regional Healthcare Partnership (RHP) Regions

The Program will use savings from the expansion of managed care and preserved federal hospital funding historically received as Upper Payment Limit (UPL) payments to form two new funding pools. The Uncompensated Care (UC) and Delivery System Reform Incentive Payment (DSRIP) pools aim to assist hospitals and other providers with uncompensated care costs and to promote health system transformation in preparation for new coverage demands beginning in 2014. To receive payments from either funding pool, a hospital must join with other hospitals or public entities in a geographic region to form Regional Healthcare Partnerships (RHP). Each RHP, with the collaboration of participating providers, will identify performance areas for improvement and create a plan under which its members will implement approved projects to achieve waiver goals. Projects eligible for incentive payments must come from a menu of projects approved by CMS and HHSC, and have corresponding metrics and milestones.[40] The lessons learned from the development of these sustainable networks of hospitals and providers are of particular interest.

Uncompensated Care Costs

The evaluation goal under this domain relates to examining the distribution of uncompensated care funds to hospitals and other provider types.

The UC pool is designed to help defray uncompensated costs of care provided for Medicaid or Demonstration eligibles or to individuals who have no source of third party coverage for the services provided by hospitals or other providers. To receive payments from the UC pool, a hospital must complete an application listing its uncompensated costs for services provided to Medicaid and uninsured individuals. A hospital may claim uncompensated costs for inpatient and outpatient services, as well as related costs for physician, clinic, and pharmacy services. While it is not expected that the need for UC funds will decrease, it is expected that as the health system transforms due to the DSRIP projects, the rate at which the need grows will slow due to the improved services and supports.

[40] For more information on the menu of approved project types, and the metrics and milestones see: http://www.hhsc.state.tx.us/1115-Waiver-Guideline.shtml.

- **Evaluation Goal 5:** Evaluate whether the amount of claims for uncompensated costs, based on service type, remains stable or decreases over time for hospitals participating in the waiver.

Delivery System Reform Incentive Payment Pool

The evaluation goals under this domain relate to the ability of the RHPs to show, through the utilization of DSRIP funds, quantifiable improvements relating to quality of care, population health, and cost of care. The goals also relate to the increased collaboration among health care organizations and stakeholders in each region due to the establishment of the RHPs.

The DSRIP pool is designed to incentivize activities that support a region's collaborative efforts to improve access to care, the quality of care, and improve the health of the patients and families they serve. To receive payments from the DSRIP pool, a hospital must meet specific metrics for each project selected by the RHP members and detailed in the plan. Projects using funds from the DSRIP pool must be directed toward activities which are divided into four interrelated and complementary categories: infrastructure development, program innovation and redesign, quality improvements, or population-focused improvements.

- **Evaluation Goal 6:** Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the quality of care.
- **Evaluation Goal 7:** Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the health of the population served.
- **Evaluation Goal 8:** Evaluate the extent to which, through the implementation of DSRIP projects, RHPs impacted the cost of care.
- **Evaluation Goal 9:** Evaluate the extent to which the establishment of RHPs increased collaboration among health care organizations and stakeholders in each region.

Stakeholder Input

The evaluation goals under this domain relate to stakeholder perceptions of the expanded managed care program, the UC pool, and the DSRIP pool. Stakeholders will include individuals and families, advocacy groups, providers, health plans, and hospital administrators.

- **Evaluation Goal 10:** Assess stakeholder-perceived strengths and weaknesses, and successes and challenges of the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.
- **Evaluation Goal 11:** Assess stakeholder-recommended changes to the expanded managed care program, the UC pool, and the DSRIP pool to improve operations and outcomes.

EVALUATION DESIGN

Given that there are two interventions in the Demonstration, there will be two program evaluations. The evaluation design for assessing overall programmatic impact associated with implementation of the Waiver is described using two logic models (see Figures 1 and 2). These program logic models describe the organization and explanation for the program evaluations. Fundamentally, the logic models assisted evaluators in narrowing the focus of the evaluation to questions that demonstrate whether or not the process of program expansion was successful, whether there was an impact on maintaining or improving the health status of Texas Medicaid Managed Care members while containing cost growth, and whether the establishment of the two funding pools promote health system transformation.

A research design was selected for each of the interventions to provide the best available information and cost-effectively address the evaluation questions. Each intervention is described with a logic model which describes how the Program is expected to change healthcare delivery in the short- and intermediate-term. Each logic model links the federal, state, and local stakeholders involved, process indicators (which may include Program or organizational changes) and how changes may influence intermediate health outcomes. The next sections align the two logic models with metrics and methodology used for analyses.

Intervention 1: Expansion of Medicaid Managed Care Program Statewide (Evaluation Goals 1 – 4)

Given the Program expansion activities described in the program description, the evaluation will include measures on short-term outcomes (process indicators), intermediate outcomes (health outcome indicators), and cost outcome indicators (see Figure 1). Process indicators will include measures of care coordination, member satisfaction, and preventive care-specific clinical processes shown to be associated with favorable clinical outcomes. Health outcome measures will include measures of clinical outcomes that are associated with process indicators. Finally, cost outcome indicators associated with process and health outcome indicators will be examined for any changes due to process or health outcome measures.

Over the five-year demonstration period (DP), measures on process (short-term), health outcome indicators (intermediate), and cost outcome indicators will be reported quarterly and annually. However, Texas anticipates that changes will first be observed in process outcomes and then in intermediate outcomes in later demonstration years. By monitoring process outcomes, we expect to reduce the likelihood of false negative results due to time period for detecting any health outcome being too short.

Even though the overarching long-term impact is to maintain or improve health outcomes while containing cost growth, Texas will focus on evaluating each process and associated health outcome. The advantage of this strategy enables Texas and CMS to examine differences among specific health benefits (e.g., prescription drugs) in order to identify which benefit may be making the greatest positive impact and which health benefit deserves improvement.

Trend Analysis

A pre- and post- expansion design will be developed to evaluate the expansion of Medicaid Managed Care program into the new SDAs due to concerns over establishing adequate comparison group(s). A pre- and post- intervention design will involve collecting information only on the expanded service areas (Hidalgo, El Paso, Lubbock, and MRSA) and may include analysis at the member, county, managed care organization (MCO), or SDA-level. Data will be collected at least twice:

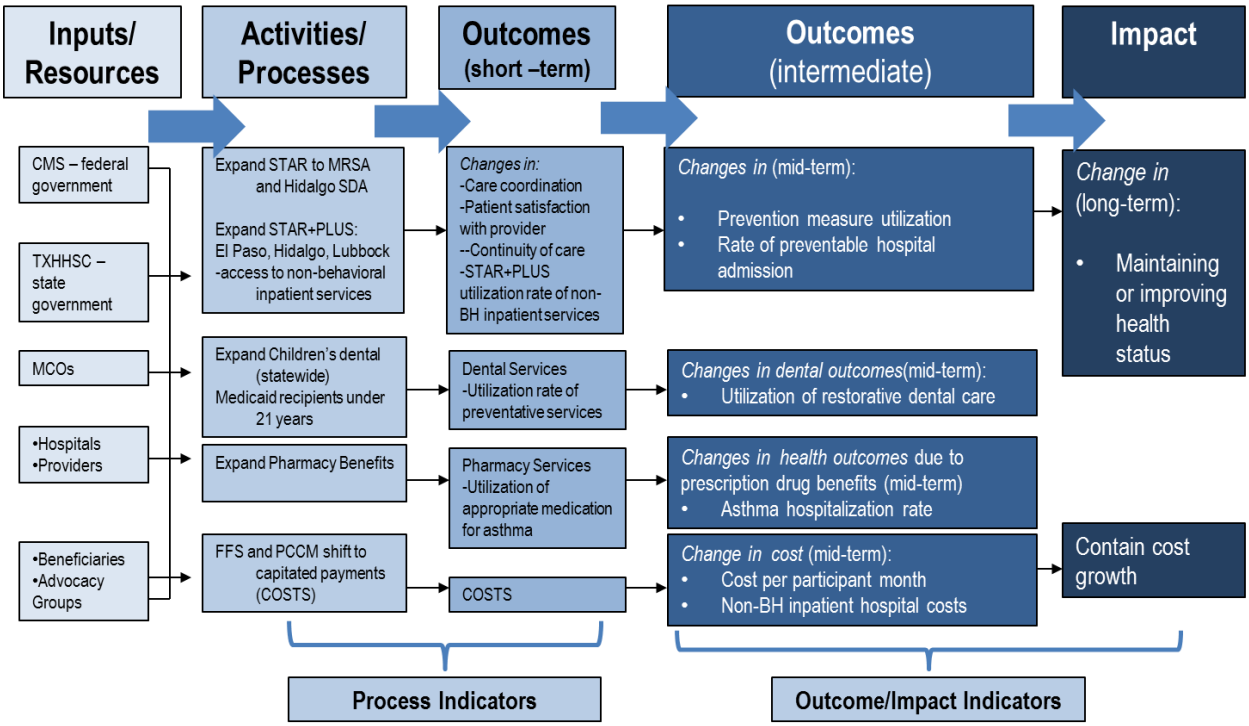
- Before expansion – data collected once before the expansion (or intervention) will provide baseline data. Baseline data is ideally defined as data 3-years prior to expansion (under FFS system or PCCM).
- After expansion – depending on the performance measure/indicator, data may be collected quarterly, annually, or on specific demonstration years.

Unless specified, data will be collected to monitor and track process (short-term) outcomes and health outcomes indicators (intermediate outcomes) over the demonstration period. However, it is important to note that a trend analysis does not provide direct evidence that would allow program officials or policy makers to attribute any specific changes to the Program. Because trend analysis uses cross-sectional data, it does not provide strong evidence for cause and effect. Any findings would be limited to associations only.

Additional Analyses

For each health outcome (intermediate outcome) benefit, the evaluation will examine the relationship between process indicators (short-term outcomes) and health outcome (intermediate outcomes). Depending on how the performance measure is measured (i.e., nominal, ordinal, or interval) and the unit of analysis (i.e., member, counter, MCO, or SDA-level), contingency tables (case-control) will be described.

Figure 1. Logic Model for the Medicaid Managed Care Expansion Intervention



Data Collection

For the first intervention, information is provided on data sources, how these data are to be used, and the methods related to the evaluation questions. The data collected to examine the impact of the Medicaid Managed Care program expansion statewide come from three basic sources. This section describes the data sources used to evaluate the first intervention. After the data sources have been described, each evaluation question will be addressed along with related hypothesis and any additional analyses not previously mentioned.

1. Health Employer Data and Information Set (HEDIS)® was adopted by the National Committee for Quality Assurance (NCQA) as a standard of performance measures used by more than 90 percent of national health plans. Participation in HEDIS® is required for plans seeking NCQA accreditation and most managed care plans allow NCQA to publish their annual HEDIS® data publicly. HEDIS® measures focus on preventative and primary care services for defined populations of health plan enrollees. While HEDIS® measures may be interpreted as measures of managed care performance, there are a few measures that reflect the performance of hospital or multi-hospital systems.

   Three data sources were used to calculate the HEDIS quality of care indicators:

   - **Member-level enrollment files** - The enrollment files contain information about the person's age, gender, the MCO in which the member is enrolled, and the number of months the member has been enrolled in the program.

- **Member-level health care claims/encounter data** - The member-level claims/encounter data contain the Current Procedural Terminology (CPT) codes, and International Classification of Diseases, 9th Revision (ICD-9-CM) codes, place of service (POS) codes, and other information necessary to calculate the quality of care indicators. There is a six-month time lag for claims and encounter data. Prior analyses with Texas data have shown that, on average, over 96 percent of claims and encounters are complete by that time period.
- **Member-level pharmacy data** - The member-level pharmacy data contain information about filled prescriptions, including the drug name, dose, date filled, number of days prescribed, and refill information.

2. Consumer Assessment of Health Plans Survey (CAHPS)© was developed by the Agency for Healthcare Research and Quality (AHRQ) to standardize patient surveys that can be used to compare results across sponsors over time. CAHPS© surveys ask patients to report on their experiences with a range of health care services at multiple levels of the delivery system.

   Texas CAHPS© participants are selected from a random sample of members and stratified by health plan. To be eligible for survey participation, member must have been enrolled in STAR or STAR+PLUS program for nine months or longer. Members who are eligible for both Medicaid and Medicare, and members who participated in the previous fiscal years' survey are excluded. Since October 1995, Texas has been contracting with an External Quality Review Organization (EQRO), the University of Florida, Institute for Child Health Policy to implement and report on CAHPS© data. Each year, a target total of survey participants is established and contacted by telephone.

3. Managed Care and Fee-for-Service Encounter Data FFS and Managed Care encounter data are processed by Texas Medicaid and Healthcare Partnership (TMHP) since January 1, 2004. TMHP (headed by contractor ACS) perform internal edits for data quality and completeness. There is a six-month time lag for claims and encounter data. Prior analyses with Texas data showed that, on average, over 96 percent of the claims and encounters are complete by that time period.

Evaluation Questions

The evaluation questions are broken down into three evaluation measurement types: Process indicators (short-term), health outcome indicators (intermediate), and cost outcome indicators. Table 1 presents a summary of each evaluation question including the performance measure/indicator, the data source, anticipated outcome, and deliverable timeline.

Process Indicators

Evaluation questions specifically having to do with process indicators are described below.

1. Did expansion of STAR to the Hidalgo SDA and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDAs impact access to care for the target population? (STC 70.a.i)

    - ***Adult access to preventive/ambulatory health services.*** As Medicaid managed care is expanded through the STAR and STAR+PLUS delivery systems, the number of preventive or ambulatory care visits by plan members will be measured and monitored. As members formerly receiving benefits under FFS or PCCM move into STAR or STAR+PLUS, it is expected that the number of members who receive preventive or ambulatory health services will increase.

      Methods. HEDIS® measures will be obtained annually by MCO and SDA over the demonstration years and compared to baseline years.

2. What was the impact (access, quality of care, and program costs) of including non-behavioral hospital inpatient services to STAR+PLUS program? (STC 70.a.i.E)

    - ***Number of STAR+PLUS members who had inpatient hospital stays.*** The carve-in of non-behavioral health inpatient services to the STAR+PLUS managed care benefit program will enable members to have covered access to non-behavioral health inpatient services through the capitated system rather than through a FFS system. Access to inpatient services will be measured by monitoring rate of inpatient hospitalizations over the demonstration period for STAR+PLUS members in El Paso, Hidalgo, and Lubbock SDAs.

      Methods. Managed Care and FFS claims and encounter data will be used to determine the number of STAR+PLUS members who had inpatient hospital stays in a demonstration year per 1,000 members. The data will be reported by MCO and SDA over the demonstration years and compared to baseline years.

    - ***Services utilized during hospitalizations.*** Services utilized during hospitalizations potentially indicate the quality of healthcare received. If top procedures performed include a high number of potentially avoidable conditions, this may indicate deficiencies in the quality of care.

Methods. Managed Care and FFS claims and encounter data will be used to determine the top ten procedures performed on inpatient admissions will be monitored and compared to baseline years and AHRQ national rates. These rates will be reported by MCO and SDA over demonstration years and compared to baseline years.

- ***Average number of miles from STAR+PLUS members to closest participating inpatient hospital in each new service area.*** The expectation is that that members will continue to have similar access to inpatient services as before the expansion.

  Methods. A distance analysis of inpatient hospitals participating in STAR+PLUS programs will be compared with a distance analysis of hospitals that submitted claims under the FFS and PCCM systems in the three years prior to expansion of managed care for each new SDA. These rates will be reported by MCO and SDA over the demonstration years and compared to baseline years.

- ***Program financing.*** It is expected that the average cost of hospitalizations for STAR+PLUS members in El Paso, Hidalgo, and Lubbock SDAs will be less than the average cost of hospitalizations in the same service areas prior to the expansion (under FFS).

  Methods. Managed Care and Fee-for-Service Encounter Data will be used to determine the average cost of hospitalization for STAR+PLUS members who had inpatient hospital stays in a demonstration year compared to the baseline years. The data will be reported by MCO and SDA over the demonstration years and compared to baseline years.

3. Has the utilization of preventative (and care coordination) of dental services for children age 20 years and younger changed as a result of the expansion? (STC 70.a.i.B)

   - ***Participating children's access to dental services.*** As children's dental care benefits are expanded through a capitated statewide dental services (children's Medicaid dental services), access to dental care for plan members will be measured and monitored over the demonstration period.

     Methods. Unduplicated counts of members and those receiving services will be obtained from Children's Medicaid dental services enrollment database and monthly Medicaid encounters data. The data will be compared with results for the same age children enrolled in the Texas Children's Health Insurance Program (CHIP), national data from National Survey of Children's Health, and EPSDT FFS results from baseline years.

   - ***Participating children's use of recommended preventive dental services.*** As children's dental care benefits are expanded through a capitated statewide dental services (children's Medicaid dental services), use of recommended preventive dental services will be measured and monitored over the demonstration period.

Methods. Recommended dental preventative services are based on the American Academy of Pediatric Dentistry and beginning at one year old include: 1) two dental check-ups in one calendar year, 2) receiving at least one fluoride treatment or dental cleaning in one calendar year, and 3) receiving at least one diagnostic dental service in one calendar year. Seven age cohorts will be constructed: 1) members < 1 year old; 2) members 1 to 2 years old; 3) members 3 to 5 years old; 4) members 6 to 9 years old; 5) members 10 to 14 years old; 6) members 15 to 18 years old; and 7) members 19 to 20 years old. These seven age cohorts are based on EPSDT age breakdowns and allow adequate pre- and post- expansion comparisons to baseline data.

4. Has the carve-in of pharmacy benefits into capitated managed care impacted access to care for the target population? (STC 70.a.i.A)

   - ***Access to prescription drug benefits.*** As prescription drug benefits are carved-in to the capitated managed care benefits program, access to pharmacy benefits for plan members will be measured and monitored. Texas intends to examine access to prescription drugs for members with specific chronic health conditions.

     Methods. Texas will identify members in select counties with prescriptions for asthma by using the NCQA list of appropriate medications for people with asthma. Access to pharmacy benefits will be measured as follows.

     i. Monitor and track stratified by age.
     ii. Use of appropriate medication for people with asthma (all ages).
     iii. *Limitations*: Although Texas will be tracking whether members received prescribed medications, we cannot know if members filled all recommended prescriptions from their physicians, or are using medications appropriately or at all. There might also be other environmental factors (potential confounders) that we cannot control for in any potential multivariate statistics.

5. Did expansion of STAR and STAR+PLUS to new service delivery areas impact care coordination for the target population? (STC 70.a.i)

   - ***Percent of STAR or STAR+PLUS members in each new service area who felt their doctor was informed about the care they received from other providers.*** The expectation is that the number of managed care members who report that their doctor was informed about the care they received from other providers will remain stable or increase.

     Methods. Data will be obtained from the annual member CAHPS© survey and information will be compared to pre-demonstration baseline years to capture any changes by service area results for clients receiving benefits under FFS or PCCM.

   Did automatic re-enrollment after disenrollment for STAR, STAR+PLUS, and children's Medicaid dental services improve continuity of care for the target population? (STC 70.a.i.C)

- ***Automatic re-enrollment after disenrollment.*** In order to improve continuity of care, STAR, STAR+PLUS, and children's Medicaid dental services members will be automatically reenrolled in their previous health plan after a period of ineligibility. Texas already has an auto-assignment algorithm for enrollment and disenrollment through the Enrollment Broker, MAXIMUS. Enrollees who do not select a plan within a specified period are auto-assigned with an MCO. Generally, the auto-assignment process considers an enrollee's history with a primary care provider or main dental provider in making an assignment. Measures of quality will focus on member satisfaction of their health care plan after they have been automatically reenrolled.

  Methods. Data will be obtained from MAXIMUS for at least one demonstration year. During one demonstration year, the number of members who requested a change to another MCO will be identified and stratified into three groups, 1) members who are newly enrolled, 2) members who automatically reenrolled after a lapse of less than three months, and 3) members who automatically reenrolled after a lapse of three months or more. For each group, data may be obtained on the frequency of MCO reassignment requests, reason(s) for request, and enrollee satisfaction. Depending on the availability of data, Texas anticipates examining any differences for each measure among the groups by using ANOVA unbalanced design (for quantitative outcomes, such as frequency of MCO reassignment requests) and chi-square contingency tables for nominal/ordinal outcomes, such as reason(s) for request and enrollee satisfaction.

Intermediate Health Outcome Indicators

Evaluation questions specifically having to do with health outcome indicators are described below. (STC 70.a.i.)

1. Did the expansion of STAR and STAR+PLUS to the new SDAs reduce preventable ER visits and hospitalizations over the demonstration period for the target population?

   Three measures will be monitored and tracked over the demonstration period for STAR and STAR+PLUS members in El Paso, Hidalgo, and Lubbock SDAs to determine whether access, quality of care, and care coordination is associated with reductions in potentially preventable emergency department and hospital admissions and readmissions. For this indicator, improved quality is shown by decreasing trend of admission rates over the demonstration period.

   The movement of service delivery areas from FFS and PCCM into managed care is expected to improve care coordination and increase access to care by offering value-added components not available in FFS or PCCM. One aspect of quality is the prevention of visits to the emergency department and admissions to the hospital that were potentially avoidable with

better access to care in the outpatient setting.[41] Potentially Preventable Events (PPEs) are inpatient stays, hospital readmissions, and emergency department (ED) visits that may have been avoidable had the patient received high quality primary and preventive care prior to or after the event in question. High PPE rates may reflect inadequacies in the health care provided to the patient in multiple settings, including inpatient and outpatient facilities and clinics.

- ***In each new service area, the number of potentially preventable emergency department visits per 1,000 members.*** It is expected that members who receive regular preventative services through their primary care physician will show a decrease in potentially preventable emergency department visits in new managed care service areas.

  Methods. HEDIS® measures will be obtained annually by MCO and SDA over the demonstration years and compared to baseline years to determine if the rate of potentially preventable emergency department visits has decreased.

- ***In each new service area, the number of potentially preventable hospital admissions per 1,000 members.*** It is expected that members who receive regular preventative services through their primary care physician will show a decrease in potentially preventable hospital admissions in new managed care service areas.

  Methods. HEDIS® measures will be obtained annually by MCO and SDA over the demonstration years and compared to baseline years to determine if the rate of potentially preventable emergency department visits has decreased.

- ***In each new service area, the number of potentially preventable readmissions per 1,000 members.*** It is expected that members who receive adequate hospital care and post-hospital discharge follow-up through their physician will show fewer potentially preventable readmissions in new managed care service areas.

  Methods. HEDIS® measures will be obtained annually by MCO and SDA over the demonstration years and compared to baseline years to determine if the rate of potentially preventable emergency department visits has decreased.

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[41] According to measures developed for HEDIS®, potentially preventable emergency department visits and hospitalizations include general fever symptoms, including high fever; general chest pain symptoms, includes chest discomfort, pressure, tightness, and burning, and excludes heart pain, heart disease symptoms, mainly congestive heart failure; symptoms of mental status changes, like mood swings, wandering around, disorientation, and non-communicative; gastrointestinal bleeding symptoms, including conditions such as blood in stool and vomiting blood; urinary tract infections; metabolic disturbances diseases, including such conditions such as low blood sugar, hypoglycemia, and poor nutrition; pneumonia, such as viral, bacterial, and broncho pneumonia; diseases of the skin, including such conditions such as cellulitis, seborrheic dandruff, eczema, psoriasis, and allergic skin reactions; and injuries due to falls.

2. Have dental MCOs reduced restorative dental care to the target population (children) over the demonstration period? (STC 70.a.i.B)

   The children's Medicaid dental services program is expected to improve quality of care for enrolled children by increasing access to regular preventive care. Preventive care is a specific clinical process that has been shown to be associated with favorable clinical outcomes. It is expected that children who receive recommended preventative dental services will show a decreased need for restorative services. Seven age cohorts will be constructed: 1) members < 1 year old; 2) members 1 to 2 years old; 3) members 3 to 5 years old; 4) members 6 to 9 years old; 5) members 10 to 14 years old; 6) members 15 to 18 years old; and 7) members 19 to 20 years old. These seven age cohorts are based on EPSDT age breakdowns and allow adequate pre- and post- expansion comparisons.

   - ***Number of members who received restorative dental services per 1,000 members.*** It is expected that there will be an inverse relationship between members who receive regular preventive dental care and those receive restorative services. Restorative care is generally defined as the management of diseases of the teeth and supporting structures and the rehabilitation of their structure and function. Restorative treatments may include fillings, crowns, and the replacement of missing teeth.

     Methods. HEDIS® measures will be obtained annually by MCO and SDA over the demonstration years and compared to baseline years to determine if the rate of restorative dental services has decreased. Additional multivariate logistical analysis could examine the relationship between members who received regular preventative dental care on the likelihood that those members received restorative services. All data will be compared to national trends for the rate of restorative dental services.

3. Has the carve-in of pharmacy benefits into STAR and STAR+PLUS reduced the number of hospital admissions due to an acute asthmatic event? (STC 70.a.i.A)

   - ***In each new service area, the number of asthma hospital admission per 100,000 members.*** It is expected that members who receive adequate prescription drugs for the care of this chronic illness will show fewer asthma hospital admissions.

     Methods. HEDIS® measures will be obtained annually by MCO and SDA over the demonstration years and compared to baseline years to determine if the rate of asthma hospital admissions has decreased. Additional multivariate logistical analysis could examine the relationship between members who received adequate prescription drugs for the care of asthma on the likelihood that those members have an asthma related hospital admission.

Cost Outcome Indicators

The evaluation question specifically having to do with cost outcome indicators is described below.

1. How does Texas' Experience Rebate provision compare to Medical Loss Ratio regulation as a strategy for ensuring that managed care plans spend an appropriate amount of their premium revenue on medical expenses? Specifically, would the MCOs return approximately the same amounts to Texas under a Medical Loss Ratio requirement as under the Experience Rebate, or would the results differ? (STC 70.a.i.D)

    - ***Amount of premium dollars returned to Texas under the Experience Rebate Provision.*** Each MCO participating in either the STAR or STAR+PLUS programs must return to the state a portion of all profits over three percent of revenue based on a sliding scale. This is known as the Experience Rebate. In addition, the state imposes an administrative expense cap on all MCOs. The experience rebate is designed to ensure that MCOs are spending in an efficient manner and that profit and administrative costs are maintained. In contrast to Texas' Experience Rebate, the Affordable Care Act requires health insurance issuers to submit data on the proportion of premium revenues spent on clinical services and quality improvement, also known as the Medical Loss Ratio.[42] If an insurance company spends less than 80 percent of premium revenues on clinical services and quality (or less than 85 percent in the large group market), it is required to provide a rebate to customers. The amount of returned premium dollars returned to Texas under the Experience Rebate provision will be reported. It is expected that total cost of care (capitation payments minus experience rebate) will be less than the total cost of care that would have been incurred under the Medical Loss Ratio regulation.

      Methods. For each demonstration year, Texas proposes to calculate MLR using the formula promulgated by the National Association of Insurance Commissioners and compare any returns against those calculated using the Experience Rebate Provision. The final evaluation report will include a policy analysis comparing and contrasting the two models and any recommendations for improving upon the intended purpose of each cost mechanism.

[42] http://www.healthcare.gov/law/index.html

Table 1. Intervention One evaluation questions including performance measures, data sources, anticipated outcomes, and deliverable timelines.

Evaluation Measure Type	Evaluation Question	Performance Measure/Indicator	Data Source	Data Periodicity	Deliverable
Process Indicators	Did expansion of STAR to the Hidalgo SDA and STAR+PLUS to the El Paso, Hidalgo, and Lubbock SDA impact access to care for the target population?	Adult access to preventive/ambulatory health services	HEDIS®	Annually	Annual progress reports
		Number of STAR+PLUS members who had inpatient hospital stays per 1,000 members	Managed care and Fee-for-service Encounter data	Monthly	Quarterly and annual progress reports
		Top ten procedures utilized during hospitalizations for STAR+PLUS members who had inpatient hospital stays	CAHPS©	Annually	Annual progress reports
		Average number of miles from STAR+PLUS members to closest participating inpatient hospital in each new service area	STAR+PLUS member addresses obtained from enrollment database. Participating hospitals obtained from Medicaid and Managed care claims data	Annually	Annual progress reports

Evaluation Measure Type	Evaluation Question	Performance Measure/Indicator	Data Source	Data Periodicity	Deliverable
Process Indicators	Has the utilization of preventative (and care coordination) of dental services for children age 20 years and younger changed as a result of the expansion?	Percent of children's Medicaid dental services members who receive at least two dental check-ups in one calendar year	Children's Medicaid dental services enrollment database and monthly Medicaid claims files*	Monthly	Quarterly and annual progress reports
		Percent of children's Medicaid dental services members who receive at least one fluoride treatment or dental cleaning in one calendar year			
		Percent of children's Medicaid dental services members who receive at least one diagnostic dental service in one calendar year			
	Has the carve-in of pharmacy benefits into capitated managed care impacted access to care for the target population?	Number of members who use appropriate medications for people with asthma (according to NCQA)	HEDIS®	Annually	Annual progress reports

Evaluation Measure Type	Evaluation Question	Performance Measure/Indicator	Data Source	Data Periodicity	Deliverable
Process Indicators	Did the expansion of STAR and STAR+PLUS to the new service delivery areas impact care coordination for the target population?	Percent of STAR or STAR+PLUS members in each new service area who felt their doctor was informed about the care they received from other providers	CAHPS© survey	Annually	Annual progress reports
	Did automatic re-enrollment after disenrollment for STAR, STAR+PLUS, and children's Medicaid dental services impact continuity of care for the target population?	Frequency of MCO reassignment requests	MAXIMUS, enrollment broker	For one demonstration year	Annual progress report for selected year
		Reason(s) for reassignment request			
Health Outcome Indicators	Have STAR and STAR+PLUS impacted preventable ER visits and hospitalizations over the demonstration period for the target population?	Number of preventable emergency department visits per 1,000 members	HEDIS®	Annually	Annual progress reports
		Number of preventable hospital admissions per 1,000 members			
		Number of preventable hospital readmissions per 1,000 members			

Evaluation Measure Type	Evaluation Question	Performance Measure/Indicator	Data Source	Data Periodicity	Deliverable
Health Outcome Indicators	Have dental MCOs reduced therapeutic dental care to the target population (children) over the demonstration period?	Number of members who received restorative dental services per 1,000 members	HEDIS®	Annually	Annual progress reports
	Has the carve-in of pharmacy benefits into STAR and STAR+PLUS impacted the number of hospital admissions due to an acute asthmatic event?	Number of asthma hospital admissions per 100,000 members	HEDIS®	Annually	Annual progress reports
Cost Outcome Indicators	What is the impact of non-behavioral health inpatient services in the STAR+PLUS program in terms of cost?	Average cost of non-behavioral hospitalizations for STAR+PLUS members	Managed care and FFS Encounter data	Annually	Annual progress reports
	How does Texas' Experience Rebate compare to Medical Loss Ratio regulation as a strategy for ensuring that managed care plans spend an appropriate amount of their premium revenue on medical expenses?	Amount of premium dollars returned to HHSC under the Experience Rebate Provision	TX HHSC Managed Care Operations Finance	Annually	Annual progress reports

* Medicaid monthly claims files are subject to lags in data availability. Claims for most Medicaid services are available within three months of the date of service. Performance measures will be based on the data available at the end of the quarter or year. Performance measures that include Medicaid claims data will be identified as incomplete, and will be revised in the following report.

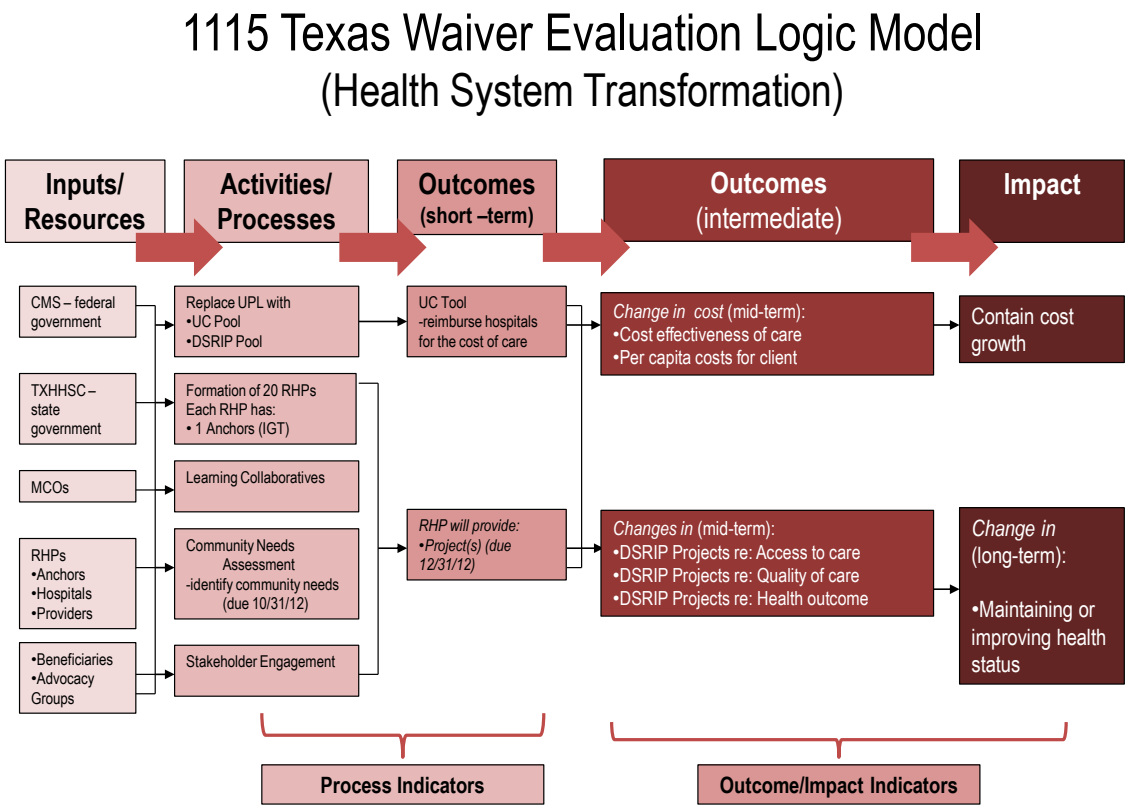
Intervention 2: Formation of Regional Healthcare Partnership (RHP) Regions (Evaluation Goals 5 – 11)

Given the Program description of RHPs formation, the evaluation will include measures of process indicators describing the formation and sustainability of RHP governance structures and operations, outcome indicators, and cost outcome indicators. Process indicators will include measures of governance, stakeholder engagement, learning collaborative participation, and identifying community needs assessment. RHP projects will be developed based on the community needs identified (Due to HHSC on October 31, 2012). Each project (Due to HHSC on December 31, 2012) will have required deliverables from each RHP, thus allowing for standardized means of comparing projects across RHPs. Health outcome measures will include measures of clinical outcomes that are associated with process indicators. Finally, select cost outcome indicators associated with process and health outcome indicators will be examined for changes associated with process or health outcome measures.

Comparative Case Study

A prospective research design will entail data collected in years 2-5 to compare performance across four to nine RHPs in the comparative case study. A mixed methods approach using quantitative, qualitative, primary, and secondary data will yield meaningful insights into factors affecting success over time. Within-case analyses will include a baseline profile of each initiative based on the Community Needs Assessment and publically available data (e.g., from Area Resource Files) on local demographics and health service provider supply; quantitative trends in utilization, cost, and quality indicators reported to HHSC; formal governance structure; repeated social network analysis; a timeline of key events; and qualitative analysis of stakeholder interviews and available documentation such as meeting minutes indicative of collaborative processes. To the extent feasible, the evaluators will also measure each initiative's implementation fidelity. Finally, between-case RHP analyses will be used to determine what patterns of resources, governance, regional power dynamics, and implementation processes distinguished more and less successful initiatives over time.

Figure 2. Logic Model for the Health System Transformation Intervention



Data Collection

For the second intervention, Texas proposes an evaluation design that focuses on several strategies for data collection.

a. Evaluation of the extent that establishing learning collaborative strategies for success led to continuous quality improvement.
b. A longitudinal comparative case study of four to nine RHPs quantifying and conceptualizing the RHP network (i.e., actors, their interest, and especially their relations as key explanatory factors for examining the effectiveness of selected RHPs). Although network analysis is routinely cross-sectional, the Program intervention provides an opportunity to examine the creation and sustainability of a new governance structure over the demonstration period.
c. Trend comparison between selected RHPs on the extent to which the RHP impacted the quality of care, health of the population served, and/or cost of care.

Evaluation Questions

The evaluation questions are broken down into three evaluation measurement types: Continuous quality improvement measures, process indicators, and outcome indicators. Table 3 presents a summary of each evaluation measurement type including, if available, the performance measure/indicator, the data source, anticipated outcome, and deliverable timeline. Please note that much of the evaluation information for the second intervention will only be known after the submission and acceptance of the project proposals in early 2013.

Continuous Quality Improvement

The evaluation question specifically having to do with continuous quality improvement measures is described below.

1. Does the establishment of learning collaborative strategies by the RHPs lead to continuous quality improvement? (STC 70.a.v)

    - ***Learning collaborative.*** All RHPs are required to report their quality improvement priorities to HHSC. From these, the external evaluation team will develop a matrix showing which RHPs are addressing which priorities. For every priority addressed by two or more RHPs, external evaluators will convene an annual meeting (via face-to-face or video conference) in 2013 in which each participating RHP will outline their improvement plans, and discuss which common quality, health, and cost measures may be feasible to analyze. The external evaluators will convene quarterly conferences of all RHPs with any given focus.

      On an annual basis, the external evaluators will collect data from each RHPs learning collaborative about their common quality, health, and cost measures, and report these back to all RHPs with any given focus.

Process Indicators

The evaluation question specifically having to do with process indicators is described below.

1. How did anchors, hospitals, and providers collaborate within each RHP to support uncompensated care and delivery system reform? (STC 70.a.iv) (STC 70.a.ii)

    - ***Comparative case study.*** To understand how differential regional health partnership performance unfolds over time, the external evaluator will conduct a longitudinal comparative case study of four to nine RHPs employing similar project strategies that address a single goal (e.g., improving primary care access to reduce Emergency Department use). The proposed sampling strategy will ensure that RHPs include at least one predominantly rural region, one predominantly urban region, and one mixed urban-rural (see Table 2). Data will be collected between summer 2013 and summer 2016.

Table 2. Hypothetical comparative case study sample.

		Case:								
Level of success: determined over time – hence distribution shown here is speculative	**Rurality:**	1	2	3	4	5	6	7	8	9
	Mostly successful	R			U			M		
	Partially successful		R			U			M	
	Mostly unsuccessful			R			U			M

R= predominantly rural; U=predominantly urban; M=mixed]

Possible data collected includes:

1. Each RHP's formal governance structure as reported to HHSC.
2. Social network measures of power dynamics and resource exchanges within each initiative.
3. Interview data on implementation processes.
4. Focus group and interview data on stakeholder perceptions, and the public health process and outcomes data each RHP reports annually to HHSC.
5. Additional data sources could be added depending on availability and consistency among selected RHPs.

Methods. Texas proposes a purposive sampling strategy for the comparative case study of RHP initiatives for four reasons: (1) we believe that the sample selection bias attendant to very low response rates to mail/phone surveys would wash out the benefits of random sampling of all RHPs and/or stakeholders; (2) interviews or focus groups would yield richer information about how stakeholders experience system changes; emergent themes could be used to inform probes in subsequent interviews or focus groups, as well as reported back to RHPs; (3) collecting these data in the case study sites, focused on a common type of initiative across all sites, would remove potentially confounding factors associated with differences across initiative types, and hence improve comparisons and generalizations across sites; and (4) external evaluators will have established relationships with local stakeholders through the other case study data collection, which will improve participation rates and hence the representativeness of the samples.

Outcome Indicators

The evaluation question specifically having to do with outcome indicators is described below.

1. Did RHPs show an improvement in quality of care, access to care, and in health outcomes for individuals served in their catchment areas? (STC 70.a.iii)

    - **Trend comparisons.** To the extent feasible, the external evaluator will also assess progress on goals seven to nine using concurrent comparisons (e.g., difference-in-difference analyses) of trends between RHPs implementing and not implementing a few strategies with substantial health and/or cost implications. Outcome health indicators will be selected from reliable and valid measures that can be collected across multiple

sites (e.g., claims and encounter data, HEDIS®, and/or CAHPS® survey questions). A concurrent comparison approach would be necessary to control for the effect of Affordable Care Act implementation in 2014.

Table 3. Intervention two evaluation questions including performance measures, data sources, anticipated outcomes, and deliverable timelines.

Evaluation Measure Type	Evaluation Question	Performance Measure/Indicator	Data Source	Data Periodicity	Deliverable
Process Indicators	How did anchors, hospitals, and providers coordinate within each RHP to oversee finance payments for uncompensated care costs and incentives for delivery system reform?	Increased communication among RHP stakeholders	RHP stakeholder focus groups, interviews	DY2, DY4	DY2, DY4
		Increased coordination and collaboration among health service providers in each RHP	RHP stakeholder focus groups, interviews	DY2, DY4	DY2, DY4
		Processes used for governance and decision-making within each RHP	Documentation in each RHP plan	Annual	DY2
	What communities needs were determined from the Community Needs Assessment (due 10/31/12) and what RHP projects results from CNAs?	Summary of needs and related projects by each RHP	Community Needs Assessment	Annually	DY2, DY3

Evaluation Measure Type	Evaluation Question	Performance Measure/Indicator	Data Source	Data Periodicity	Deliverable
Health Outcome Indicators	Did RHPs show an improved quality of care for individuals served in their catchment areas?	Quality measures to be determined by metrics included in DSRIP projects submitted by each RHP.	RHP submitted project (due 12/31/12)	Annually	Annual Progress Reports
	Did RHPs show an improvement in access to care for individuals served in their catchment areas?	Access measures to be determined by metrics included in DSRIP projects submitted by each RHP.			
	Did RHPs show improvements in health outcomes for individuals served in their catchment areas?	Health improvement measures to be determined by metrics included in DSRIP projects submitted by each RHP.	Category 3 measures	Annually	
Cost Outcome Indicators	How cost-effective was DSRIP as a program to incentivize change? How did the amount paid in incentives compare with the amount of improvement achieved?	Cost effectiveness analysis to be designed once RHP plans are turned in and compiled.	Funding benchmarks	Annually	DY4 or DY5

COMMUNICATION AND REPORTING

This section summarizes how information from the individual evaluation plan process and results will be used and shared. CMS and Texas agreed on several Special Terms and Conditions (STCs) related to the Program, including the following evaluation requirements (see STC 70).

Cooperation with CMS

- Texas will be responsible for the accuracy and completeness of the information contained in all technical documents and reports.
- Texas will cooperate fully with CMS and any independent evaluator selected by CMS to assess components of the Program.
- If requested by the CMS Project Officer, Texas will submit to CMS analytic data files and appropriate documentation representing the data developed/used in end-product analyses generated under the Demonstration. The content and format of these files will be negotiated with the CMS Project Officer, and Texas may limit the access to CMS internal use.

Communication with CMS Project Officer

- Texas will submit drafts of annual and final reports to the CMS Project Officer for comments, and will incorporate CMS comments and evaluation findings.

Reporting

Reflecting on the purpose of Section 1115 Medicaid waivers to demonstrate innovation, Texas will report and evaluate the 1115 waiver to inform the federal government, Texas, and local governments of the progress achieved and challenges encountered as the demonstration is implemented. Please see Tables 2 and 3 for details on which performance measures will be reported quarterly, annually, or by demonstration year.

- Texas will submit a narrative progress report to CMS 60 days following the end of each Program quarter. These quarterly reports will include information about the short-term progress of the demonstration. The process of regularly measuring, monitoring, and reporting to stakeholders should result in continuous performance improvement. Quarterly reporting will also provide preliminary data that will be used for the final evaluation scheduled for completion at the end of the waiver on September 30, 2016.
- Texas will submit an annual report to CMS 120 days after the end of each Program year.
- Texas will submit a final report to CMS 120 days after the expiration of the demonstration waiver. At a minimum, the final evaluation will use outcome measures to assess the impact of the demonstration-related programs on target populations (e.g., STAR+PLUS). The final report will consist of the final evaluation data, analysis, recommendations, and operational experiences that may inform implementation in other states and at the federal level.

Timeline for Implementation of the Evaluation and Reporting Deliverables

Data collection for the Program evaluation began on the first day the waiver was approved by CMS. Data will be collected throughout the waiver period. Table 4 includes the evaluation reporting timeline.

Table 4. Texas Healthcare Transformation and Quality Improvement Program Evaluation Reporting Timeline

Report	Includes Data As of the End of…	Delivery to CMS at the End of…
Year 1 Quarters 1 & 2	March 2012	May 2012
Year 1 Quarter 3	June 2012	August 2012
Year 1 Quarter 4	September 2012	November 2012
Year 1 Annual	**September 2012**	**January 2013**
Year 2 Quarter 1	December 2012	February 2013
Year 2 Quarter 2	March 2013	May 2013
Year 2 Quarter 3	June 2013	August 2013
Year 2 Quarter 4	September 2013	November 2013
Year 2 Annual	**September 2013**	**January 2014**
Year 3 Quarter 1	December 2013	February 2014
Year 3 Quarter 2	March 2014	May 2014
Year 3 Quarter 3	June 2014	August 2014
Year 3 Quarter 4	September 2014	November 2014
Year 3 Annual	**September 2014**	**January 2015**
Year 4 Quarter 1	December 2014	February 2015
Year 4 Quarter 2	March 2015	May 2015
Year 4 Quarter 3	June 2015	August 2015
Year 4 Quarter 4	September 2015	November 2015
Year 4 Annual	**September 2015**	**January 2016**
Year 5 Quarter 1	December 2015	February 2016
Year 5 Quarter 2	March 2016	May 2016
Year 5 Quarter 3	June 2016	August 2016
Year 5 Quarter 4	September 2016	November 2016
Final Report	**September 2016**	**January 2017**

EVALUATION MANAGEMENT

The evaluation will be conducted by internal and external evaluators. Internal evaluators will evaluate intervention one, coordinate report submissions, and provide evaluation project management. Internal and external evaluators will hold regular meetings to facilitate the evaluation of the two interventions, discuss and troubleshoot any issues relating to the implementation of the evaluation, and collaborate on results and reporting.

Internal Evaluators

The Evaluation Unit of HHSC Strategic Decision Support (SDS) will conduct the evaluation of intervention one (the Medicaid Managed Care expansion) and oversee the evaluation of intervention two (Formation of RHPs) of the Program. SDS is an independent branch of HHSC and the internal evaluation unit will leverage the expertise and capacity of evaluating statewide health and human services programs. The Evaluation Unit includes professional program evaluators with expert knowledge of the HHSC data systems used for this evaluation, and with ongoing, unlimited access to the data. The internal evaluation unit has direct access to policy experts and is informed about policy and procedure changes that may affect the evaluation.

In addition to the Evaluation Unit, SDS includes demographers who will be providing population data for the evaluation, and more than 30 analysts who work with HHSC data and policies every day. SDS is located within the HHSC Financial Services Division. Financial Services also includes the budget and accounting staff who will be contributing to the evaluation.

External Evaluators

The external evaluation of intervention two (Formation of RHPs) will be conducted by the Texas A&M School of Rural Public Health, in their Department of Health Policy and Management. HHSC has worked with Texas A&M in the past and has a long standing relationship with their research staff. Texas A&M brings a great depth of experience and knowledge of HHSC programs and services. Specifically, their research staff has substantial experience in conducting complex, large-scale, multi-site evaluations at the state and local level; local, state, and national level quantitative surveys with Medicaid/CHIP members, providers, and other key stakeholders described in the evaluation.

The external evaluation team will be led by Drs. Rebecca Wells and Monica Wendel. Dr. Wells is the incoming Department Head in the Department of Health Policy and Management. Her experience includes: (1) comparative case studies of FQHC-led networks, behavioral health care for low income families involved with child welfare, and implementation of a Medicaid medical homes model for pregnant women and children; (2) social network analyses of behavioral health-primary care integration and public mental health system responses to people in crisis; (3) longitudinal analysis of a state-wide care coordination initiative's implementation; and (4)

multiple regression analyses of how teamwork within and across safety net providers affected health care use and outcomes.

Dr. Wendel is the Assistant Dean for Community Health Systems Innovation at the School of Rural Public Health and is an assistant professor in the Department of Health Policy and Management. She has led several large-scale, multi-site complex evaluations, including the Steps to a Healthier San Antonio program (funded by the Centers for Disease Control), Legacy Partners for Healthier Communities (funded by the American Legacy Foundation), and the Minority Youth Tobacco Elimination Project (funded by the Office of Minority Health). Each of these evaluations included a multi-site, mixed methods design and entailed both process and outcome measures.

APPENDIX D

Integrating Primary Care into Mental Health Settings for Adults with Severe and Persistent Mental Illnesses

Initial Descriptive Report

May, 2015

Rebecca Wells
University of Texas School of Public Health

Stacy Ferrell
Affan Ghaffari
Blanca Macareno
Terri Menser
Loida Tamayo
Texas A&M School of Public Health

With special thanks to our partners who provided input on the initial draft of this report: *Sarah Roper-Coleman, Angie Cummings,* and *Tenaya Sunbury*, Strategic Decision Support, Texas Health and Human Services Commission (HHSC); *Michele Guzmán* and *Jim Zahniser*, the Meadows Mental Health Policy Institute (MMHPI), and *Melissa Rowan*, the Texas Council of Community Centers (TX Council), as well all the professionals and patients who so generously gave of their time to share their experiences with us.

DSRIP-funded Primary Care Integrated into Mental Health Care Settings:

Initial Descriptive Report

- **Executive Summary**

This report summarizes findings from visits to ten sites integrating primary care into mental health care settings through the Texas Healthcare Transformation and Quality Improvement Program Delivery System Reform Incentive Payments pool (DSRIP), within what is commonly known as the Texas 1115(a) Medicaid waiver.

Key Findings:

Primary care volume at integrated sites was often initially low. This allowed staff to spend more time with patients. In general, both professionals and patients believed that having more time to communicate about patients' health needs, health behaviors, and self-care was valuable.

Integration tended to be characterized by differences in both administrative processes and organizational cultures between primary and mental health care. Integration was much easier when primary care and mental health care providers had immediate access to the same health records. However, even at sites without common records, staff were refining processes for making relevant information available to all clinicians in a timely fashion.

Both recruiting and retaining the "right kinds" of primary care personnel was a significant challenge for many sites. Four sites experienced either delayed or paused operations after losing a primary care provider; this affected projects with and without external partners.

Integration projects clearly enabled Community Mental Health Centers to address pressing physical health needs. However, only a minority of patients appeared to receive recommended specialty care from other providers. Reasons for the limited specialty care included extreme patient poverty and reported hesitance among some providers to accept patients with Medicaid or without insurance. Poverty also appeared to reduce medication adherence, even when co-pays were as low as $3 - 5.

Providers believed that integrating primary care into mental health care facilitated more holistic treatment, which most commonly appeared to center around medication management. As vital as these advances in practice are, the research team also perceived such patient-centered integration to create a more challenging context for clinical practice, as providers were now more aware of each other's medication prescriptions in particular, and began recalibrating accordingly.

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Background

Severe and Persistent Mental Illness

In Texas, almost five percent of the state's population are diagnosed with serious mental illness. Of these, a subset are classified as having severe and persistent mental illness (SPMI) because diagnoses such as schizophrenia, major depression, or bipolar disorder limit their ability to live independently and have either persisted for more than a year or resulted in psychiatric hospitalizations (NAMI, 2010). These individuals have priority for community mental health services. Recent research indicates that individuals with SPMI die an estimated average of 25 years earlier than individuals who do not have these conditions (AHRQ, 2014; Gierisch et al., 2013; Parks et al., 2006). This gaping disparity is related to an increased risk for metabolic syndrome among people with SPMI (Brunero & Lamont, 2010), health behaviors such as smoking and diet (Chwastiak et al., 2013), and lower levels of primary care (Golomb et al., 2000; Hall et al., 1982). Managing co-occurring mental health and chronic health illnesses for people with SPMI can be complicated by the separate provision of physical and mental health care. Individuals with SPMI tend to receive some type of psychiatric care, but limited primary care (Bradford et al., 2008). Hence, expert consensus supports bringing physical health care into mental health care settings for this population, a configuration which has been described as "reverse co-location" (Kaiser, 2011).

Bringing primary care services into behavioral health settings can enable primary care providers to address the needs of people with SPMI more effectively (Collins et al., 2010). For instance, individuals with SPMI often have complex medication plans with a high risk of interactions and side effects (Parks et al., 2005). Collaboration with behavioral health care providers can also help primary care providers become more comfortable working with individuals who have SPMI (Alakeson, 2010). Lack of understanding of SPMI and inexperience working with this population can lead to misinterpretations such as symptoms being classified as delusions instead of medical conditions, and can also negatively impact consumer-provider interactions (Cabassa et al., 2014). Co-location of health care services is also a convenience for patients, allowing multiple health needs to be addressed in the same facility and sometimes on the same day; this is especially important for people with SPMI because of their frequent difficulties with securing transportation, especially in rural areas (Decoux, 2005; Nover, 2014; Scharf et al., 2013).

The World Health Organization (2008) spelled out seven reasons why mental health care should be integrated in primary care. Listed below are these principals adapted to describe the potential benefits of the reverse, i.e., integrating primary care into mental health care, for individuals with SPMI.

1) Mental illness creates economic and social hardships for society as a whole (Schroeder & Morris, 2010, p. 300).
2) Mental and physical health are interwoven (e.g., Citrome et al., 2005).
3) People with SPMI receive inadequate physical health care and have greater difficulty navigating the health care system compared to individuals who do not have SPMI (Bartels et al., 2013).

4) Reverse co-location can improve access to primary care (Scharf et al., 2013).
5) Given stigma related to mental illness, a health care setting in which patients feel comfortable is essential (Kaufman, 2012).
6) Integrated care can be affordable and cost effective, especially when the cost of psychiatric hospitals and the emergency department visits is considered (Department of Mental Health and MO Healthnet, 2013).
7) Integrated care can improve health outcomes (Druss et al., 2001).

(World Health Organization, 2008)

The Texas Healthcare Transformation and Quality Improvement Program as an Opportunity to Improve Care for People with SPMI

Through the Texas Healthcare Transformation and Quality Improvement Program, otherwise known as the Texas 1115(a) Medicaid waiver, the state has sought to improve access to health care, increase the quality of care, and reduce costs by expanding Medicaid managed care, revising the Uncompensated Care system, and creating the Delivery System Reform Incentive Payment (DSRIP) pool. Hospitals and other participating providers, including Community Mental Health (MH) Centers (also known as Local Mental Health Authorities [LMHA], Community MH/IDD Centers, or Community Mental Health Mental Retardation [MHMR] Centers), may earn DSRIP payments for projects that improve system performance in various ways approved by the Texas Health and Human Services Commission (HHSC) and the Centers for Medicare and Medicaid Services (CMS).

Texas mental health care leaders have identified DSRIP funding as a means of implementing a range of initiatives to meet the needs of people with mental health conditions, including those with severe and persistent mental illness (SPMI). The current report focuses on "reverse integration" DSRIP projects, whereby primary care is offered at mental health care sites. As outlined above, the rationale behind these projects is that lack of primary care was among the reasons for premature mortality among people with severe mental illness (Colton & Manderscheid, 2006).

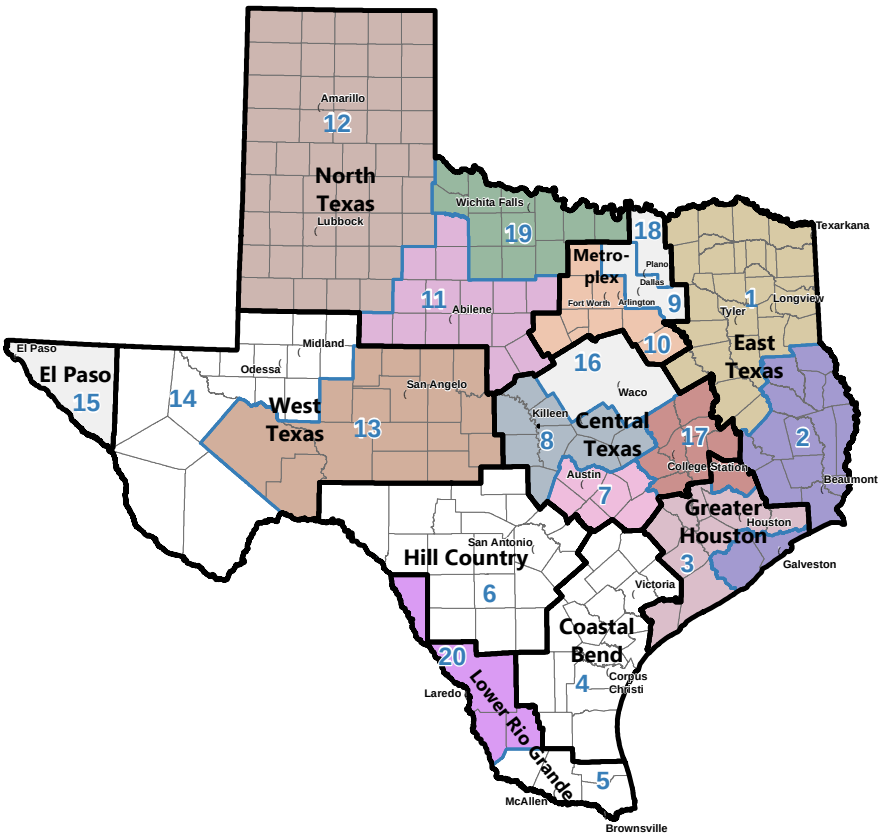
Prior research has found substantial variability in the nature of primary-mental health integration (US DHHS, 2013; Bauer et al., 2011). In addition, there is evidence that integrated sites with better quality indicators have better outcomes as well, albeit from integration of mental health care into primary care (Bauer et al., 2011). The purpose of the current study is to examine a range of ways Community Mental Health Centers in Texas are integrating primary care into mental health care for people with SPMI, and – in the next stage of this project – to identify which configurations are associated with specific desired outcomes.

Methods

Site Selection

The research team, HHSC, and Meadows Mental Health and Policy Institute (MMHPI) agreed that the sample needed to include sites in all major regions of the state and include a mix of rural and urban service areas because of potential differences in population needs, provider supply, and local infrastructure (e.g., transportation).
This report includes findings from 10 sites that integrated primary care into a mental health care setting (Figure 1). Two of the projects were not operational at the time of the initial site visit. However, the study team interviewed professionals at both sites to include their experiences in this initial report, and will have conducted both final patient focus groups by the summer of 2015.

- **Figure 1: Regions Included in Study**



Project sites are in Central Texas, West Texas, Metroplex (two projects), Lower Rio Grande, Coastal Bend, The Valley/Hill Country, East Texas, North Texas, and Greater Houston.

To be included in the list of eligible projects, sites had to meet the following criteria:

1. Funded through DSRIP

2. Focus on adults with SPMI, although not necessarily exclusively
3. Led by a mental health care provider (typically Community MH Center)
4. The focal population of the lead organization is current mental health care clients
5. The project should provide (not just refer to) primary care
6. The integration should bring primary care services into mental health care settings

UT – School of Social Work researchers shared a list of projects identified through their Meadows Foundation-funded inventory of DSRIP behavioral health initiatives that they thought might fit the criteria above (29 category 2.15 projects, five 2.19 projects, and 41 from other categories, for a total of 75). After iterative review of all of the projects UT-SSW had identified as well as 21 projects independently identified by the UT-A&M School of Public Health research team, 33 projects were found to fit the specified criteria. Projects that were excluded typically had a limited focus and were not providing true comprehensive integration of primary and mental health care. For instance, among projects excluded were those that provided peer support only, health screenings only, health education only, and workforce development projects. Two of the ten projects initially selected were replaced with alternatives from the same respective regions because additional information after initial recruitment indicated that one or more of the inclusion criteria were not met. The generality of these study findings is unknown because the ten selected projects may not represent statewide efforts overall.

The ten projects were chosen in part based on local context of the counties in which the projects were based (Table 1), although sometimes the service area extended beyond that base county. The United States Department of Agriculture's Economic Research Services Rural-Urban Continuum Codes (RUC Codes) classify counties by their population and level of urbanization. For instance, RUC code two is for metropolitan area counties that have between a quarter of a million to a million residents (USDA Economic Research Service, 2013).

Relative to Texas as a whole, the counties in the current study had very similar percentages of people living in poverty, African-Americans, Hispanics, and percentages of people enrolled in Medicaid. Table 1 includes the RUC code of sites, in addition to demographic information for the county as a whole, to depict both the composition of the counties' residents (indicated here by race and ethnicity) and local general socio-economic status (as indicated by poverty and Medicaid enrollment).

After concluding that the nature of integration varied in part according to what types of organizations were involved, the study team placed the projects into three mutually exclusive categories:

> **Community Mental Health Center only**: The organization providing mental health care services hires or contracts with a primary care provider, who functions as a member of the staff, i.e., reports to the Community Mental Health Center.
>
> **Community MH Center + Federally Qualified Health Center (FQHC)**: The organization providing mental health care services partners with an FQHC; the FQHC provides the Community MH Center patient population with primary care services.

Community MH Center + Other Primary Care: The organization providing mental health care services partners with a non-FQHC primary care provider; this organization provides the Community MH Center patient population with primary care services.

Table 1: Local Contexts of Participating Sites

	Rurality	Overall County Demographics, Not Limited to Patients				
Site Type	**RUC Codes 2013[43]**	**Percent in poverty[3]**	**Percent White[44]**	**Percent Black[3]**	**Percent Hispanic[3]**	**Medicaid Enrollment (January 2013)[45]**
Community MH Center only (n=4)	1, 1, 2, 4	16%	55%	8%	34%	14%
Community MH Center + FQHC* (n=4)	1, 1, 2, 3	22%	45%	7%	45%	16%
Community MH Center + other primary care (n=2)	1, 3	19%	39%	17%	38%	15%
Overall	2	19%	48%	9%	39%	15%

* Federally Qualified Health Center (FQHC)

Qualitative Interviews

To learn how projects were initially designed and operating, members of the research team visited each site between October 2014 and January 2015. Professionals interviewed held varying roles within these projects, including administrators, registered nurses, and physicians, with varying educational backgrounds (Table 2). Interview transcripts were checked by members of the study team for accuracy and removal of all identifying information.

One or more professionals at each site walked the study team members through the patient experience of receiving integrated care at their location. The team created an overall narrative

[43] For the complete definition of RUC codes see the ERS website: http://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx#.UYJuVEpZRvY

[44] US Census Bureau: http://quickfacts.census.gov/qfd/index.html

[45] Texas Health and Human Services Commission and the Texas Department for State Health Services
http://www.hhsc.state.tx.us/research/MedicaidEnrollment/ME/201301.html
https://www.dshs.state.tx.us/chs/popdat/ST2013.shtm

summary for each site, as well as prepared a flow chart of that site's typical patient care experience (Figure 2; GOAL/QPC, 1988). At each site, one mental health care provider and one primary care provider were each separately asked to summarize the de-identified experiences of three patients who had received integrated care: the patient who had benefitted the most from integration, a typical patient, and the patient who had benefitted the least from integration. The same individuals also completed a questionnaire on the quality of the coordination with the other discipline (i.e., primary –mental health care coordination) (Gittell et al. 2005), as described immediately below. Research team members also took notes on their observations at each site.

The findings presented in this report represent the initial results found by research team members through thematic coding within and across sites (Miles, Huberman, and Saldana, 2014), as well as the walk-throughs of patient encounters, questions about how primary and mental health care providers experienced their work with each other, and samples of patients described by each type of provider.

Instruments Administered

Relational Coordination Scale

The Relational Coordination Scale has been extensively validated to measure inter-disciplinary health care teamwork quality (Gittell et al. 2005; Noel et al., 2013). In the current study, at each site one mental health provider and one primary care provider, respectively, was asked to complete this survey to characterize their experience working with the other 'side of the house.'

The scale is comprised of eight items, whose responses are assigned values ranging from 0 (never) to 4 (all of the time).

1. When you need information from them, how often do you get it?
2. How often does [PC/MH care provider] give you information as quickly/timely as you need it?
3. How often do you think the information [PC/MH care provider] gives you is accurate?
4. When there is a problem, how often does [PC/MH care provider] work with you to solve the problem?
5. How often do they know about the work you do?
6. How often do they respect the work you do?
7. How often do they have the same goals as you do for taking care of patients?
8. How often do you have a say in what they do with patients?
    a. This was not in the original Relational Coordination Survey, but Dana Weinberg found this additional item to have high predictive validity in her research, and so it was added for the current study.

In the current study, an additional prefatory question was also added ("How often do you need information from [PC/MH care provider] to serve patients in this care integration project?") in order to discern interdependence.

Patient Focus Groups

To understand the patient experience with these integrated care projects, the study team has conducted nine focus groups thus far, eight of which are reported here. The ninth occurred just before this report, yielding similar results to those from the first eight. The tenth will occur in the summer of 2015. A nominal group technique was used in an effort to encourage equal participation. Patients were given a prompt and responses were collected, round robin style, and recorded in a document projected onto a screen or written on a poster for the group to see.

The following questions were used to guide the focus group. To develop this guide, the research team used the Tri-West Patient-Centered Healthcare Home Fidelity Scale, which in turn was based in part on Mauer, B.J. (2010) and SAMHSA-HRSA Center for Integrated Health Solutions (2012). The final set of prompts was:

1. Can you tell us what types of medical care have you received since [location] started offering these services?
2. What has been most helpful or working well about this program?
3. How would you like to see this program improve?
4. Since this site started offering physical health care, have you changed the way you take care of your physical health or mental health?
5. Has your physical or mental health – how you feel – gotten better or worse?
6. How well do you truly understand what your new medical doctors or nurses [in this project] are saying to you?
7. Have primary care services at this location helped you with any other parts of your life?
8. Do you think [this program] (i.e., receiving both primary and mental health care) has affected how much control you have over your own health?
9. Has [the program] helped you with any other parts of your life?

These sessions included two moderators, one to facilitate the session and the second to record patients' responses. If a patient's response was unclear the moderator would ask for clarification and permission to alter the original statement being displayed in the projected document (e.g., "When I first came here, I was having a little mental problems because I was hurting so much. I got in touch with both doctors here in the same facility. And, this has kept me from going to the state hospital or the hospital. That's because they've always helped me at the same time. I've got my mental medication plus medication for my pain" was changed to "[the participant] was having mental problems because she was having physical pain and doctors addressed both"). Once all the prompts had been discussed and the listing of patient responses had been collected in the projected document, the moderator read each response displayed and asked patients to indicate how relevant each was to him or her individually, using a three point scale (applies a lot, somewhat applies, does not apply). These individual patient responses were collected by written survey (without identifying information).

After the initial eight focus groups were completed, the research team compiled responses across all of these sites, eliminating duplicates. The compiled list was then mailed to all focus group participants who had expressed an interest in participating in this additional survey. After patients in the final site have had the opportunity to participate as well, the research team will compile responses from all participants. This will make it possible for the research team to quantify relative salience of various issues for the statewide sample.

Results

Professional Interviews

Professional interviews (n=63) were conducted members of the study team; all but two of these interviews were recorded and transcribed. Extensive notes were taken during and immediately after the two unrecorded sessions. A $75 dollar gift card was given to professionals at sites whose leadership allowed this token of appreciation for participation.

- **Table 2: Summary Statistics for Professionals Interviewed**

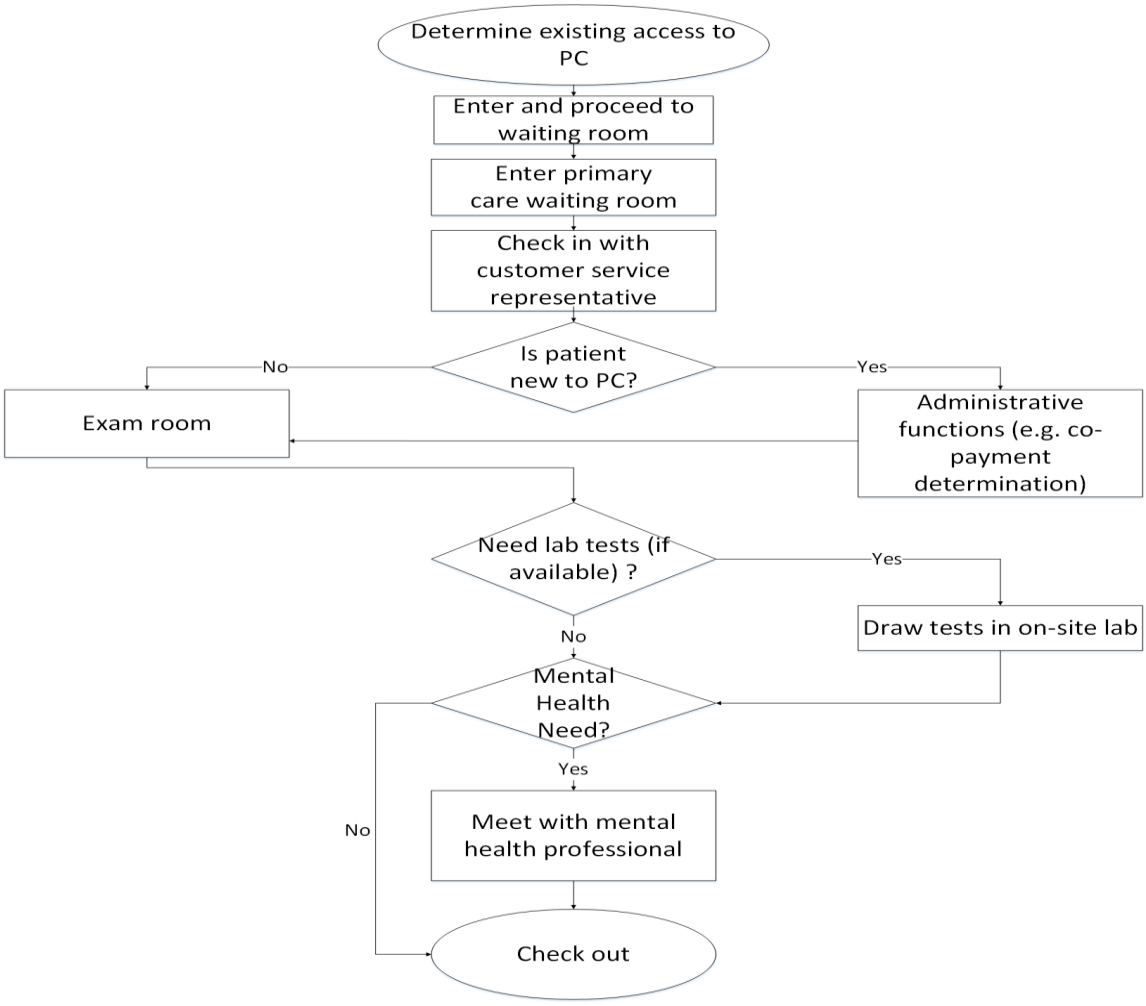
(n=63 at eight sites)

Race (n=63)	**Total**
White	44 (70%)
Black	8 (13%)
Hispanic	7 (11%)
Other	4 (6%)
Education (n=63)	
High School diploma	3 (5%)
Registered Nurse	5 (8%)
Bachelor's degree	14 (22%)
Licensed Clinical Social Worker	4 (6%)
Other master's degree	20 (38%)
Nurse Practitioner, Physician Ast	4 (6%)
MD	12 (19%)
Other doctorate	1 (2%)
Bilingual (n=60)	
Spanish speaking	16 (27%)
Speak other languages	22 (31%)
Mean Tenure	
Tenure at the organization (n=63)	7 years
Tenure in current position (n=58)	3 years

Care Integration Process

Physical layouts of integrated care varied widely because of constraints imposed by the structure of the existing facilities. For instance, some sites had separate primary and mental health care check-in desks and/or waiting rooms because they otherwise would have had bottlenecks. The proximity and physical separation of primary and mental health care also differed. However, the process of receiving primary care was generally similar across sites. Even though the vast majority of patients were already Community Mental Health Center clients, they did have to provide initial administrative and clinical information when they began primary care. At least nine sites drew blood and urine samples on site and sent samples out for testing, with reports sent back the next day. Some sites were able to provide same-day primary care for people with urgent unmet physical health care needs. Both primary and mental health care providers used each other sometimes for immediate consultations relating to patients with intertwined or ambiguous physical and mental health needs.

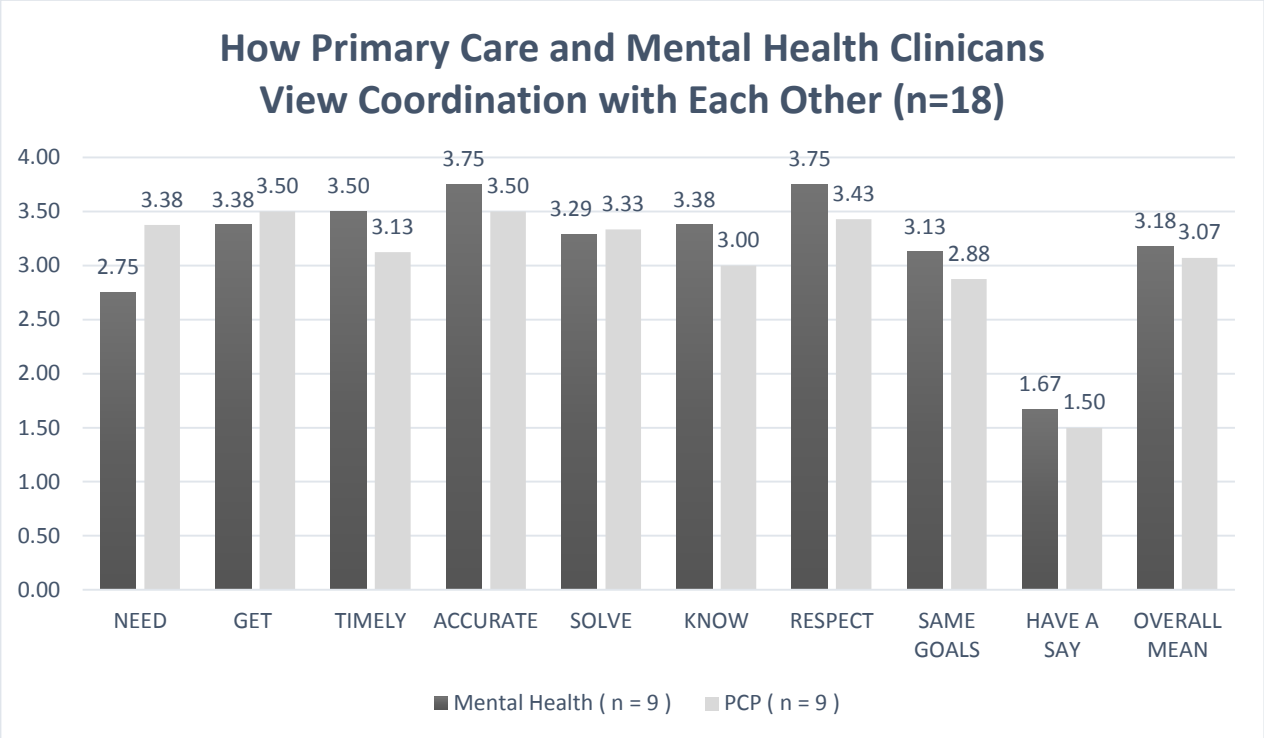
Figure 2: Process Walk Through of Typical Care Integration



How Primary Care and Mental Health Providers Assessed their Coordination

Results of the Relational Coordination scale indicate that mental health care providers perceived somewhat less frequent need for primary care providers (2.75, on a 0 – 4 scale) than primary care providers perceived for mental health providers (3.38). Because of the very small sample size, no tests were conducted for statistical significance. The overall quality of coordination between primary and mental health care providers was good, with a mean score just above 3 (most of the time) on the 0 (never) – 4 (all of the time) scale, relative to questions such as 'When you need something from [specified key partner – e.g., primary care], how often do you get it?' and 'When there is a problem, how often does [specified key partner] work with you to solve the problem?'. The lowest scores were assigned to the extent to which each discipline had a say in what the other discipline did for patients, reflecting the differing foci of the two types of care. In other words, mental health and primary care providers were often conferring with each other, but not necessarily seeking to control what the others did.

Figure 3: Relational Coordination between Primary Care and Mental Health Providers in Integrated Projects



Key Project Attributes

As shown on the next page in Table 3, Cherokee's Blended Behavioral Health and Primary Care Clinical Model was cited by half the study sites as a model upon which their integration was based. One of the reasons such a high proportion of sites used Cherokee as a model could be limited alternative exemplars of successful integration of MH and PC services. The Cherokee Health Systems model includes a behavioral health consultant on the primary care team, behavioral health consultations available to primary care providers (PCPs), and behavioral interventions in primary care, and encourages patient responsibility for their health/lifestyle (Cherokee Health Systems). Of the five facilities that used Cherokee's model, one site's representative described making substantial adaptations to the Cherokee model to fit their facility's capacity. Leadership at another of those five sites explicitly modeled on Cherokee also noted that they participated in the Substance Abuse and Mental Health Services Administration (SAMHSA) webinars to learn about best practices in integration, which was a common practice among participating sites. Another site with a distinct physical plant structure gleaned ideas from a national conference. Among the other projects not described as modeled on Cherokee, the primary care provider at one site described their model as collaborative care and the mental health care provider characterized their model as integrated care. Of the two remaining sites, one site described their model as the Four Quadrants model (SAMHSA), and the other as based on medical homes principals.

All of the projects renovated space to accommodate the new primary care providers rather than building at new locations. Most renovation was within existing Community Mental Health Center space.

All of the Community Mental Health Centers that added primary care without external partners had integrated primary-mental health care records. As the Meadows Mental Health Policy Institute staff have found in other settings, in the absence of pre-existing integrated health records, project leadership at these sites made their own adaptations to incorporate primary care information into systems designed for behavioral health care. None of the projects with external partners had integrated health records, although staff used a variety of work-arounds to share patient information.

Four of the ten sites reported previous failed attempts at integrating primary and mental health care, with those failures generally attributed to resource constraints. These experiences were perceived as helpful to leadership of the current projects in understanding the complex issues in this form of service improvement.

At the time of the site visits, three of the ten sites offered primary care to individuals who were not current Community Mental Health Center clients and did not necessarily have any behavioral health conditions. This relatively low proportion is likely due to both overall resource constraints and to how newly operational the projects were as of winter 2015. However, attracting non-Community Mental Health Center patients was viewed as a way of serving more people in need as well as potentially sustaining integrated services through additional earned income from patients with insurance.

The challenge of recruiting primary care providers for mental health care initiatives is well known (US DHHS 2013), and was also specifically referenced in eight of the sites within this study. In addition, four of the ten sites had to delay or suspend operations for a number of months after losing primary care providers; this had happened for different reasons across locations. Two other the sites also reported some primary care turnover in the first several months of operations. Hence, overall, more than half the projects experienced significant non-operational periods because of PCP turnover; this affected projects both with and without external partners.

Table 3: Project Key Attributes (total n=10)

Site type	Modeled on Cherokee	New facility	Shared health records	Prior integration attempt	Serve non-Community MH Center patients	Primary care delayed or paused due to PCP loss	Other primary care turnover in first year
Community MH Center only (n=4)	50%	0%	100%	25%	25%	50%	25%
Community MH Center + FQHC* (n=4)	75%	0%	0%	50%	25%	25%	25%
Community MH Center + other primary care (n=2)	0%	0%	0%	50%	50%	50%	0%
Overall	50%	0%	40%	40%	30%	40%	20%

*Federally Qualified Health Center (FQHC)

Emergent Themes - Interviews with Professionals

Low initial volume allowed valuable additional time between clinicians and patients

Demand for integrated services varied across sites, especially directly following implementation. As typifies new projects, primary care providers frequently reported a low number of clients initially, which allowed for longer encounters with patients. Providers saw this as a chance to allow patients more time to ask questions and build rapport. This slower start-up time also appeared to enable primary care providers to adapt to patient needs, for instance, simplifying communication to improve understanding.

Sites varied in the specific ways staff capitalized on time available to communicate with patients. For instance, at one site, the Primary Care Supervisor talked with patients while they were in the

waiting room after checking in, to convey information about primary care services and the related costs so that the patients would know what to expect.

> "When I first started, a good day for us was six patients. Now we'll see ten or eleven patients a day [on a good/busy day]." *Primary Care Provider*

> "Honestly, I don't see a stress level for the primary care side. I think if let's say for instance we were seeing 20, 30 patients a day, then, yes, that can be a stressful load. We're not handling that type a load, so it's more balanced where they're actually able to handle it easily." *Primary Care Administrator*

Another site had an encounter rate nearly double that anticipated, which the research team attributed to patient pent up unmet need.

> "They want to come see the doctor." *Administrator*

The Meadows Mental Health Policy Institute has found some other integration sites to struggle with gradually increasing demand. The research team did not find that in the current set of projects, likely because they were relatively new at the time of the site visits.

Common health records greatly facilitated inter-disciplinary communication

Some sites reported successfully adding primary care information to electronic health records (EHR). For instance, one site had added an insulin template to the EHR allowing both primary and mental health care clinicians to monitor patient insulin status. Immediate access to all prescribed medications was also described as useful. At another site, the primary care RN was able to look up a patient in the EHR immediately before seeing an individual referred from mental health care, and an administrator showed physicians how they could click a pending option that would cue other physicians to sign off on a single treatment plan. Common health records access was more common at sites run through a single organization, although that did not guarantee satisfaction with ease of use. Similarly, prior research has identified fewer but often nonetheless substantial challenges when information systems were combined (US DHHS 2013).

> "[Our] worst frustration with the whole system is they have the worst EMR I've ever seen … We think it probably came over here on Noah's Ark." *Primary Care Provider, Community MH Center only site, with a common EHR*

At sites with separate mental health and primary health records, staff developed a variety of work-arounds to ensure that each discipline had adequate information when meeting with patients. Sometimes, this involved printing out hard copies of extracts from these records.

> At a site that collaborated with a non-FQHC organization to deliver primary care services, the mental health providers did not have access to the EHR: "The primary care physician kept saying, 'You need to give them access because I need to know the medications they on for behavioral health.'" *Administrator*
> "… when [the mental health liaison] is out, or at training, or something like that, it's really annoying because I'll have to walk over here all the time and ask them [for patient records]." *Primary Care Provider, Community MH Center-FQHC site*

> "In the beginning we weren't integrating the medical records. We had a big problem there, because we were sending them, but not printing them out and getting them upstairs. Or then they were getting in the wrong hands, so we had to refine that and get it down to—okay, we're going to give it to the nurse who is going to give it to the provider, because it … wasn't getting there, or it was getting lost in translation. We had to really work on that process of getting the labs, the meds, and all that." *Administrator, Community MH Center-FQHC site*

> "Now, we're getting copies of the labs. The problem is, we don't have a way to integrate them into the health record. We have a separate records system than [the PC org] does. We don't have access to their system, and so it makes it a little difficult for us because it's two separate records. We get these copies, but then I have to match these to the chart. That's a lot of work to do that." *Administrator at a Community MH Center-FQHC site*

> "We can't necessarily always parse the substance abuse data from the other behavioral health data." *Administrator at a Community MH Center-FQHC project*

Differences between primary and mental health administrative processes challenged staff

As in previous research (Bao, Casalino, and Pincus, 2013), Community Mental Health Center partnerships with independent primary care providers contended with different payment practices as well as reporting requirements. For instance, although both Community Mental Health Centers and primary care providers charged on sliding scales, Community Mental Health Center fees were per month, whereas primary care providers charged per encounter, and appeared to require often higher out-of-pocket costs. Such differing payment policies were confusing and sometimes off-putting to Community Mental Health Center patients.

Other common initial challenges for integration projects were an inability to bill Medicaid and/or Medicare because managed care contracts had not yet been approved, and integration of primary and mental health billing systems. This is in keeping with a recent study of programs with integrated primary-mental health programs that found only 18% to have integrated records (US DHHS 2013).

> "We're not worrying about billing right now, because right now we can't even share records with each other." *Community Mental Health Center Director*

> "Another thing billing-wise was submitting the correct information on the claim forms. For our system it was developed based on the mental health side, and so there are definitely configuration changes needed to adhere to a primary care setting claim." *Primary Care Administrator*

> "When you go to bill, you have to change the diagnosis and then change it back after you bill. For billing purposes, it's not the best." *Administrator*

In fact, in some instances billing may be simpler when primary care is provided by a separate organization, thus obviating the need to reconcile separate billing systems and, with FQHC partners, allowing them to capture higher reimbursements:

> "With [PC org], it's very simple. If they go to primary care, [PC org] has a way to subsidize that medication. We don't have to do anything. They don't have to bill us. We don't have to bill them. They just make the referral. If the client needs primary care medication, [PC org] will provide that." *Primary Care Administrator*

> "The FQHC is billing at their enhanced rate. That helps. That's why I was more than glad, "You guys do the billing. Go take responsibility for it." Whatever you earn in third-party revenue will just come off their invoice to us." *Community Mental Health Center Director*

Staff frequently described using 'warm hand-offs' from one stage of a visit to another, sometimes as an adaptation made after realizing that patients were not otherwise getting to the next step in care. For instance, at one site, when a patient did not show up after the communication between the primary care and mental health care front desks, a medical assistant from the primary care clinic would physically go to the mental health clinic and call for the patient. Some sites also had staff members exclusively focused on care coordination. For instance, care coordinators at different sites followed up on referrals made by any other staff member; monitored patient progress; made additional referrals as needed (e.g., to primary care or a peer counselor), helped with transportation to medical appointments, and sometimes attended patients' primary care appointments for purposes of education and medication management and reconciliation. At another site, a primary care-based care coordinator reported working closely with the mental health physician assistant to educate people about disease self-management. As found in previous research, different sites used different titles for similar coordinative positions (US DHHS 2013). In subsequent interviews, the research team will clarify which individuals at each site have care coordination roles, and how they affect integration.

> "At first we took for granted that if you just said 'Hey, I'm going to send this patient down, they walk around down here maybe, and then if they didn't find [the PC office] right away, then they would leave … We started examining the number of people we referred that actually penetrated into primary care. We were like, 'Ah, it's not good enough.' We took it down and said, 'Hey, you have to actually warm handoff them.'" *Mental Health Director*

Differences between primary and mental health cultures challenged staff

Some participating sites recruited primary care doctors and nurses, only to lose them soon thereafter. One reason appeared to be the number of alternative jobs available, with higher pay and lower stress. Another apparent reason was differences between physical and mental health care cultures, perhaps especially within public mental health care such as the Community Mental Health Centers that were in charge of these projects. Cultural differences appeared somewhat more common at sites involving two organizations than at those in which Community Mental Health Centers had hired primary care staff.

Although both primary and mental health care staff shared a strong commitment to quality health care, there sometimes appeared to be tension between the relatively slower pace and lower stress

of primary care and the greater pressure to meet patient encounter volume goals and higher general stress of mental health care.

> Regarding primary care: "They work with us, they're part of us. We don't see them as a program distinct from us. They're really not. We're all [name of MH organization]." *Psychiatrist at a Community MH Center-only project*

> From a project in which the Community MH Center hired primary care staff, regarding communication between primary and mental health care: "The nurses talk and they provide support to each other." *Mental Health Center Director*

> "We're now on our third nurse practitioner, in a short period of time. That's been a difficult integration." *Administrator at a project managed between a Community MH Center and a non-FQHC PCP*

> "One thing is finding the right providers. We went through a couple of people who just didn't seem to be working out very well. You really need somebody that is a part of the whole team." *Medical Director at a Community MH Center partnering with an FQHC*

> On the greater amount of time available to communicate with patients on the FQHC side of the integrated project: "Here it's more, let's take time, let's spend time with them and get to know them." *Administrator at a Community MH Center partnering with an FQHC*

> At one site, the PC org was perceived as being "tight" with information about shared patients, especially at the onset of the integration project's implementation.

> "Our overall goal is to provide safe, useful, effective service to our consumers … Underneath that philosophy, though, there are people that are very worried about numbers, that we make a certain number of contacts and we meet our contractual agreements with the state and the milestones we've set." *Community Mental Health Center Administrator*

Professionals repeatedly stressed the importance of communicating actively between primary and mental health care to build trust and mutual understanding. At one site, instant messaging had been effective, whereas in others a close relationship between a mental health staff member and primary care staff member seemed to provide the principal communication bridge between the two disciplines. Other sites had face-to-face joint mental health-primary care meetings as often as weekly. These findings are in keeping with prior research indicating that a sense of belonging is important to professionals in integrated programs (US DHSS 2013).

> "Communication is the number one thing because we're dealing with two separate entities in two separate systems of care." *Care Coordinator*

> "We do team huddles so coordinating those, making sure all the doctors and everyone's coming for those, making sure our milestones and metrics are met." *Administrator*

> "I mean, because it gets down to communication. Where their client's here, I'm used to them as patients. You're referring to the same thing, but it's like, 'Oh, wait, wait, wait.' Then when they say 'MI,' it's motivational interviewing. To me, that's myocardial infarction. It's like, 'Okay.' It's all the acronyms and stuff and just getting the communication down and terminology. It's been a learning curve for me. Like, 'What are you talking about?'" *Administrator at a Community MH Center – FQHC site*

Patient physical health medication and specialty care follow-through were generally low

Patient poverty limited the use of prescription medications for physical health conditions as well as recommended follow-up with physical health care specialists. One site estimated that about 20% of their patients followed through with referrals. Reasons cited included hesitance of specialists to accept uninsured patients or even those with Medicaid, patient lack of transportation, inability to meet out-of-pocket expenses, and patient skepticism about the need for recommended care. Often chronic health conditions were not under control, despite provision of primary care. One administrator literally called every area specialist from the yellow pages to ask if they would see their patients. Very few said yes, but they now have one or two for most specialties who have agreed. They have also discovered that some specialists who have not committed in generic terms will agree to see a specific patient when told of that situation. When a participant at another site was asked if specialists were declining to see patients because of their mental illness, he said no, that they were declining based on insurance status even before mental health status was discussed.

> "$5 is hard for a lot of people." "If there's a bigger problem and they have to see a specialist … then everything comes to a screeching halt." *Behavioral Health Consultant*

> "They got the care that they needed, but they didn't have the funds for the medication… Even if it was $3." *Administrator*

> "… and she's unfunded, and I can't do anything for her. I try to optimize her medication, try to keep her on all medicines she's supposed to be on, give her a nitro pill. If the pain gets bad, go to the emergency room." *Primary Care Provider*

> "I've seen noticeable differences in things like blood pressure control, blood sugar control has gotten better, that type of thing. Pain management? Not so well because we don't do that. That gets referred out, and I don't know what happens to that." *Mental Health Physician Assistant; the PCP at this site also reported success in blood pressure control*

The reason for doing all this: Providers perceived better access and more holistic care

Professionals at participating sites perceived that given integration, some Community Mental Health Center clients started receiving preventive care that they had not previously found truly accessible, even if it was theoretically available. For instance, prior to this integrated project, an administrator observed that patients "were recommended to other clinics… A lot of times these patients wouldn't go, or they'd end up in the ER." The PCP noted that one patient didn't follow up because she was not comfortable with crowds or waiting for extended periods of time to see a

primary care doctor. The research team believes that this was not so much due to the waiting time per se, (given that this was also common in Community Mental Health Centers) as to waiting in an uncomfortable setting.

Clinicians believed that triangulating information across disciplines allowed for more accurate diagnoses. For example, for people with substance use-related issues, physicians believed that they were now more accurately diagnosing the root cause of requests for pain medication as dependency versus pain.

> Prior to integration, psychiatrists had been frustrated with patients' inability to monitor physical health conditions: "We can't get them to go get their labs. If they don't get their labs, then we're stuck in between this rock and a hard place of do we continue prescribing some very strong medications to them without any labs to inform that process?" *Community MH Center Director*

> "Especially if you have a psychiatric issue, there are lots of problems with that. Just multiple things. We get this, and then now we try to make some sense out of it. This is where getting with the internal medicine or the family physician is helpful. That's going to make a lot more sense. Here's a lady who has all of these medical issues, and she comes in and says, 'I'm fatigued.' Really? Why wouldn't you be? 'I just don't feel good. I can't explain why.' It could be the fact that you've got multiple medical issues going on, and it isn't all psychiatric. The patient comes in, 'I've been feeling dizzy. I think it's that Depakote.' Okay. What about the 14 other meds that you're taking? … It turns out to be a lot better for them if they understand that, I know you're taking other meds and there's other things here, and maybe we need to address this medically and not psychiatrically." *Mental Health Physician Assistant*

In keeping with prior research (Chwastiak et al., 2013), providers noted that most of the physical diseases experienced by patients were at least in part a product of lifestyle. In addition, patients' inability to access primary care can allow mild health issues to become emergent (e.g., wounds becoming infected). Hence, preventive physical health care may improve patient health as well as save medical costs. Some providers also reported benefits extending beyond clinical indicators to quality of life factors such as re-employment. For instance, several providers reported that patients receiving integrated care were making lifestyle changes:

> "We have seen patients' sugar level come down to normalcy; levels of 100 from 600. Some no longer have headaches, and they're eating better and making changes" *Primary Care Provider*

> "We have stories of patients that have improved so much that some of them are back home with their families that they had been away from because of their behavioral health conditions, but because we're addressing their health needs they're feeling better and they're doing better. We have patients that are now back at work that for years have been out of work. The housing assistant, the job employment assistance that we have here have been able to get them back to work because they want to." *Director of Primary Care*

Clinicians also seemed to benefit from having ready access to colleagues with complementary expertise:

> "Something else that's really important to me, to help give some sense of security, so to speak, is that so many of our medications cause side effects. They drop your white count, your neutrophils. They can affect your liver function and so forth, and it was always good to have this doctor around, that we could sit down and say, 'What do you think about this white count? Is it getting low enough that we need to intervene, change mediations,' but work together with him on taking care of the patient, who is having some medical issues due to the medication." *Psychiatrist*

> "I think the biggest issue for our more intense clients, the primary care docs, they get a little frustrated with them and they don't want to deal with them. Having the case manager in there with them, they can kind of work it as a team. That has really helped our truly chronically mentally ill population." *Community MH Center Director*

> "Integration is about not missing things. It allows that the problem list of the patient becomes and continues to be updated and accurate…Again I'm not prescribing or I'm not practicing medicine blinded by some medical condition that I don't know about because the patient doesn't have a primary care doctor to investigate that. To me, that's what this is all about – that integration." *Psychiatrist*

Although the research team believed providers considered the attendant additional effort required to provide integrated care to be worthwhile, in some respects such mutual recalibration between primary and mental health care appeared to make clinical practice more challenging.

> "Sometimes it seems like every time I see a patient, they're on a completely new set of meds… and that I'm having to re-deal with those side effects" *Primary Care Provider*

Concerns about sustainability loom large

Although some executives outlined plans to sustain at least some integrated services through earned income if the 1115 waiver funding ends, the majority saw a need for continued government support.

> "This project is at risk because indigent clients simply can't pay for their care. So someone, Medicaid, or the state, or the federal government, needs to pay." *Administrator*

> "I think our schedule breaks out $0.00, and then the next step up is $3.00, and then $5.00, and then $10.00, which probably not exactly sustainable at those rates." *Administrator*

> "In the absence of some sort of Medicaid roll out, it's going to difficult for anybody who has one of these projects." *Medical Director*

Recent communications between CMS and HHSC about Texas's potential Waiver Program renewal or extension make these issues even more salient (Walters, April 20, 2015). Such concerns about sustainability appear to be common for integrated primary-mental health programs nation-wide (US DHHS 2013).

Patient Focus Groups

Although patients were unaware of many of the challenges of implementing integration, focus group participants echoed professionals' perceptions of improved communication with providers, reduced barriers to care, and improved health and well-being. However, another common theme between professionals and patients was continued substantial unmet health needs.

Table 4: Summary Statistics for Patients Who Participated in Focus Groups (n=64)

Age (n=63)	
Mean	49
Race (n=64)	
White	24 (38%)
Black	13 (20%)
Hispanic	25 (39%)
Other	2 (3%)
Education (n=64)	
No GED / equivalent	10 (16%)
GED	22 (34%)
High School diploma	13 (20%)
Some college	16 (25%)
College degree	3 (5%)
Mental Health Diagnosis (n=64)	
Bipolar	24 (37%)
Schizophrenia	17 (27%)
Depression	49 (77%)
Primary Care Diagnosis (n=64)	
Hypertension	36 (56%)
Diabetes	25 (39%)
COPD	12 (19%)
Asthma	7 (11%)
Income (n=56)	
0 - $14,999	54 (84%)
$15,000 - $34,999	2 (3%)

Table 4, Continued	
Access to Transportation (n=64)	
Yes	21 (67%)
No	21 (33%)
Homeless (n=64) (within the last year)	
Yes	27 (42%)
No	37 (58%)

Emergent Themes – Patient Focus Groups

Below are listed illustrative quotes from the most salient themes emerging from the eight focus groups conducted at projects that were operational by early spring 2015. Research team members probed for patient experiences of integrated care and impact on health behaviors and health and functional outcomes, as well as areas for potential future improvement.

Comfort receiving primary care at Community MH Centers

A number of focus group participants commented on feeling more comfortable getting primary care at Community MH Centers than from providers in traditional PC settings, in part because of familiarity and in part because of what the study team interpreted as a Community MH Center culture of caring.

> "When I come in they know my name."
>
> "I don't feel condemned or judged here."
>
> "I look forward to my appointments."
>
> "They feel like family."

Convenience

Many participants commented on the ease of accessing primary care located within their Community MH Centers. In addition to seeing providers, being able to pick up prescriptions for both physical and mental health at the same place was cited as a benefit for integration.

> "I'm not missing appointments now. It's easier to come to appointments in one place."
>
> "The in-house pharmacy is convenient."
>
> "They ordered my medicines here, and I really appreciate it."

Quality of communication with providers

Prior evidence suggests that communication is difficult for people with SPMI in most general health care settings (Cabassa et al., 2014; Irwin, Henderson, Knight, & Pirl, 2014). Focus group participants commented favorably on the quality of their communication with primary care providers in the integrated settings based in their Community Mental Health Centers. As noted elsewhere in this report, this may in part reflect low initial primary care volumes that allowed more time for communication. Projects may be challenged to continue allowing sufficient time as patient volumes increase, especially if sites feel pressure to increase the number of paid encounters. One potential lesson for other mental health providers planning integration of primary care may be to allow for a deliberately slow start-up that allows sufficient time for both providers and patients to become acquainted with the integrated approach. Subsequently, the amount of time per encounter might be tapered downward.

> "Because you can go see the doctor you can understand what's wrong and learn how to prevent it or make it better."

> "I mean every doctor in here, if there is a problem they see the expression on your face."

> "The staff here develops relationships with their patients and makes you feel like a person."

Reduced financial cost for physical health care

The extreme poverty of many of the individuals served by DSRIP integration projects made even small decreases in cost important to some patients.

> "I have access to low cost/free medications."

> "This integrated care program has affordable co-pays and payment assistance."

Impact on health care use and health behaviors

Some patients reported taking better care of themselves because of partnerships with their new primary care providers.

> "My physical health needs are now met; it had been years since I'd seen a doctor."

> "I am keeping medication consistent, and am able to get refills so that I don't have to come back to the doctor all the time."

> "My doctor really interacts with me and I really like it and I'm taking better care of myself as a result [eating better; taking steroid shot]."

Impact on health and well-being

Participant comments included references to alleviated anxiety about physical health conditions as well as reduced physical symptoms and feeling able to live fuller, more positive lives.

> "When you don't know what's going on with your body it's scary. Just being able to get the information about my medical needs has been great."

> "I'm sleeping better now."

> "I'm eating better."

> "I'm getting out more. I'm walking more. All around I'm doing more because I feel better."

> "They give me hope."

Remaining unaddressed needs

A limited number of participants reported negative experiences with integrated care. More common were comments about additional needs that remained unmet because they were beyond the scope of the integration project and were thus financially inaccessible to patients.

> "I don't think she means to, but she talks down to me like I don't know what's going on. I may not have the medical training, but I know what I am going through."

> "It's difficult for me to understand my doctors and nurses, but I do understand now that they are here to help me."

Not all projects included in this evaluation can cover the complete cost of prescribed medications for patients of the integrated care programs; some require a minimal copay, which may not be feasible for indigent patients, while others cap the number of prescriptions covered due to the associated financial burden. Sometimes prescriptions are based more on medication prices instead of optimal treatment choices.

Services often unavailable to integrated care patients include specialty services and specialist diagnostic imaging. Providers and patients noted severe unmet dental health needs among their patients. One site provided on-site dental care. However, dental care was an otherwise frequently cited unmet need. Other unmet needs identified included transportation, specialty physical health care, imaging, and vision care.

Next Steps

The first draft of this report went out on April 15, 2015, allowing the study participants, the HHSC evaluation team, MMHPI, and the Texas Council of Community Centers to provide input. This is the final and public draft of this interim report; anyone receiving this draft is welcome to email/contact Rebecca Wells (Rebecca.S.Wells@uth.tmc.edu; office phone 713-500-9184; cell phone 919-259-4367). You are also free to share this report with whomever you choose.

In August 2015, the research team would like to meet with representatives of participating sites to debrief on initial results and discuss common measures to share for correlational analyses. The Texas Council of Community Centers will again facilitate this meeting. After that meeting, the research team may get initial quantitative data from each site (or possibly directly from the Texas Department of State Health Services (DSHS)) and examine to identify any potential concerns and ensure comparability across sites for common measures.

Between October 2015 and January 2016, the research team will call the main contact at each site to get an update on project evolution since the site visit. These calls should take about 30-60 minutes.

In the spring and summer of 2016, the research team will collect final quantitative data from all sites/DSHS for correlational analyses.

By September of 2016, the research team will share the first draft of the final report that includes correlations between project structure and outcomes with study participants, the HHSC evaluation team, MMHPI, and the TX Council of Community Centers. The research team will contact participants for feedback.

In November 2016, the research team will distribute the final report to all of the above.

Conclusion

Texas ranks 48th in spending per capita on mental health services in the nation, averaging $41 per person, trailing only Florida and Idaho, and far below the United States average of $120 (Kaiser Family Foundation, 2012 and 2013). This program turned out to be a long awaited opportunity to improve public mental health care. As one Community MH Center executive commented, "…we had been watching the national landscape and knew that integrated care was definitely the way to go. In the State of Texas, there was no way to fund that. Once we heard of the 1115 waiver, [the Director] says, 'That's one of the first things I want to have done.'"

This report describes major innovations in care for people with SPMI occurring through a combination of a substantial new funding opportunity and agency leadership around the state who were willing to try a particularly challenging change in practice. Key findings include both provider and patient reports of enhanced access to care and some improvements in health outcomes; pros and cons to Community MH centers hiring PCPs versus working with external providers; and challenges in hiring and retention, information sharing, and team-building

between mental and primary care staff. Community Mental Health Centers that hired PCPs had the major benefit of common information systems and appeared to have generally greater initial success in integrating the PCPs culturally to public behavioral health care. Partnering with FQHCs enabled the projects as a whole to benefit from higher reimbursement rates for some primary care services. These initial findings are all congruent with those from prior research on primary-behavioral health care integration (e.g., US DHHS 2013). This study's final report will include correlations between different program configurations and outcomes of interest. Long-term sustainability of any such outcomes will hinge on adequate and predictable funding.

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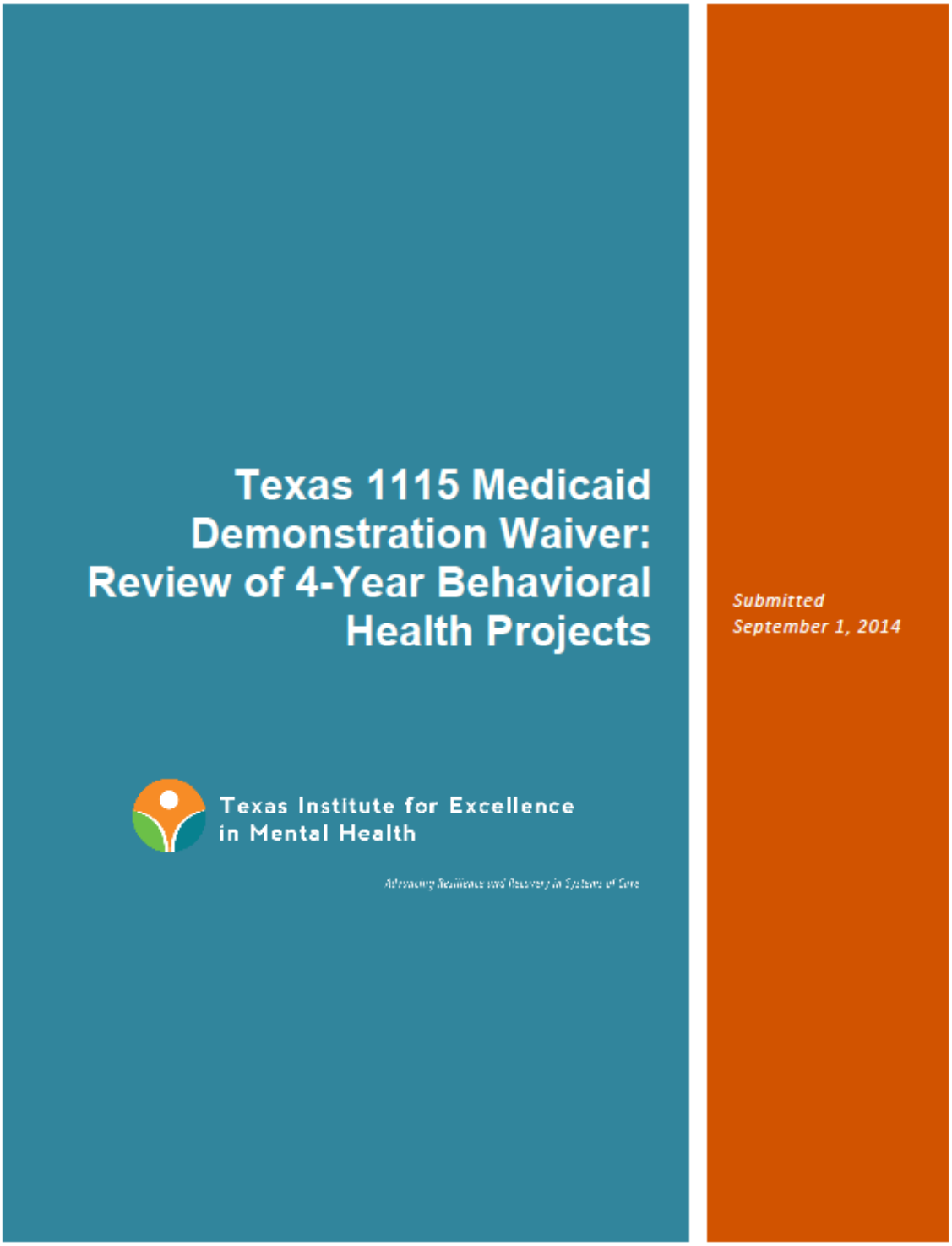
APPENDIX E

Double click image below to open the report



APPENDIX F
ICD-9 CODES RELATED TO ACCESS

Texas HHSC uses and adapts a comprehensive set of health care quality measures to evaluate the impact of expansion of Medicaid Managed care (MMC) throughout Texas. These include:

Performance Measure/Indicator	**Data Source**	**ICD-9-CM code(s)**	**Exclusions/Comments**
Children and Adolescents' Access to Primary Care (CAP)	2014 HEDIS®	CAP value sets	Due to the proprietary nature of HEDIS® value sets, specific ICD-9-CM codes cannot be listed
Adult access to preventive/ambulatory health services (AAP)	2014 HEDIS®	AAP value sets	Due to the proprietary nature of HEDIS® value sets, specific ICD-9-CM codes cannot be listed

Performance Measure/Indicator	Data Source	CPT code(s)
Diagnostic dental procedure codes	2014 TMHP Provider Manual	'D9000' 'D0110' 'D0120' 'D0130' 'D0140' 'D0145' 'D0150' 'D0160' 'D0170' 'D0180' 'D0210' 'D0220' 'D0230' 'D0240' 'D0250' 'D0260' 'D0270' 'D0272' 'D0273' 'D0274' 'D0275' 'D0277' 'D0290' 'D0310' 'D0320' 'D0321' 'D0322' 'D0330' 'D0340' 'D0350' 'D0410' 'D0415' 'D0416' 'D0420' 'D0421' 'D0425' 'D0431' 'D0460' 'D0470' 'D0471' 'D0472' 'D0473' 'D0474' 'D0475' 'D0476' 'D0477' 'D0478' 'D0479' 'D0480' 'D0481' 'D0482' 'D0483' 'D0484' 'D0485' 'D0501' 'D0502' 'D0999'
Preventive dental procedure codes	2014 TMHP Provider Manual	'D2110' 'D2120' 'D2130' 'D2131' 'D2140' 'D2150' 'D2160' 'D2161' 'D2210' 'D2310' 'D2330' 'D2331' 'D2332' 'D2335' 'D2336' 'D2337' 'D2380' 'D2381' 'D2382' 'D2385' 'D2386' 'D2387' 'D2388' 'D2390' 'D2391' 'D2392' 'D2393' 'D2394' 'D2410' 'D2420' 'D2430' 'D2510' 'D2520' 'D2530' 'D2540' 'D2542' 'D2543' 'D2544' 'D2610' 'D2620' 'D2630' 'D2640' 'D2642' 'D2643' 'D2644' 'D2650' 'D2651' 'D2652' 'D2660' 'D2662' 'D2663' 'D2664' 'D2710' 'D2712' 'D2720' 'D2721' 'D2722' 'D2740' 'D2750' 'D2751' 'D2752' 'D2780' 'D2781' 'D2782' 'D2783' 'D2790' 'D2791' 'D2792' 'D2794' 'D2799' 'D2810' 'D2910' 'D2915' 'D2920' 'D2930' 'D2931' 'D2932' 'D2933' 'D2934' 'D2940' 'D2950' 'D2951' 'D2952' 'D2953' 'D2954' 'D2955' 'D2957' 'D2960' 'D2961' 'D2962' 'D2970' 'D2971' 'D2975' 'D2980' 'D2999'
Restorative dental procedure codes	2014 TMHP Provider Manual	'D2110' 'D2120' 'D2130' 'D2131' 'D2140' 'D2150' 'D2160' 'D2161' 'D2210' 'D2310' 'D2330' 'D2331' 'D2332' 'D2335' 'D2336' 'D2337' 'D2380' 'D2381' 'D2382' 'D2385' 'D2386' 'D2387' 'D2388' 'D2390' 'D2391' 'D2392' 'D2393' 'D2394' 'D2410' 'D2420' 'D2430' 'D2510' 'D2520' 'D2530' 'D2540' 'D2542' 'D2543' 'D2544' 'D2610' 'D2620' 'D2630' 'D2640' 'D2642' 'D2643' 'D2644' 'D2650' 'D2651' 'D2652' 'D2660' 'D2662' 'D2663' 'D2664' 'D2710' 'D2712' 'D2720' 'D2721' 'D2722' 'D2740' 'D2750' 'D2751' 'D2752' 'D2780' 'D2781' 'D2782' 'D2783' 'D2790' 'D2791' 'D2792' 'D2794' 'D2799' 'D2810' 'D2910' 'D2915' 'D2920' 'D2930' 'D2931' 'D2932' 'D2933' 'D2934' 'D2940' 'D2950' 'D2951' 'D2952' 'D2953' 'D2954' 'D2955' 'D2957' 'D2960' 'D2961' 'D2962' 'D2970' 'D2971' 'D2975' 'D2980' 'D2999'
Orthodontics dental procedure codes	2014 TMHP Provider Manual	'D8010' 'D8020' 'D8030' 'D8040' 'D8050' 'D8060' 'D8070' 'D8080' 'D8090' 'D8110' 'D8120' 'D8210' 'D8220' 'D8360' 'D8370' 'D8460' 'D8470' 'D8480' 'D8560' 'D8570' 'D8580' 'D8650' 'D8660' 'D8670' 'D8680' 'D8690' 'D8691' 'D8692' 'D8750' 'D8999'
All other services (includes	2014 TMHP	'D3110' 'D3120' 'D3220' 'D3221' 'D3230' 'D3240' 'D3310' 'D3320' 'D3330' 'D3331' 'D3332' 'D3333' 'D3340' 'D3346'

endodontics, periodontics, prosthetics, implants, and oral surgery)	Provider Manual	'D3347' 'D3348' 'D3350' 'D3351' 'D3352' 'D3353' 'D3410' 'D3411' 'D3420' 'D3421' 'D3425' 'D3426' 'D3430' 'D3440' 'D3450' 'D3460' 'D3470' 'D3910' 'D3920' 'D3940' 'D3950' 'D3960' 'D3999' 'D4210' 'D4211' 'D4220' 'D4240' 'D4241' 'D4245' 'D4249' 'D4250' 'D4260' 'D4261' 'D4262' 'D4263' 'D4264' 'D4265' 'D4266' 'D4267' 'D4268' 'D4270' 'D4271' 'D4272' 'D4273' 'D4274' 'D4275' 'D4276' 'D4320' 'D4321' 'D4340' 'D4341' 'D4342' 'D4345' 'D4350' 'D4355' 'D4381' 'D4910' 'D4920' 'D4999' 'D5110' 'D5120' 'D5130' 'D5140' 'D5211' 'D5212' 'D5213' 'D5214' 'D5215' 'D5216' 'D5225' 'D5226' 'D5280' 'D5281' 'D5410' 'D5411' 'D5421' 'D5422' 'D5510' 'D5520' 'D5610' 'D5620' 'D5630' 'D5640' 'D5650' 'D5660' 'D5670' 'D5671' 'D5710' 'D5711' 'D5720' 'D5721' 'D5730' 'D5731' 'D5740' 'D5741' 'D5750' 'D5751' 'D5760' 'D5761' 'D5810' 'D5811' 'D5820' 'D5821' 'D5850' 'D5851' 'D5860' 'D5861' 'D5862' 'D5867' 'D5875' 'D5899' 'D5910' 'D5911' 'D5912' 'D5913' 'D5914' 'D5915' 'D5916' 'D5917' 'D5918' 'D5919' 'D5920' 'D5921' 'D5922' 'D5923' 'D5924' 'D5925' 'D5926' 'D5927' 'D5928' 'D5929' 'D5931' 'D5932' 'D5933' 'D5934' 'D5935' 'D5936' 'D5937' 'D5951' 'D5952' 'D5953' 'D5954' 'D5955' 'D5956' 'D5957' 'D5958' 'D5959' 'D5960' 'D5971' 'D5972' 'D5973' 'D5974' 'D5976' 'D5982' 'D5983' 'D5984' 'D5985' 'D5986' 'D5987' 'D5988' 'D5999' 'D6010' 'D6020' 'D6030' 'D6040' 'D6050' 'D6053' 'D6054' 'D6055' 'D6056' 'D6057' 'D6058' 'D6059' 'D6060' 'D6061' 'D6062' 'D6063' 'D6064' 'D6065' 'D6066' 'D6067' 'D6068' 'D6069' 'D6070' 'D6071' 'D6072' 'D6073' 'D6074' 'D6075' 'D6076' 'D6077' 'D6078' 'D6079' 'D6080' 'D6090' 'D6094' 'D6095' 'D6100' 'D6190' 'D6194' 'D6199' 'D6205' 'D6210' 'D6211' 'D6212' 'D6214' 'D6240' 'D6241' 'D6242' 'D6245' 'D6250' 'D6251' 'D6252' 'D6253' 'D6519' 'D6520' 'D6530' 'D6540' 'D6543' 'D6544' 'D6545' 'D6548' 'D6600' 'D6601' 'D6602' 'D6603' 'D6604' 'D6605' 'D6606' 'D6607' 'D6608' 'D6609' 'D6610' 'D6611' 'D6612' 'D6613' 'D6614' 'D6615' 'D6624' 'D6634' 'D6710' 'D6720' 'D6721' 'D6722' 'D6740' 'D6750' 'D6751' 'D6752' 'D6780' 'D6781' 'D6782' 'D6783' 'D6790' 'D6791' 'D6792' 'D6793' 'D6794' 'D6920' 'D6930' 'D6940' 'D6950' 'D6970' 'D6971' 'D6972' 'D6973' 'D6975' 'D6976' 'D6977' 'D6980' 'D6985' 'D6999' 'D7110' 'D7111' 'D7120' 'D7130' 'D7140' 'D7210' 'D7220' 'D7230' 'D7240' 'D7241' 'D7250' 'D7260' 'D7261' 'D7270' 'D7271' 'D7272' 'D7280' 'D7281' 'D7282' 'D7283' 'D7285' 'D7286' 'D7287' 'D7288' 'D7290' 'D7291' 'D7310' 'D7311' 'D7320' 'D7321' 'D7340' 'D7350' 'D7410' 'D7411' 'D7412' 'D7413' 'D7414' 'D7415' 'D7420' 'D7430' 'D7431' 'D7440' 'D7441' 'D7450' 'D7451' 'D7460' 'D7461' 'D7465' 'D7470' 'D7471' 'D7472'

		'D7473' 'D7480' 'D7485' 'D7490' 'D7510' 'D7511' 'D7520' 'D7521' 'D7530' 'D7540' 'D7550' 'D7560' 'D7610' 'D7620' 'D7630' 'D7640' 'D7650' 'D7660' 'D7670' 'D7671' 'D7680' 'D7710' 'D7720' 'D7730' 'D7740' 'D7750' 'D7760' 'D7770' 'D7771' 'D7780' 'D7810' 'D7820' 'D7830' 'D7840' 'D7850' 'D7852' 'D7854' 'D7856' 'D7858' 'D7860' 'D7865' 'D7870' 'D7871' 'D7872' 'D7873' 'D7874' 'D7875' 'D7876' 'D7877' 'D7880' 'D7899' 'D7910' 'D7911' 'D7912' 'D7920' 'D7940' 'D7941' 'D7942' 'D7943' 'D7944' 'D7945' 'D7946' 'D7947' 'D7948' 'D7949' 'D7950' 'D7953' 'D7955' 'D7960' 'D7963' 'D7970' 'D7971' 'D7972' 'D7980' 'D7981' 'D7982' 'D7983' 'D7990' 'D7991' 'D7992' 'D7993' 'D7994' 'D7995' 'D7996' 'D7997' 'D7999' 'D9110' 'D9210' 'D9211' 'D9212' 'D9215' 'D9220' 'D9221' 'D9230' 'D9240' 'D9241' 'D9242' 'D9248' 'D924X' 'D9310' 'D9410' 'D9420' 'D9430' 'D9440' 'D9450' 'D9610' 'D9630' 'D9910' 'D9911' 'D9920' 'D9930' 'D9940' 'D9941' 'D9942' 'D9950' 'D9951' 'D9952' 'D9960' 'D9970' 'D9971' 'D9972' 'D9973' 'D9974' 'D9999'

*TMHP Provider Manual http://www.tmhp.com/pages/medicaid/medicaid_publications_provider_manual.aspx

APPENDIX G
AMBULATORY CARE SENSITIVE CONDITIONS ICD-9 CODES

Condition	ICD-9-CM code(s)	ACSC Condition	Exclusions/Comments
Angina	411.1	Intermediate Coronary Syndrome (Angina)	Similar to AHRQ PQI measure #13, excludes cases with cardiac procedure codes
	411.8X	Acute coronary occlusion without myocardial infarction and other forms of ischemic heart disease	
	413.X	Angina decubitus, prinzmetal angina, angina pectoris NEC/NOS	
Appendicitis	540.X	Acute appendicitis	Similar to AHRQ PQI measure #2
	541	Appendicitis, not otherwise specified	
Asthma	493.XX	Extrinsic asthma, Intrinsic asthma, chronic obstructive asthma, asthma unspecified	Includes part of AHRQ PQI measure #5, excludes cases with cystic fibrosis and anomalies of respiratory system
Bacterial Pneumonia	481	Pneumococcal pneumonia (streptococcus pneumoniae pneumonia)	Similar to AHRQ PQI measure #11, exclude cases with immunocompromised state diagnoses and secondary diagnosis of sickle cell [282.4 or 282.6]
	482.2	Pneumonia due to Hemophilus influenza (H. influenza)	
	482.3X	Pneumonia due to Streptococcus	
	482.4X	Pneumonia due to Staphylococcus	
	482.9	Bacterial pneumonia unspecified	
	483.X	Pneumonia due to other specified organism	
	485	Bronchopneumonia, organism unspecified	
	486	Pneumonia organism, unspecified	
Bronchitis	466.0	Acute bronchitis	Includes part of AHRQ PQI measure #5, excludes cases with cystic fibrosis and anomalies of respiratory
	490	Bronchitis, not specified as acute or chronic	
	491.X	Bronchitis, chronic	

	492.X	Emphysema	system
	494.X	Bronchiectasis	
	496.X	Chronic airway obstruction	
Cellulitis	681.XX	Cellulitis and abscess of finger and toe	Exclude cases with surgical procedure for inpatient hospital episodes [01-86.99], except incision of skin and subcutaneous tissue [86.0] where it is the only listed surgical procedure
	682.X	Other cellulitis and abscess	
	683	Acute lymphadenitis	
	686.X	Other local infections of skin and subcutaneous tissue	
Common Cold	460	Acute nasopharyngitis	
Congestive Heart Failure	398.91	Rheumatic heart failure	Similar to AHRQ PQI measure #8, excluding cardiac procedure
	402.01	Hypertensive heart disease with heart failure, malignant	
	402.11	Hypertensive heart disease with heart failure, benign	
	402.91	Hypertensive heart disease with heart failure, unspecified	
	404.01	Hypertensive heart and chronic kidney disease (Stage I - Stage IV), malignant	
	404.03	Hypertensive heart and chronic kidney disease (Stage V), malignant	
	404.11	Hypertensive heart and chronic kidney disease (Stage I - Stage IV), benign	
	404.13	Hypertensive heart and chronic kidney disease (Stage V), benign	
	404.91	Hypertensive heart and chronic kidney disease (Stage I - Stage IV), unspecified	
	404.93	Hypertensive heart and chronic kidney disease (Stage V), unspecified	
	428.XX	Heart failure, unspecified	
Diabetes	250.X	Diabetes	Includes AHRQ PQI#1, PQI#3, and PQI#14

Dehydration	008.6X	Enteritis	Includes AHRQ PQI#10 and excluding chronic renal failure diagnosis codes
	008.8X	Intestinal infection due to other organism not elsewhere classified	
	009.X	Infectious diarrhea	
	276.0	Hyperosmolality and/or hypernatremia	
	276.5X	Dehydration - Volume depletion	
Epilepsy	345.X	Epilepsy	
Gangrene	785.4	Gangrene	
Gastroenteritis	558.X	Gastronenteritis	Includes part of AHRQ PQI#10, excluding chronic renal failure diagnosis codes
Hypertensive Disease	401.0	Malignant essential hypertension	Similar to AHRQ PQI measure #7, excluding kidney disease diagnoses codes and dialysis access procedure codes
	401.9	Essential hypertension, unspecified	
	402.00	Hypertensive heart disease, chronic heart failure	
	402.10	Benign with heart disease	
	402.90	Unspecified without heart disease	
	403.00	Hypertensive chronic kidney disease, malignant	
	403.10	Hypertensive chronic kidney disease, benign	
	403.90	Hypertensive chronic kidney disease, unspecified	
	404.00	Hypertensive heart and chronic kidney disease, malignant, without heart failure	
	404.10	Hypertensive heart and chronic kidney disease, benign, without heart failure	
	404.90	Hypertensive heart and chronic kidney disease, unspecified, without heart failure	
Hypoglycemia	251.2	Hypoglycemia, unspecified	
Hypokalemia	276.8	Hypokalemia, hypopotassemia	
Immunization-related and preventable conditions	032.X	Diphtheria	
	033.X	Whooping cough	
	037	Tetanus	

	045.X	Acute poliomyelitis	
	050.X	Smallpox	
	052.X	Chickenpox	
	055.X	Measles	
	070.XX	Viral Hepatitis	
	072.XX	Mumps	
	320.0	Hemophilus meningitis, bacterial meningitis	
	390	Rheumatic fever without mention of heart involvement	
	391.X	Rheumatic fever with mention of heart involvement	
Nausea and Vomiting	787.01	Nausea with vomiting	
	787.02	Nausea alone	
	787.03	Vomiting alone	
Tuberculosis	012.X	Other respiratory tuberculosis	
	013.X	Tuberculosis of the meninges and central nervous system	
	014.X	Tuberculosis of intestines, peritoneum and mesenteric glands	
	015.X	Tuberculosis of bones and joints	
	016.X	Tuberculosis of genitourinary system	
	017.X	Tuberculosis of the other organs	
	018.X	Miliary tuberculosis	
Otitis Media, Acute	382.X	Suppurative and unspecified otitis media	
Pelvic Inflammatory Disease	614.X	Pelvic inflammatory disease	
Perforated Ulcer	531.1X	Gastric ulcer, acute with perforation	
	531.5	Gastric ulcer, chronic or unspecified with perforation	
	531.6	Gastric ulcer, chronic or unspecified with hemorrhage and perforation	
	532.1	Duodenal ulcer, acute with perforation	

	532.2	Duodenal ulcer, acute with hemorrhage and perforation	
	532.5	Duodenal ulcer, chronic or unspecified with perforation	
	532.6	Duodenal ulcer, chronic or unspecified with hemorrhage and perforation	
	533.1	Peptic ulcer, acute with perforation	
	533.2	Peptic ulcer, acute with hemorrhage and perforation	
Urinary Tract Infection	590.10	Acute pyelonephritis without lesion of renal medullary necrosis	Similar to AHRQ PQI measure #12, excluding kidney/urinary tract disorder diagnoses codes and immunocompromised state diagnoses
	590.11	Acute pyelonephritis with lesion of renal medullary necrosis	
	590.2	Renal/Perinephric abscess	
	590.3	Pyeloureteritis cystica	
	590.8X	Pyelonephritis	
	590.9X	Kidney infection	
	595.0	Acute cystitis	
	595.9	Cystitis, unspecified	
	599.0	Urinary tract infection, unspecified	

APPENDIX H

Table H.1. All Managed Care Organizations State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$19,054,636	$13,545,822	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$341,583	$239,985	Premium and maintenance taxes
C	**Total Net Revenue**	**$18,713,053**	**$13,305,836**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$16,761,820	$11,245,149	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$1,600,703	$1,144,275	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$18,362,523**	**$12,389,425**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$350,530**	**$916,411**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	8.6%	8.6%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	1.9%	6.9%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$20,983	$43,955	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$7,583	$84,114	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$1,045	$97,999	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$1,077	$64,027	MCO Share: 20%; Texas Share: 80%
	> 12%	$3,815	$11,872	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$34,503**	**$301,968**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	89.6%	84.5%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target			Varies depending on size of MCO
L	MLR under target			Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$14,852**	**$243,180**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$19,650**	**$58,787**	Experience Rebate – MLR Rebate

Table H.2. Aetna Better Health State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$309,855	$230,354	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$5,382	$4,004	Premium and maintenance taxes
C	**Total Net Revenue**	**$304,473**	**$226,350**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$257,632	$169,395	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$25,511	$17,726	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$283,143**	**$187,122**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$21,330**	**$39,229**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	8.4%	7.8%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	7.0%	17.3%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$1,239	$921	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$2,355	$1,843	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$2,764	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$5,528	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$11,518	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$3,594**	**$22,575**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	84.6%	74.8%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0.4%	10.2%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$1,170**	**$23,409**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$2,424**	**($835)**	Experience Rebate – MLR Rebate

Table H.3. Amerigroup State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$4,064,602	$2,784,008	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$74,073	$48,945	Premium and maintenance taxes
C	**Total Net Revenue**	**$3,990,530**	**$2,735,063**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$3,529,620	$2,228,532	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$325,686	$215,365	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$3,858,305**	**$2,443,897**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$132,224**	**$291,167**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	8.2%	7.9%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	3.3%	10.6%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$5,690	$11,136	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$22,272	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$33,408	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$33,408	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$5,690**	**$100,224**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	88.4%	81.5%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	3.5%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$97,994**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$5,690**	**$2,230**	Experience Rebate – MLR Rebate

Table H.4. Blue Cross/Blue Shield of Texas State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$60,454	$59,631	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$1,094	$1,067	Premium and maintenance taxes
C	**Total Net Revenue**	**$59,361**	**$58,563**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$49,518	$51,097	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$13,199	$10,846	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$62,717**	**$61,943**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**($3,357)**	**($3,380)**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	22.2%	18.5%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	-5.7%	-5.8%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$242	$24	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$484	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$218	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$943**	**$24**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	83.4%	87.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Small Insurer)	80%	80%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$943**	**$24**	Experience Rebate – MLR Rebate

Table H.5. Community First State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$360,613	$287,580	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$6,533	$5,071	Premium and maintenance taxes
C	**Total Net Revenue**	**$354,080**	**$282,509**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$329,515	$229,667	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$30,015	$23,008	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$359,531**	**$252,676**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**($5,450)**	**$29,834**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	8.5%	8.1%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	-1.5%	10.6%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$1,150	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$2,301	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$3,451	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$3,221	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$10,123**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	93.1%	81.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	3.7%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$10,654**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**($531)**	Experience Rebate – MLR Rebate

Table H.6. Community Health Choice State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$985,345	$703,259	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$17,759	$12,621	Premium and maintenance taxes
C	**Total Net Revenue**	**$967,586**	**$690,638**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$899,564	$616,959	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$73,803	$56,146	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$973,368**	**$673,105**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**($5,781)**	**$17,533**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	7.6%	8.1%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	-0.6%	2.5%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$0**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	93%	89.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$0**	Experience Rebate – MLR Rebate

Table H.7. Christus State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$44,880	$23,619	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$794	$413	Premium and maintenance taxes
C	**Total Net Revenue**	**$44,086**	**$23,206**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$29,151	$17,965	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$5,755	$3,878	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$34,906**	**$21,843**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$9,180**	**$1,363**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	13.1%	16.7%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	20.8%	5.9%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$180	$94	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$359	$189	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$539	$283	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$1,077	$567	MCO Share: 20%; Texas Share: 80%
	> 12%	$3,815	$354	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$5,969**	**$1,488**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	66.1%	77.4%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Small Insurer)	80%	80%	
L	MLR under target	13.9%	2.6%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$6,227**	**$611**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**($258)**	**$877**	Experience Rebate – MLR Rebate

Table H.8. Cook Children's State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$328,124	$288,417	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$6,906	$5,139	Premium and maintenance taxes
C	**Total Net Revenue**	**$375,218**	**$283,278**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$339,388	$246,224	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$29,035	$20,897	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$368,423**	**$267,122**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$6,795**	**$16,157**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	7.7%	7.4%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	1.8%	5.7%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$1,154	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$692	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$1,846**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	90.5%	86.9%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$1,846**	Experience Rebate – MLR Rebate

Table H.9. Driscoll Children's State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$480,773	$355,089	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$8,601	$6,273	Premium and maintenance taxes
C	**Total Net Revenue**	**$472,172**	**$348,815**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$396,582	$320,517	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$43,368	$29,749	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$439,950**	**$350,265**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$32,222**	**($1,450)**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	9.2%	10.3%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	6.8%	2.5%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$1,923	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$3,846	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$288	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$6,058**	**$100,224**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	84%	91.9%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	1.0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$4,764**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$1,294**	**$0**	Experience Rebate – MLR Rebate

Table H.10. El Paso First State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$190,179	$139,413	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$3,478	$2,491	Premium and maintenance taxes
C	**Total Net Revenue**	**$186,702**	**$136,922**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$156,005	$119,482	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$20,362	$14,066	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$176,367**	**$133,549**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$10,334**	**$3,373**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	10.9%	10.3%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	5.5%	2.5%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$761	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$539	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$1,300**	**$0**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	83.6%	87.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	1.4%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$2,691**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**($1,391)**	**$0**	Experience Rebate – MLR Rebate

Table H.11. FirstCare State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$440,102	$301,622	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$7,829	$5,350	Premium and maintenance taxes
C	**Total Net Revenue**	**$432,273**	**$296,271**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$405,407	$279,305	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$41,916	$30,476	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$447,323**	**$309,781**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**($15,050)**	**($13,510)**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	9.7%	10.3%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	-3.5%	-4.6%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$0**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	93.8%	94.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	3.5%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$0**	Experience Rebate – MLR Rebate

Table H.12. HealthSpring State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$412,726	$333,392	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$7,223	$5,967	Premium and maintenance taxes
C	**Total Net Revenue**	**$405,504**	**$327,424**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$349,443	$288,173	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$37,015	$30,361	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$387,015**	**$318,534**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$18,489**	**$8,891**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	9.3%	9.3%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	4.6%	2.7%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$1,321	$1,334	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$533	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$1,321**	**$1,867**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	86.2%	88.0%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$1,321**	**$1,867**	Experience Rebate – MLR Rebate

Table H.13. Molina Healthcare State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$2,015,002	$1,304,416	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$35,701	$22,994	Premium and maintenance taxes
C	**Total Net Revenue**	**$1,979,301**	**$1,281,423**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$1,750,374	$1,075,319	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$226,270	$167,334	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$1,976,644**	**$1,242,652**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$2,657**	**$38,770**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	11.4%	13.1%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	0.1%	3.0%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$4,030	$5,218	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$10,435	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$10,957	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$4,030**	**$26,610**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	88.4%	83.9%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	1.1%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$14,140**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$4,030**	**$12,470**	Experience Rebate – MLR Rebate

Table H.14. Parkland State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$786,672	$521,233	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$14,126	$9,234	Premium and maintenance taxes
C	**Total Net Revenue**	**$772,546**	**$511,999**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$674,682	$411,044	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$36,384	$48,210	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$744,066**	**$459,254**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$28,480**	**$52,745**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	9.0%	9.4%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	3.7%	10.3%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$944	$2,085	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$4,170	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$6,255	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$4,587	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$944**	**$17,096**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	87.3%	80.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	4.7%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$24,591**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$944**	**($7,494)**	Experience Rebate – MLR Rebate

Table H.15. Scott & White State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$148,279	$130,197	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$2,608	$2,317	Premium and maintenance taxes
C	**Total Net Revenue**	**$145,671**	**$127,880**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$135,700	$116,766	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$17,375	$13,172	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$153,074**	**$129,938**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**($7,403)**	**($2,057)**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	11.9%	10.3%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	-5.1%	-1.6%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$0**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	93.2%	91.3%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$0**	Experience Rebate – MLR Rebate

Table H.16. Sendero State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$47,696	$36,082	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$852	$639	Premium and maintenance taxes
C	**Total Net Revenue**	**$46,844**	**$35,442**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$40,743	$42,948	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$9,617	$6,326	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$50,360**	**$49,274**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**($3,516)**	**($13,831)**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	20.5%	17.8%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	-7.5%	-39%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$0**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	87%	121.2%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Small Insurer)	80%	80%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$0**	Experience Rebate – MLR Rebate

Table H.17. Seton State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$75,181	$54,152	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$1,360	$980	Premium and maintenance taxes
C	**Total Net Revenue**	**$73,821**	**$53,172**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$62,110	$42,848	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$10,208	$6,591	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$72,318**	**$49,439**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$1,503**	**$3,733**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	13.8%	12.4%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	2%	7.0%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$226	$217	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$433	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$585	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$226**	**$1,235**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	84.1%	80.6%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Small Insurer)	80%	80%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$226**	**$1,235**	Experience Rebate – MLR Rebate

Table H.18. Superior State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$5,607,810	$3,994,850	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$100,082	$71,086	Premium and maintenance taxes
C	**Total Net Revenue**	**$5,507,728**	**$3,923,764**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$5,028,639	$3,298,690	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$415,811	$229,622	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$5,444,450**	**$3,598,312**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$63,278**	**$325,451**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	7.5%	7.6%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	1.1%	8.3%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$15,979	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$31,959	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$26,366	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$74,304**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	91.3%	84.1%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	0.9%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$37,171**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$37,134**	Experience Rebate – MLR Rebate

Table H.19. Texas Children's Health Plan State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$1,166,469	$837,682	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$21,077	$14,942	Premium and maintenance taxes
C	**Total Net Revenue**	**$1,145,392**	**$822,740**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$1,046,897	$754,901	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$80,444	$58,014	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$1,127,341**	**$812,916**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$18,051**	**$9,825**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	7.0%	7.1%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	1.6%	1.2%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$0	$0	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$0	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$0	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$0	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$0**	**$0**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	91.4%	91.8%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	0%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$0**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$0**	**$0**	Experience Rebate – MLR Rebate

Table H.20. UnitedHealthcare State Fiscal Years 2012 - 2014 Financial Statistical Report and Experience Rebate vs. Medical Loss Ratio calculations (amounts presented in thousands)

Financial Statistical Report				
		2012-2013 (18 months)	2014	Description
Revenues				
A	Total Gross Revenues	$1,475,872	$1,160,825	Sum of medical premiums, delivery supplemental payments, pharmacy premiums, investment income, and other revenue
B	Taxes	$26,106	$20,451	Premium and maintenance taxes
C	**Total Net Revenue**	**$1,449,766**	**$1,140,375**	Gross revenue minus premium and maintenance taxes (A-B=C)
Expenses				
D	Medical and prescription expenses	$1,280,848	$935,318	Includes fee-for-service, capitated services, patient centered medical home services, net reinsurance costs, IBNR[1] accrual- medical, prescription expenses (excluding PBM[2] admin), and other expenses
E	Administrative expenses	$122,373	$92,487	Total administrative dollars reported by Managed Care Organization
F	**Total Expenses**	**$1,403,211**	**$1,027,804**	Sum of medical and prescription expenses and administrative expense (D+E=F)
Income				
G	**Net Income Before Taxes**	**$46,545**	**$112,570**	Total net revenue minus total expenses (C-F=G)
Experience Rebate Calculation				
H	Administrative Percent	8.4%	8.1%	Percent of total net revenue spent on administrative expenses (E/C=H)
I	Net Income Percent	3.2%	9.9%	Percent of total net revenue that is net income (G/C=I)
	Experience Rebate:			
	< 3%	$0	$0	MCO Share: 100%; Texas Share: 0%
	3% to 4.99%	$4,428	$4,643	MCO Share: 80%; Texas Share: 20%
	5% to 6.99%	$0	$9,287	MCO Share: 60%; Texas Share: 40%
	7% to 8.99%	$0	$13,930	MCO Share: 40%; Texas Share: 60%
	9% to 11.99%	$0	$16,716	MCO Share: 20%; Texas Share: 80%
	> 12%	$0	$0	MCO Share: 0%; Texas Share: 100%
	Experience rebate	**$4,428**	**$44,576**	
Medical Loss Ratio (MLR) Calculation (in NAIC[3] Format)				
J	MLR Percent	88.3%	82%	Percent of total net revenue spent on medical and prescription expenses (D/C=J)
K	MLR Target (Large Insurer)	85%	85%	
L	MLR under target	0%	3%	Target less calculated MLR percent (K-J=L)
M	**MLR rebate**	**$0**	**$34,611**	Percent of MLR under target times the total gross revenue (L*A=M)
	Difference	**$4,428**	**$9,965**	Experience Rebate – MLR Rebate

APPENDIX I

RHP Member and Stakeholder Survey: Instrument

Thank you for participating in this survey! The purpose of the survey is to understand your organization's experience with and perspectives of the Texas 1115 Medicaid Program. Your organization may be participating in one or more roles, including as a regional healthcare partnership (RHP) anchor, as an intergovernmental transfer (IGT) entity, as a hospital participating in the Uncompensated Care program, or as a DSRIP performing provider. Your organization may also be a stakeholder impacted by the Program, but not serve in an official role within an RHP.

The survey should take approximately 15-30 minutes to complete. You received a copy of the study Information Sheet in the original email inviting you to participate in this survey. You can also view the information sheet here [LINK].

Some Helpful Definitions

1115 Program: The Texas Healthcare Transformation and Quality Improvement Program demonstration waiver under §1115a of the Social Security Act. Through this Program, Texas Health and Human Services Commission (HHSC) is able to utilize Medicaid funding in new/innovative ways.

Regional Healthcare Partnership (RHP): A collaboration of interested participants that work collectively to develop and submit to the state a regional plan for health care delivery system reform. RHPs will support coordinated, efficient delivery of quality care and a plan for investments in system transformation that is driven by the needs of local hospitals, communities, and populations.

Anchor: The governmental entity identified by HHSC as having primary administrative responsibilities on behalf of a Regional Healthcare Partnership (RHP).

Delivery System Reform Incentive Payment (DSRIP): An incentive payment related to the development or implementation of a program of activity that supports an RHP's efforts to enhance access to health care, the quality of care, and the health of patients and families the RHP serves. A DSRIP payment is not considered patient-care revenue and is not offset against Disproportionate Share Hospital expenditures or other expenditures related to the cost of patient care.

Uncompensated Care (UC) pool: Funding available to certain RHP participants, as well as dental and ambulance providers, under the waiver to defray uncompensated care costs.

Waiver Activities: Activities undertaken by RHP participants to meet the goals of the 1115 Program and the RHP plan. This includes activities under Delivery System Reform Incentive Payment (DSRIP) and Uncompensated Care (UC).

Relevant Acronyms

CMS: Centers for Medicare and Medicaid Services
HHSC: Texas Health and Human Services Commission
MCO: Managed care organization
PBM: Pharmacy benefits manager

Please click here [LINK] to begin the survey.

SCREENING QUESTIONS

1. Please indicate which of these categories ***best*** describes your organization:

   - County government
   - City government
   - Hospital district / hospital authority
   - Public hospital
   - Private, not-for-profit hospital
   - Private, for-profit hospital
   - Physician group affiliated with an academic health science center
   - Physician group not affiliated with an academic health science center
   - Community mental health center
   - Health department
   - Academic health science center
   - Health district
   - School district
   - Health plan
   - Advocacy group/organization
   - Statewide membership organization
   - Other: _____

2. Which of the following ***best*** describes your organization's role in the Waiver Program?
   a. My organization does not participate in the Texas Medicaid 1115 Waiver through an RHP [if selected, proceed to Module 2]
   b. My organization participates in one RHP [proceed to Module 1]
   c. My organization participates in more than one RHP [proceed to Module 1, which will repeat for each RHP]

3. How is your organization participating in the 1115 Waiver Program? [select all that apply]
   - DSRIP
   - UC
   - IGT
   - Anchor
   - My organization was not eligible to participate [if selected, proceed to Module 2]

4. Of which RHP(s) are you a member? [LIST ALL 20 – select all that apply]

Module 1 - RHP Member Survey

	APPROVE	RECOMMEND	DEVELOP	ADVISE	NO ROLE	DON'T KNOW
1. What was the role of the RHP members in designing the goals and objectives of the RHP plan?	□	□	□	□	□	□
2. What was the role of the RHP members in determining the governance structure of the RHP?	□	□	□	□	□	□

	YES	YES BUT LIMITED	NO	DON'T KNOW
3. Did the anchor (INSERT anchor name) provide *leadership* in the *initiation* of the RHP?	□	□	□	□
4. Did the anchor (INSERT anchor name) provide *guidance* in the *initiation* of the RHP?	□	□	□	□
5. Does the anchor (INSERT anchor name) provide *leadership* in the *ongoing operations* of the RHP?	□	□	□	□
6. Does the anchor (INSERT anchor name) provide *guidance* in the *ongoing operations* of the RHP?	□	□	□	□
7. Does the anchor (INSERT anchor name) provide *accurate* knowledge regarding Waiver activities?	□	□	□	□
8. Does the anchor (INSERT anchor name) provide *timely* knowledge regarding Waiver activities?	□	□	□	□
9. Does the anchor (INSERT anchor name) provide you with *accurate* technical assistance?	□	□	□	□
10. Does the anchor (INSERT anchor name) provide you with *timely* technical assistance?	□	□	□	□

	VERY EFFECTIVE	**SOMEWHAT EFFECTIVE**	**MOSTLY INEFFECTIVE**	**COMPLETELY INEFFECTIVE**
11. To what extent is the anchor (INSERT anchor name) effective in getting you *accurate* information?	□	□	□	□
12. To what extent is the anchor (INSERT anchor name) effective in getting you *timely* information?	□	□	□	□
13. To what extent is the anchor (INSERT anchor name) effective in managing meetings?	□	□	□	□
14. How would you describe your anchor's (INSERT anchor name) role in **development** of your RHP plan? [open-ended]				
15. How would you describe your anchor's (INSERT anchor name) role in **implementation** of your RHP plan? [open-ended]				

	YES	**NO**	**DON'T KNOW**
16. Does the RHP have documented procedures for decision-making? (*Florin et al, 2000*)	□	□	□
17. Did the RHP set ground rules for working together? (*Taylor, 1998*) – POSSIBLE DELETE	□	□	□
18. Does the RHP have written agendas at meetings? (*Florin et al, 2000*) – POSSIBLE DELETE	□	□	□
19. Does the RHP have a mechanism for monitoring RHP activities? (*Taylor, 1998*)	□	□	□
20. Does the RHP have a mechanism for members to provide feedback? (*Taylor, 1998*)	□	□	□

	VERY SATISFIED	SOMEWHAT SATISFIED	SOMEWHAT DISSATISFIED	COMPLETELY DISSATISFIED
21. Overall, to what extent are you satisfied with the RHP's progress towards addressing community needs?	□	□	□	□
22. To what extent are you satisfied with the RHP's level of commitment to *all* partners having an opportunity to participate?	□	□	□	□
23. To what extent are you satisfied with the RHP leadership's level of commitment to listen to the ideas and opinions of people/organizations involved in the RHP?	□	□	□	□

24. How important or unimportant to your RHP is each of the following ways of communication?				
	VERY IMPORTANT	**SOMEWHAT IMPORTANT**	**NOT VERY IMPORTANT**	**NOT AT ALL IMPORTANT**
Mailed, emailed, and faxed written materials	□	□	□	□
Verbal reports at RHP meetings	□	□	□	□
Group discussions at RHP meetings	□	□	□	□
Informal communication outside of RHP meetings	□	□	□	□
Distributions of materials/information via RHP website	□	□	□	□
Distribution of materials/information via social media	□	□	□	□
Reports and/or communication via webinars	□	□	□	□
	VERY FREQUENT	**SOMEWHAT FREQUENT**	**MOSTLY INFREQUENT**	**COMPLETELY INFREQUENT**
25. Please rate the *frequency* of	□	□	□	□

communication **between** anchor (INSERT anchor name) staff **and** RHP members				
26. Please rate the *frequency* of communication **among** RHP members	□	□	□	□
	VERY PRODUCTIVE	**SOMEWHAT PRODUCTIVE**	**MOSTLY UNPRODUCTIVE**	**COMPLETELY UNPRODUCTIVE**
27. Please rate the *productivity* of communication **between** anchor (INSERT anchor name) staff **and** RHP members	□	□	□	□
28. Please rate the *productivity* of communication **among** RHP members	□	□	□	□

29. To what extent have you noticed the following causing tension **among** RHP members:

	A LOT OF TENSION	**SOME TENSION**	**VERY LITTLE TENSION**	**NO TENSION**
Differences of opinion	□	□	□	□
Personality clashes	□	□	□	□
Hidden agendas	□	□	□	□
Power struggles	□	□	□	□
Imbalance of power	□	□	□	□
Unequal distribution of resources	□	□	□	□
Historical relationships	□	□	□	□
Inability to reach consensus	□	□	□	□

30. To what extent have you noticed the following causing tension **between** the anchor **and** RHP members:

	A LOT OF TENSION	**SOME TENSION**	**VERY LITTLE TENSION**	**NO TENSION**
Differences of opinion	□	□	□	□
Personality clashes	□	□	□	□
Hidden agendas	□	□	□	□
Power struggles	□	□	□	□
Imbalance of power	□	□	□	□
Unequal distribution of resources	□	□	□	□
Historical relationships	□	□	□	□

31. How much influence do various groups of people have in making decisions for the RHP? For

each group listed below, check the answer that reflects how much influence you think that group has in deciding on the actions and policies of your RHP.

	A LOT OF INFLUENCE	SOME INFLUENCE	NOT MUCH INFLUENCE	NO INFLUENCE	I DON'T KNOW
Staff of the RHP member organizations	□	□	□	□	□
Anchor (INSERT anchor name) staff	□	□	□	□	□
The Health and Human Services Commission (HHSC) Waiver Team	□	□	□	□	□
Other local stakeholders in your region	□	□	□	□	□
Centers for Medicare and Medicaid Services (CMS)	□	□	□	□	□

	AGREE	SOMEWHAT AGREE	SOMEWHAT DISAGREE	DISAGREE
32. The RHP is increasing collaboration among organizations in the region to increase access to health services. (*new measure*)	□	□	□	□

	BENEFICIAL	SOMEWHAT BENEFICIAL	NOT BENEFICIAL
33. How beneficial do you believe Waiver activities implemented by your RHP are for the residents of your community? (*new measure*)	□	□	□

Module 2 - Survey on Program Strengths, Weaknesses, and Recommendations

The following questions ask about your organization's involvement with several components of the Texas Medicaid 1115 Waiver Program, and the strengths and weaknesses of the changes associated with them. The following Waiver Program components are included.

Medicaid Managed Care Expansion: On March 1, 2012, HHSC implemented changes to the delivery of Medicaid and the Children's Health Insurance Program (CHIP) services.

These changes included:

- The expansion of the STAR and STAR+PLUS Medicaid Managed Care programs to new areas of the state. STAR provides health services for pregnant woman, children with limited income, and TANF clients. STAR+PLUS provides acute and long-term services and supports to the aged and disabled.
- Transition of approximately 880,000 clients from the Primary Care Case Management (PCCM) program into managed care.
- Prescription drug benefits, currently administered through HHSC's Vendor Drug program, are now delivered though the Medicaid and CHIP managed care organizations.
- Medicaid children's dental benefits are now delivered through by managed care organizations.

Uncompensated Care (UC): Uncompensated care includes the costs of uncompensated care provided to Medicaid eligibles or to individuals who have no funds or third party coverage for services provided by the hospital or other providers. UC and the DSRIP funds available under the 1115 Waiver Program replaced funding available under the former Upper Payment Limit (UPL) program.

Delivery System Reform Incentive Payment (DSRIP): DSRIP funds within the Waiver Program allow for incentive payments for projects to enhance access to health care, increase the quality of care, the cost-effectiveness of care provided and the health of the patients and families served. Projects eligible for incentive payments must come from the DSRIP menu, be included in an HHSC and CMS-approved RHP plan, have a source of IGT, and have corresponding metrics and milestones.

Screening Questions:

1. Does your organization provide Medicaid services?

Yes/No

2. What is the zip code of your organization/clinic/practice? (If more than 1 location, please select your primary location and answer the following questions with that location in mind.)

3. Is your organization affected by: (check all that apply)

Medicaid Managed Care expansion under the Waiver, specifically through:	
Expansion of STAR+PLUS to your area	Yes / No
Expansion of STAR to your area	Yes / No
Addition of pharmacy benefits to Medicaid managed care	Yes / No
Addition of Medicaid children's dental services to managed care	Yes / No
Uncompensated Care (UC)	Yes / No
Delivery System Reform Incentive Payment (DSRIP) Program	Yes / No

If [YES] to any portion of MMC (REPEAT FOR ALL MMC YESs]:

2. For the options below, please indicate if you feel there has been an improvement, that things have stayed the same, or if there has been a decline related to Medicaid Managed Care expansion. Answers may vary according by Managed Care Organization. Please respond based on your overall experience. You may use the fifth column to provide specific comments.

	Improved	**Stayed the same**	**Declined**	**I do not have enough information to answer this question (I don't know)**	**Comments:**
Timeliness of claim payments	□	□	□	□	
Pharmacy benefits manager (PBM)	□	□	□	□	
Provider network	□	□	□	□	
Access to prescription drugs	□	□	□	□	
Patient adherence to prescription drugs	□	□	□	□	
Value added benefits for clients	□	□	□	□	
Administrative burden	□	□	□	□	
Claims processing	□	□	□	□	
Patient access to services provided	□	□	□	□	
Quality of services provided	□	□	□	□	
Cost of services provided	□	□	□	□	
Coordination of care among service providers	□	□	□	□	

Please describe any strengths and weaknesses of Medicaid Managed Care expansion, including expansion of STAR, STAR+PLUS, addition of pharmacy and children's dental services, here:

[Open-ended]

3. What recommendations do you have for changing Medicaid Managed Care to improve operations and outcomes?

    [Open-ended]

If [YES] to UC:

4. In your opinion, what are the strengths of the Uncompensated Care program compared to the Upper Payment Limit (UPL) program?

    [Open-ended]

    Include response option of "I don't have enough information to answer this question"

5. In your opinion, what are the weaknesses of the Uncompensated Care program compared to the Upper Payment Limit (UPL) program?

    [Open-ended]

    Include response option of "I don't have enough information to answer this question"

What recommendations do you have for changing the Uncompensated Care program to improve operations and outcomes?

[Open-ended]

If [YES] to DSRIP:

6. For the options below, please indicate if you feel the option is a strength or weakness of DSRIP. You may use the fourth column to provide specific comments.

	Strength	**Weakness**	**I do not have enough information to answer this question (I don't know)**	**Comments:**
Collaboration with other organizations in the area/community	□	□	□	
Opportunity to design innovative projects	□	□	□	
Opportunity for system reform	□	□	□	
Resources to hire more staff	□	□	□	
Resources to serve more patients/clients	□	□	□	
Clear expectations	□	□	□	
Communication between RHPs and the state	□	□	□	
Health services/programs in the community	□	□	□	
Project limitations	□	□	□	
Timeliness in funding	□	□	□	
Unclear expectations/changing expectations	□	□	□	
Reporting	□	□	□	
Opportunity for infrastructure improvement/change	□	□	□	
Improved patient outcomes	□	□	□	
Quality of health services programs	□	□	□	
Access to health services programs	□	□	□	
Cost of health services programs	□	□	□	

Please list other strengths and weaknesses here:

7. What recommendations do you have for changing DSRIP to improve operations and outcomes?

   [Open-ended]

Final Question, regardless of module(s) completed:

8. Would you be willing to be contacted to participate in a short follow-up phone interview?

   [Y/N]

   If [YES]:

   May I have your phone number and email address?

Module 3 - Survey of Non-Participant Views on the Program

In the following section, you'll be asked about your participation in the Waiver Program, the greatest opportunities and challenges presented by the Waiver Program, and your willingness to participate in Waiver activities in the future.

1. What factors influenced your organization's participation in the Waiver Program?
   - My organization could not find IGT to support our Uncompensated Care
   - My organization could not find IGT to support our proposed DSRIP project(s)
   - Our proposed project(s) were not approved by the anchor
   - Our proposed project(s) were not approved by HHSC / CMS
   - My organization did not want to participate (open-ended f/u question asking why?)
   - More economical to participate in uncompensated care (UC) only and not DSRIP
   - Other [open-ended f/u question asking for more detail]

2. What do you see as the greatest opportunities the Waiver Program provides?
   [Open-ended]
3. What do you see as the greatest challenges related to the Waiver Program?
   [Open-ended]
4. If there were an opportunity to participate in the Waiver Program in the future, would your organization be interested?
   a. Yes
   b. Maybe
   c. No

Final Question, regardless of module(s) completed:

5. Would you be willing to be contacted to participate in a short follow-up phone interview?
   [Y/N]
   If [YES]:
   May I have your phone number and email address?

APPENDIX J

Interorganizational Network Survey Instrument

[SCRIPT] Thank you for agreeing to participate in our Interorganizational Network Survey! The purpose of the survey is to understand how the development of the Regional Healthcare Partnerships for implementation of the 1115 Medicaid Waiver affects relationships among organizations within the region.

As a representative of your organization, you are being asked participate in this survey because your organization is participating in the 1115 Medicaid Waiver through your Regional Healthcare Partnership.

You received a copy of the Information Sheet in your original recruitment email. Would you like for me to review the information? Did you have any questions about the information provided?

Do you have any questions before we get started?

I am going to ask you a series of questions about your organization's interactions with a few other organizations within your region. When I mention collaboration, I am specifically interested in collaboration that focuses on serving the low-income or medically indigent population in your community.

If you are unsure about the answer to any question, you can tell me that you do not know the answer. At that point I will ask you for another individual at your organization that we can contact for more information.

I am going to read a list of 5 organizations that are part of your Regional Healthcare Partnership. Please indicate your response to the question with a "yes" or a "no".

Does [Organization X] currently work with [LIST OF ORGS] on activities that target improved access or services for the underserved? Yes or No or I don't know

[For the "Yes" Organizations:]

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

In the past 12 months, has [Organization X] collaborated with [Organization Y] to deliver programs or services? Yes or No or I don't know

[If yes:] What programs or services?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

In the past 12 months, has [Organization X] shared tangible resources with [Organization Y] for the purpose of increasing access to services? Yes or No or I don't know

[If yes:] What were those resources intended to support?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

Does [Organization X] currently have a formal data sharing agreement with [Organization Y]? Yes or No or I don't know

[If yes:] What data is shared? Do they provide data to you, do you provide data to them, or both?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

[If no to all three:] You answered no to the last three questions but indicated that you do work with [Organization Y]. Can you tell me a little about what you do with them?

[REPEAT SET OF QUESTIONS FOR ALL "YES" ORGANIZATIONS.]

[SCRIPT] Now I am going to ask you some questions about the organizations you said [Organization X] does not currently collaborate with.

[For the "No" organizations:]

Is [Organization Y] an organization [Organization X] is likely to collaborate with in the future on activities that target improved access or services for the underserved? Yes or no or I don't know

[If yes:] What would you envision the collaboration involving?

[If no:] Can you tell me more about that?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

[Once through all:]

[SCRIPT] Now that we have discussed your current relationships with these organizations, I would like to ask you about these relationships before [Regional Healthcare Partnership #] was established.

I am going to read the same list of organizations from your RHP. Please indicate your response with a "yes" or a "no":

Prior to the establishment of [RHP #], did [Organization X] work with [LIST OF ORGS] on activities that target improved access or services for the underserved? Yes or No or I don't know

[For the "Yes" Organizations]

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?
Prior to the establishment of RHP #, did [Organization X] collaborate with [Organization Y] to deliver programs or services? Yes or No or I don't know

[If yes:] What programs or services?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

Prior to the establishment of RHP #, has [Organization X] shared tangible resources with [Organization Y] for the purpose of increasing access to services? Yes or No or I don't know

[If yes:] What were those resources intended to support?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

Prior to the establishment of RHP #, did [Organization X] have a data sharing agreement with [Organization Y]? Yes or No or I don't know

[If yes:] What data is shared? Do they provide data to you, do you provide data to them, or both?

[If "I don't know":] Can you give me the name of someone else at your organization that we may contact to learn about these relationships?

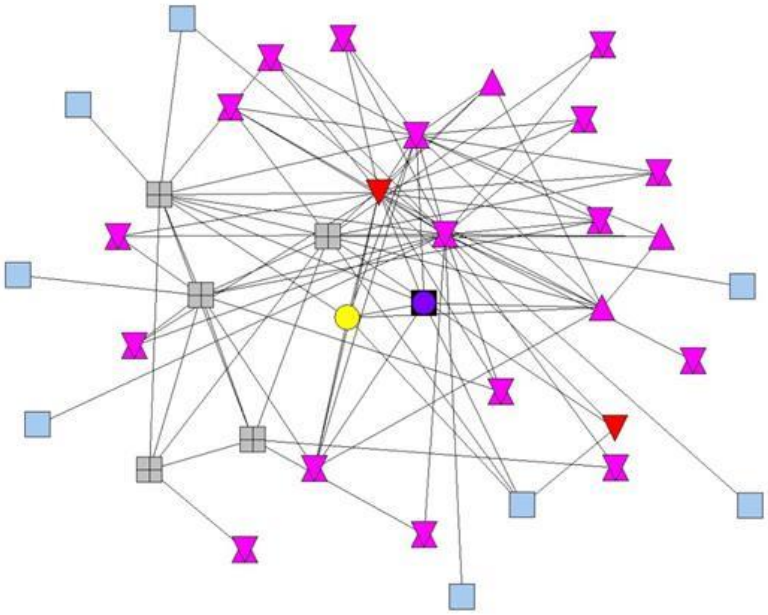
[If no to all three previous questions:] Can you tell me how [Organization X] worked with [Organization Y] prior to the establishment of RHP #?

[REPEAT SET OF QUESTIONS FOR ALL "YES" ORGANIZATIONS.]

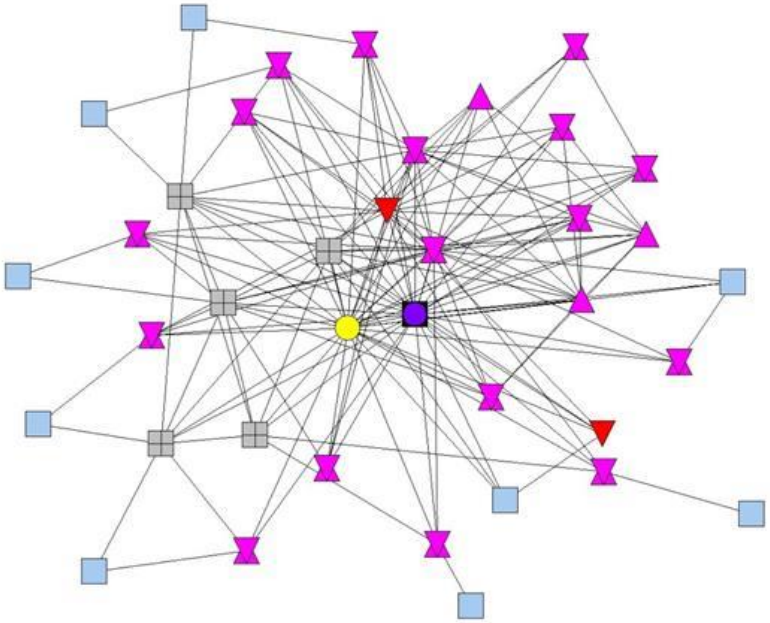
[SCRIPT] Thank you for participating in this survey!

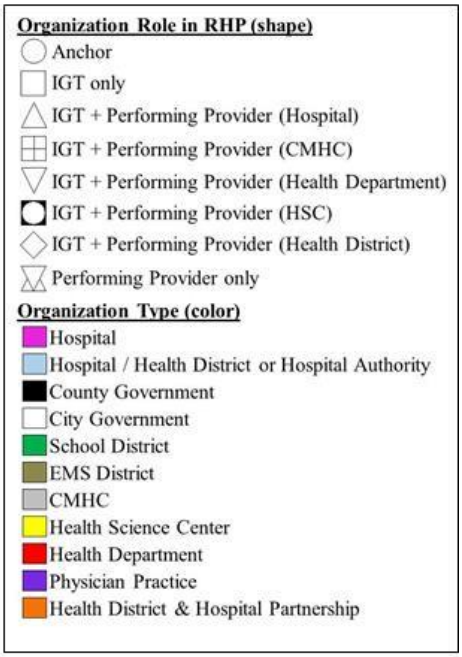
APPENDIX K

RHP 1: Network Diagram T_0, All Collaboration



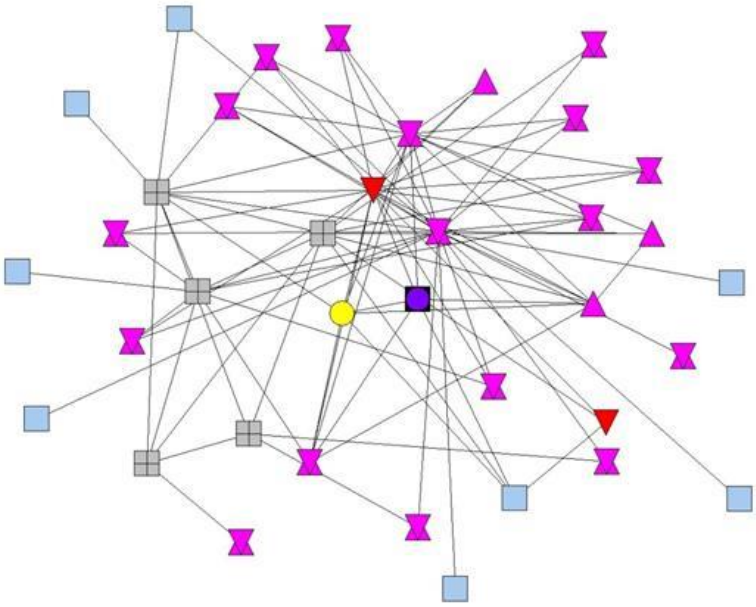
RHP 1: Network Diagram T_1, All Collaboration



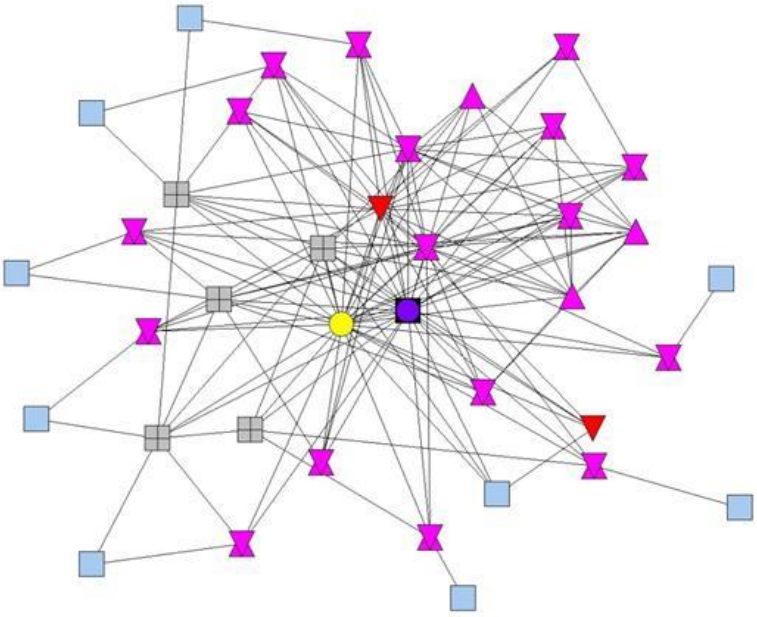


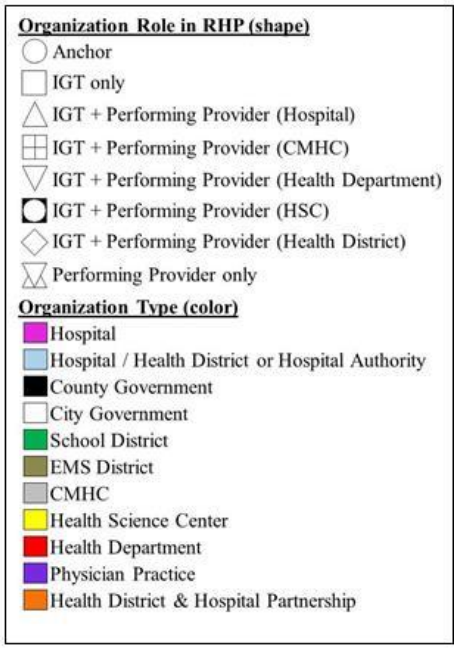
Diagrams are best viewed in color

RHP 1: Network Diagram T_0, Collaboration to Deliver Programs and Services



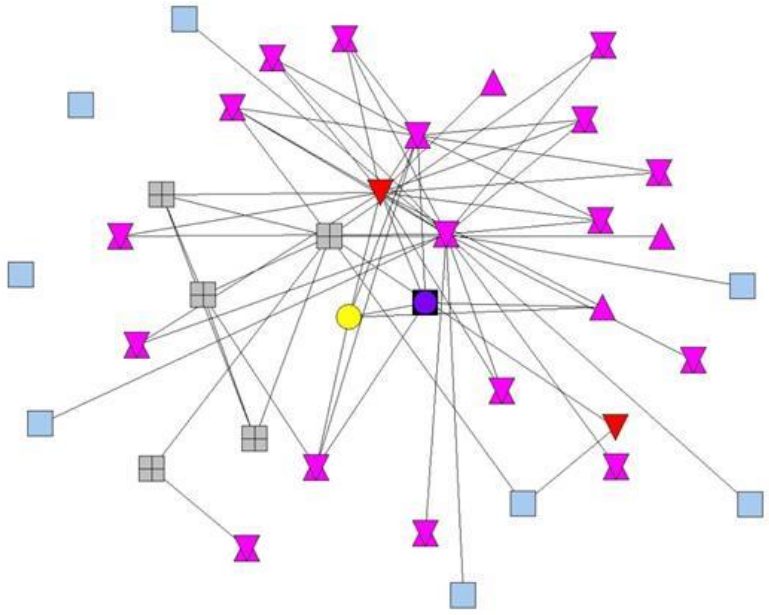
RHP 1: Network Diagram T_1, Collaboration to Deliver Programs and Services



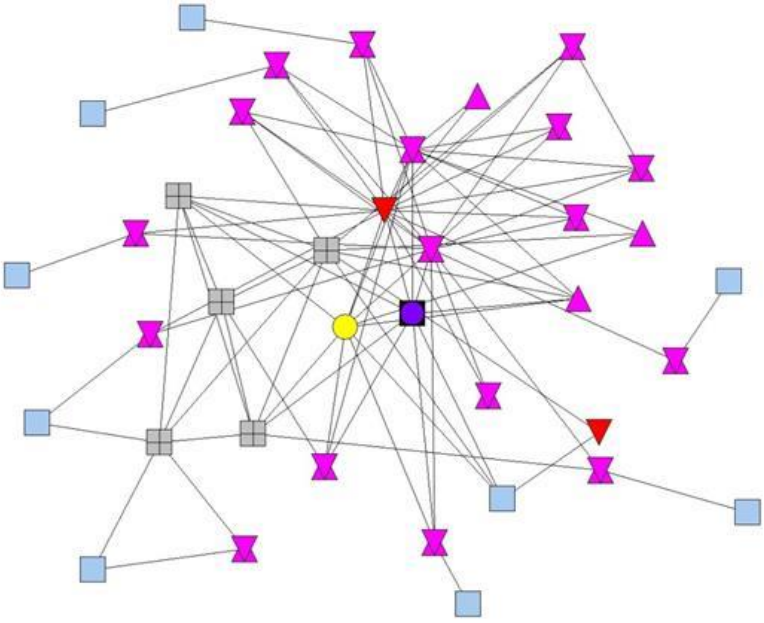


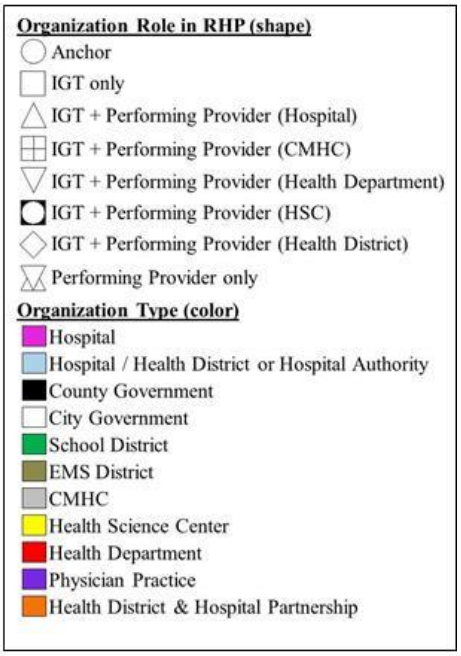
Diagrams are best viewed in color

RHP 1: Network Diagram T_0, Collaboration to Share Tangible Resources



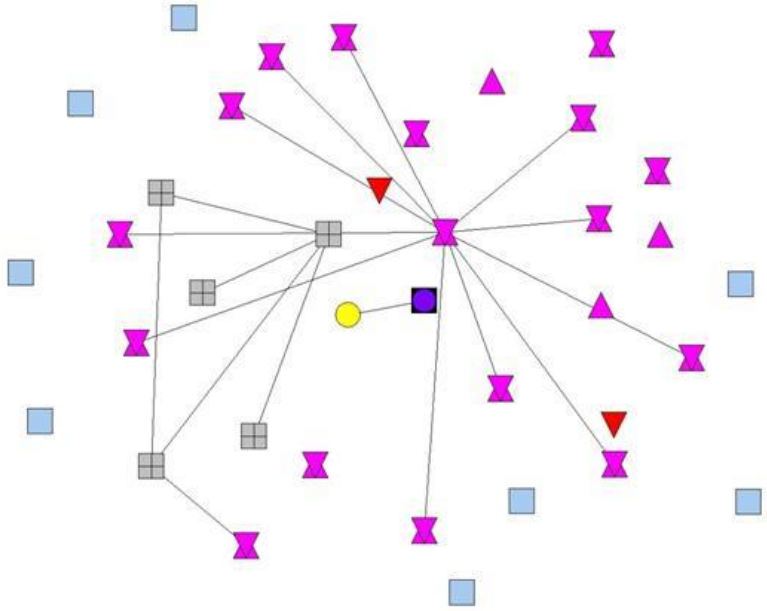
RHP 1: Network Diagram T_1, Collaboration to Share Tangible Resources



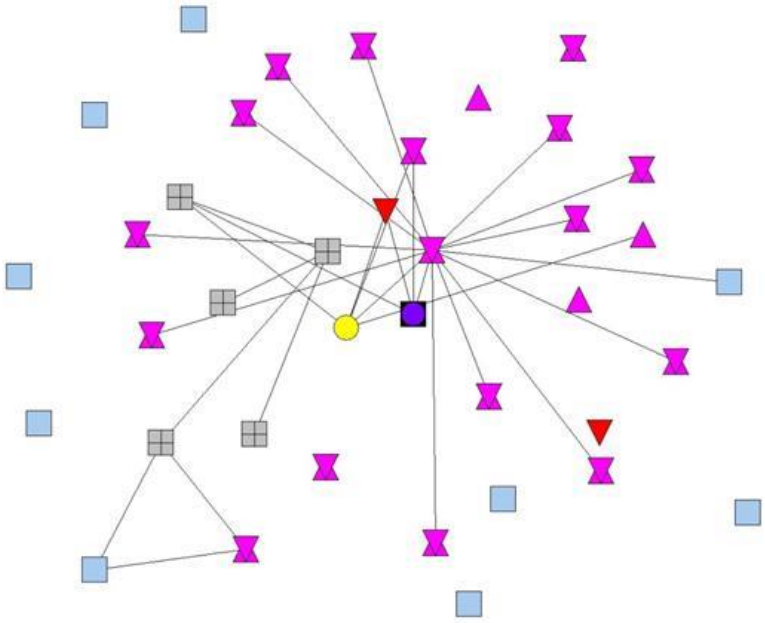


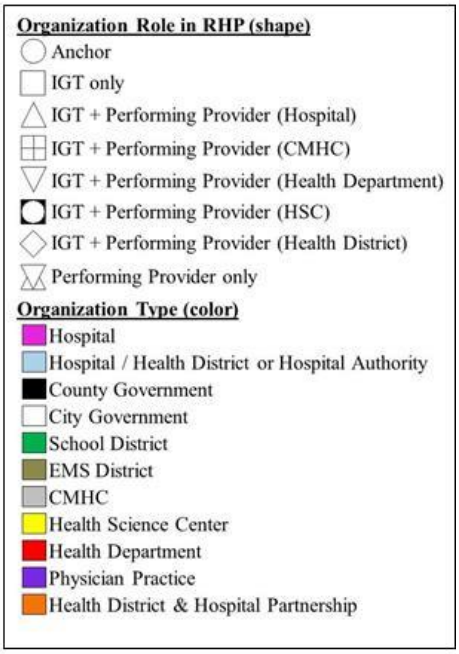
Diagrams are best viewed in color

RHP 1: Network Diagram T_0, Formal Data Sharing Agreements



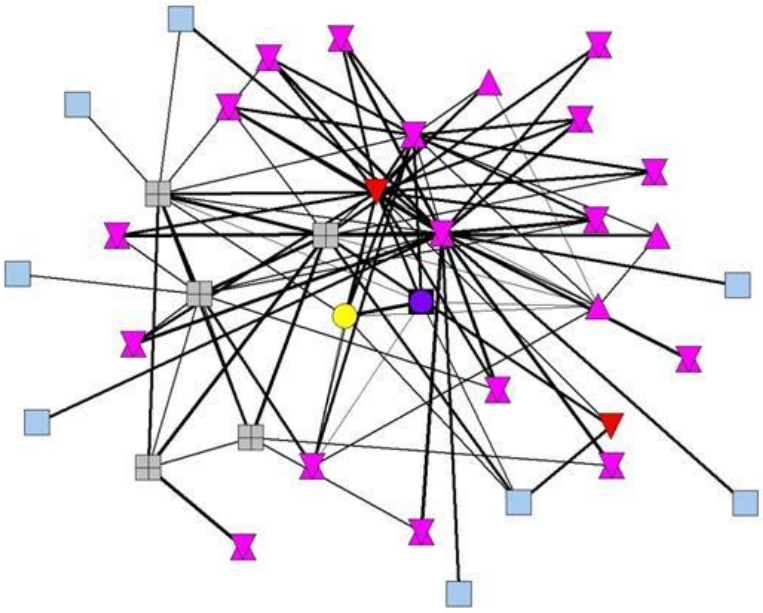
RHP 1: Network Diagram T_1, Formal Data Sharing Agreements



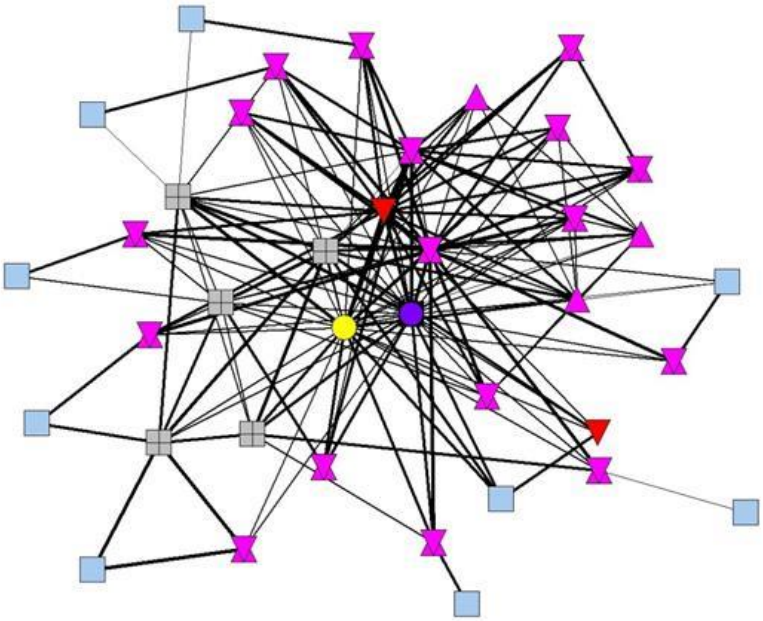


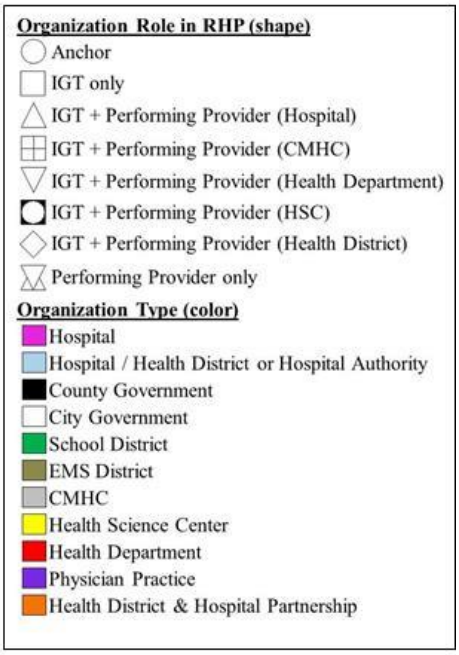
Diagrams are best viewed in color

RHP 1: Network Diagram T_0, Mean Strengths of Ties Between Organizations



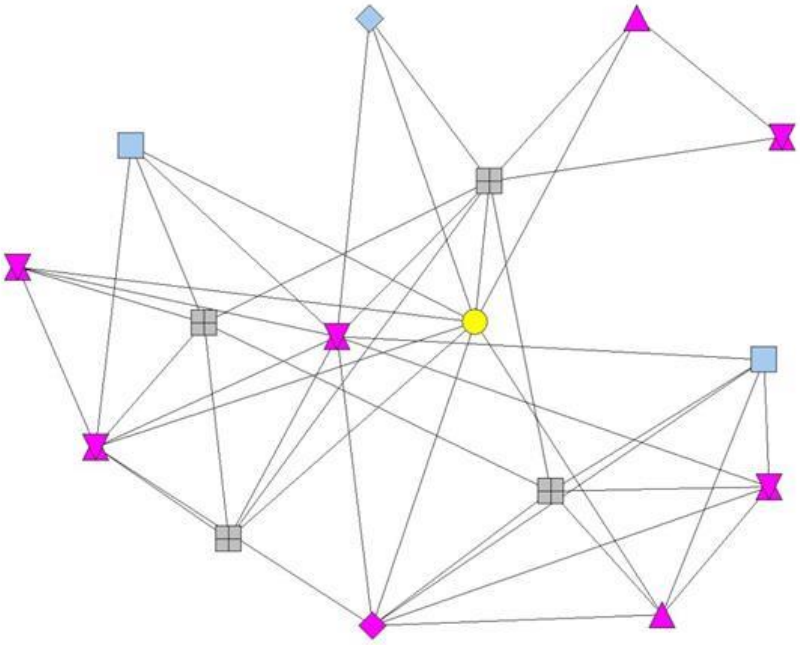
RHP 1: Network Diagram T_1, Mean Strengths of Ties Between Organizations



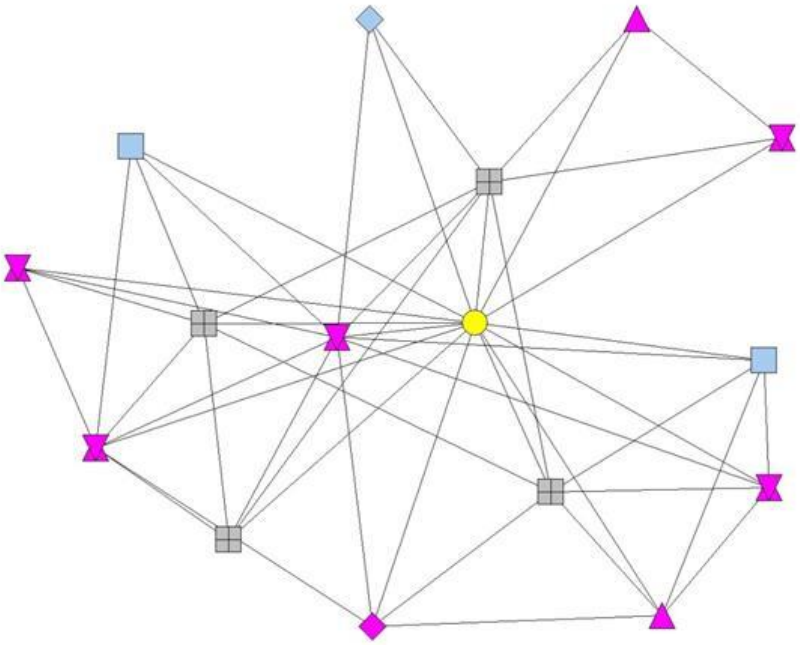


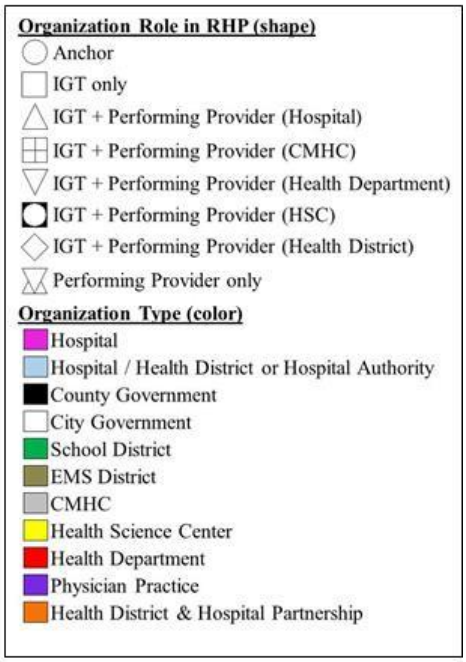
Diagrams are best viewed in color

RHP 2: Network Diagram T_0, All Collaboration



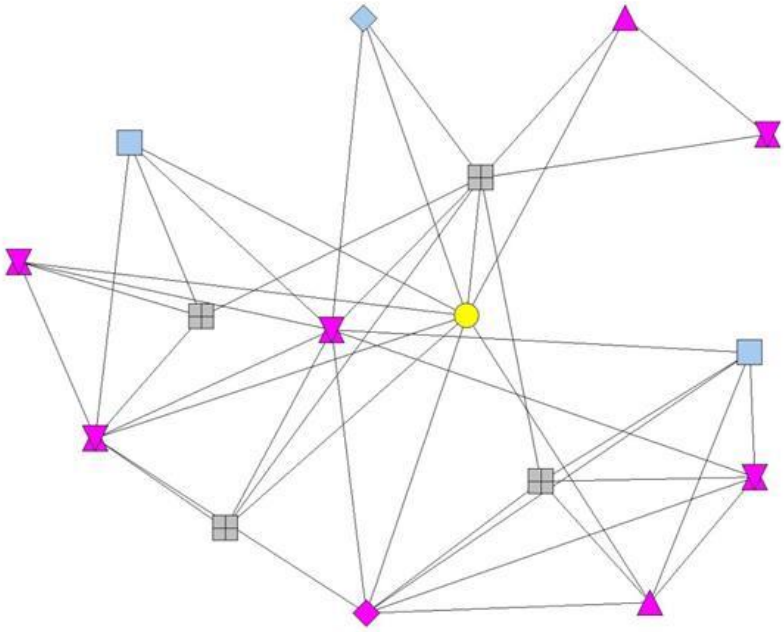
RHP 2: Network Diagram T_1, All Collaboration



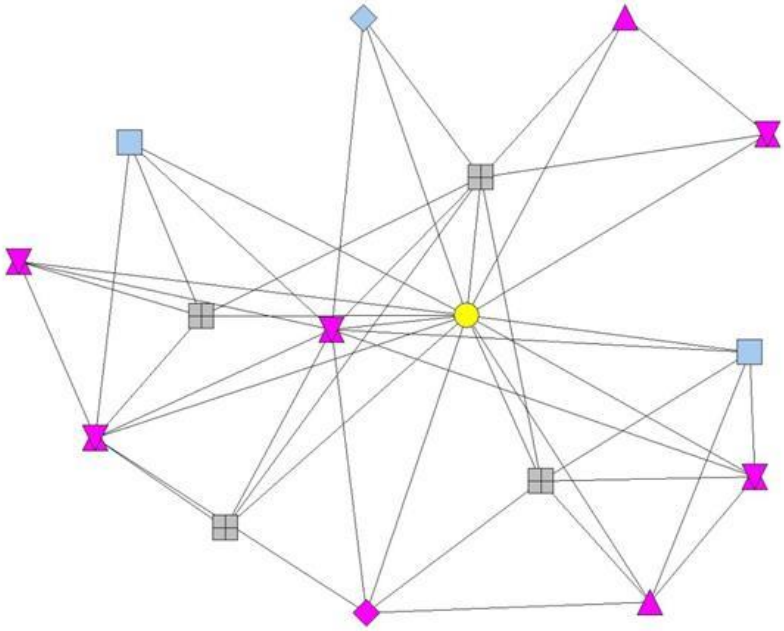


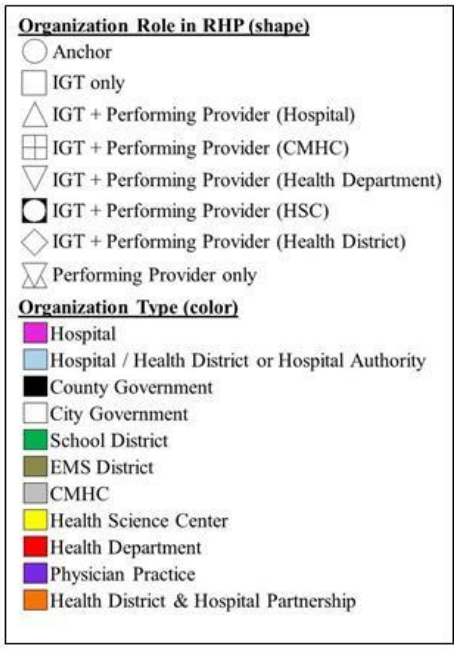
Diagrams are best viewed in color

RHP 2: Network Diagram T_0, Collaboration to Deliver Programs and Services



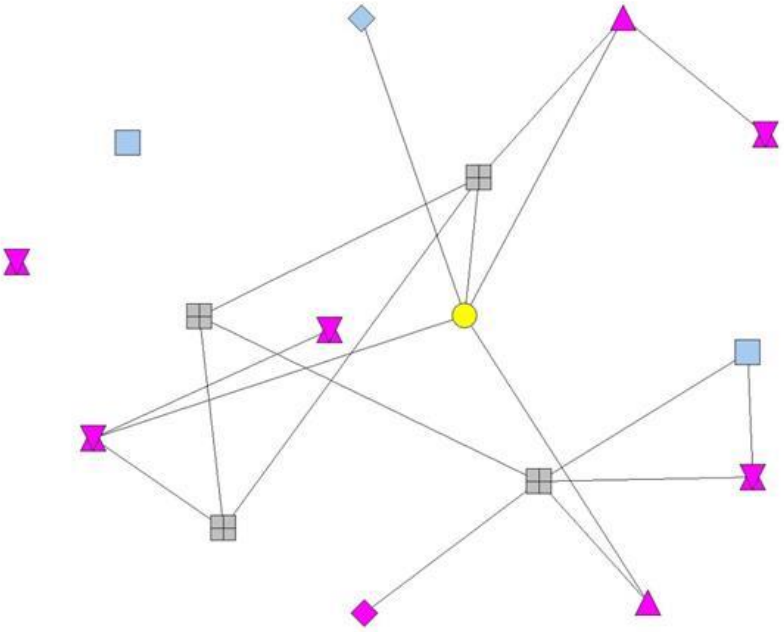
RHP 2: Network Diagram T_1, Collaboration to Deliver Programs and Services



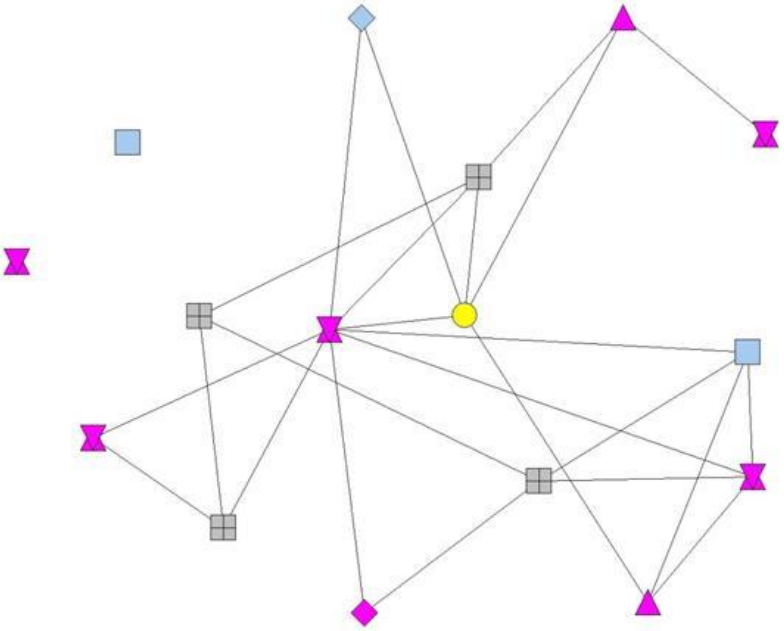


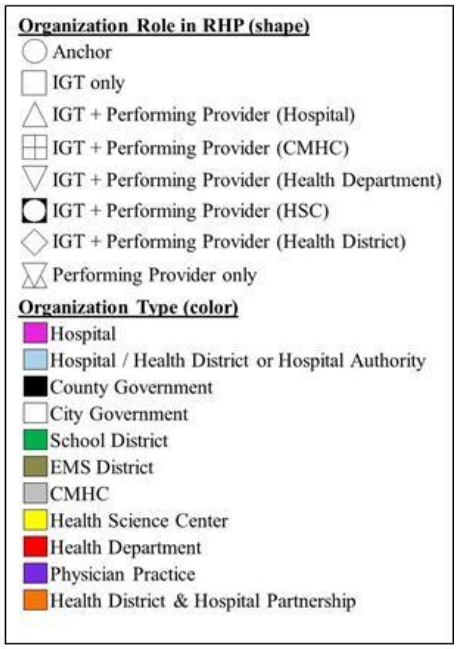
Diagrams are best viewed in color

RHP 2: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 2: Network Diagram T_1, Collaboration to Share Tangible Resources





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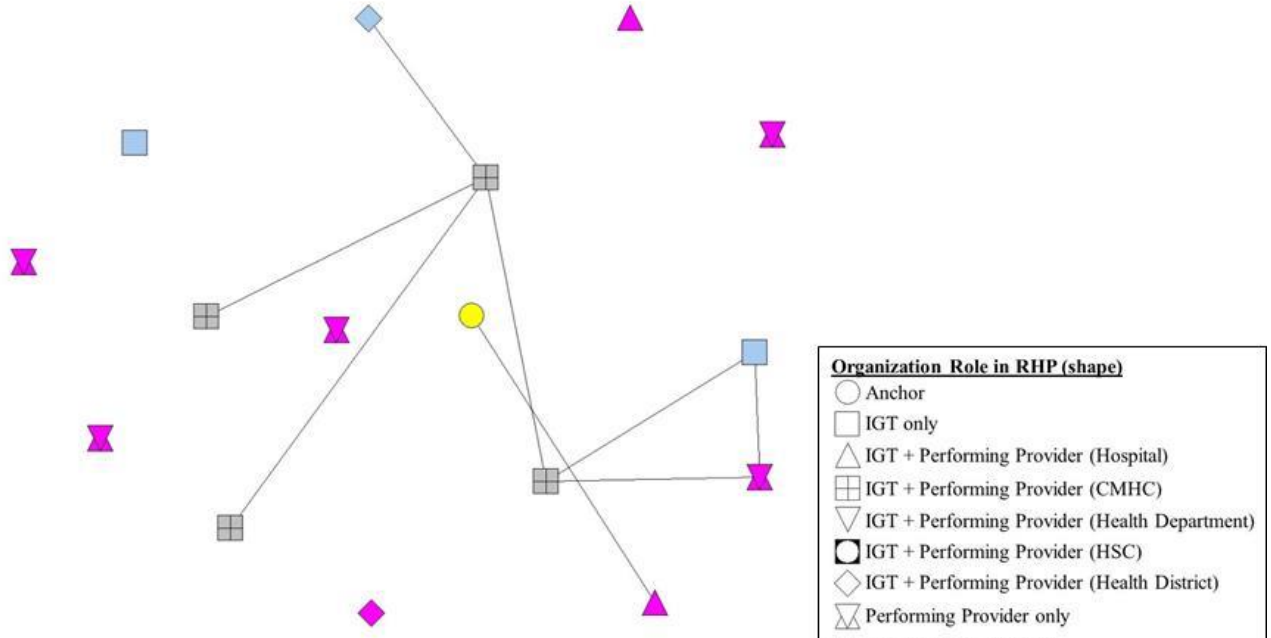
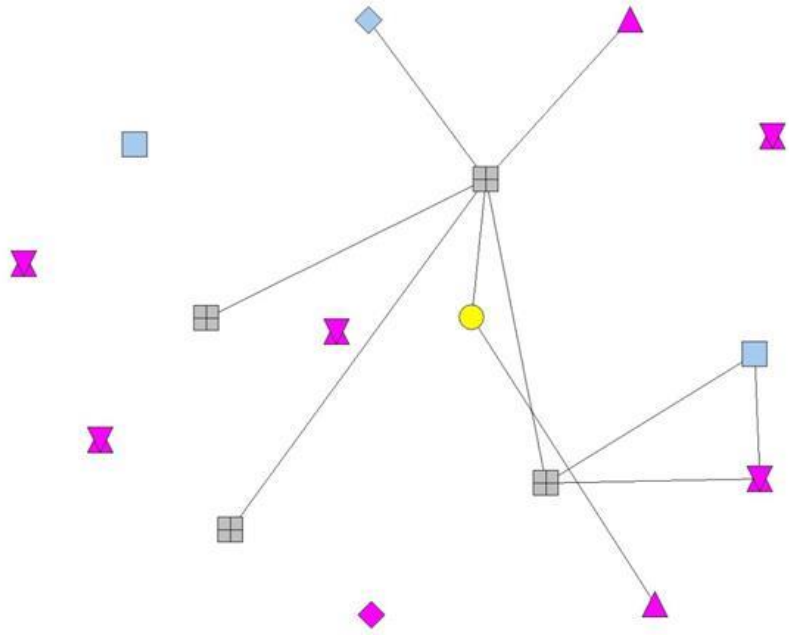
RHP 2: Network Diagram T_0, Formal Data Sharing Agreements

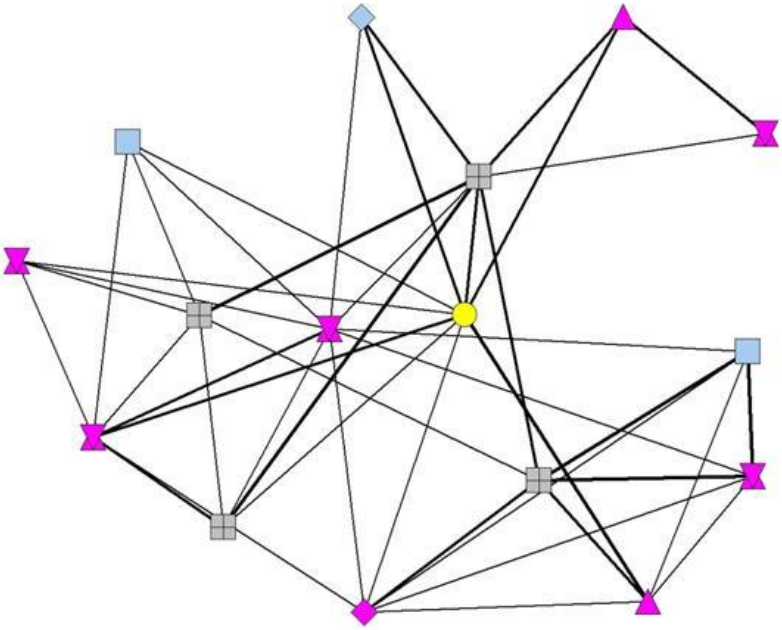


RHP 2: Network Diagram T_1, Formal Data Sharing Agreements

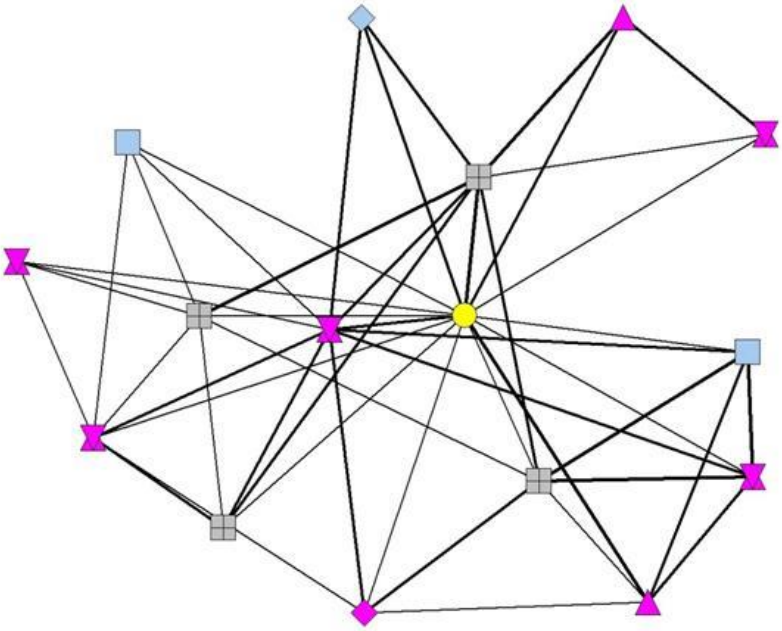


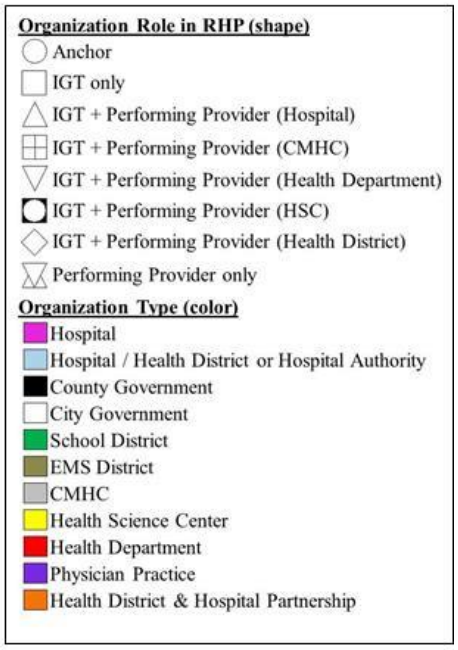
Diagrams are best viewed in color

RHP 2: Network Diagram T_0, Mean Strengths of Ties Between Organizations



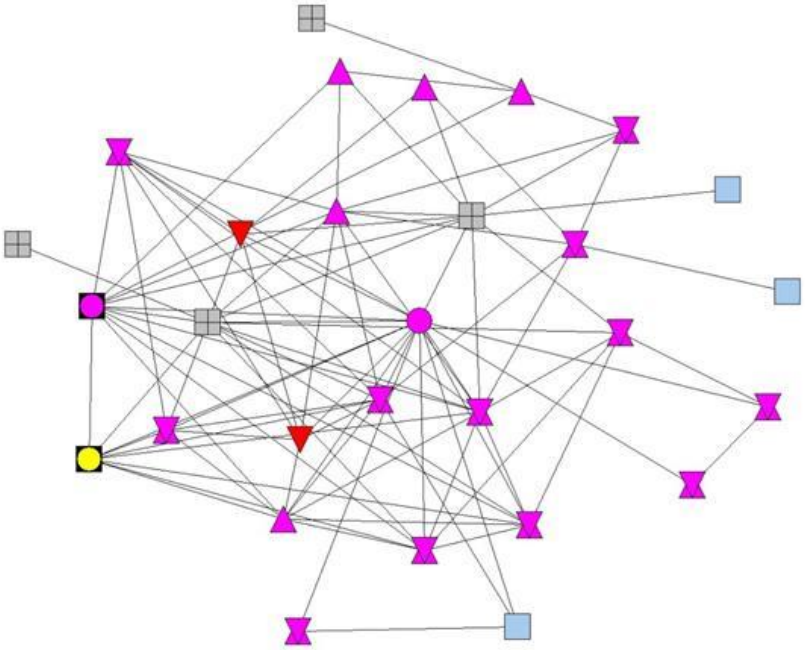
RHP 2: Network Diagram T_1, Mean Strengths of Ties Between Organizations



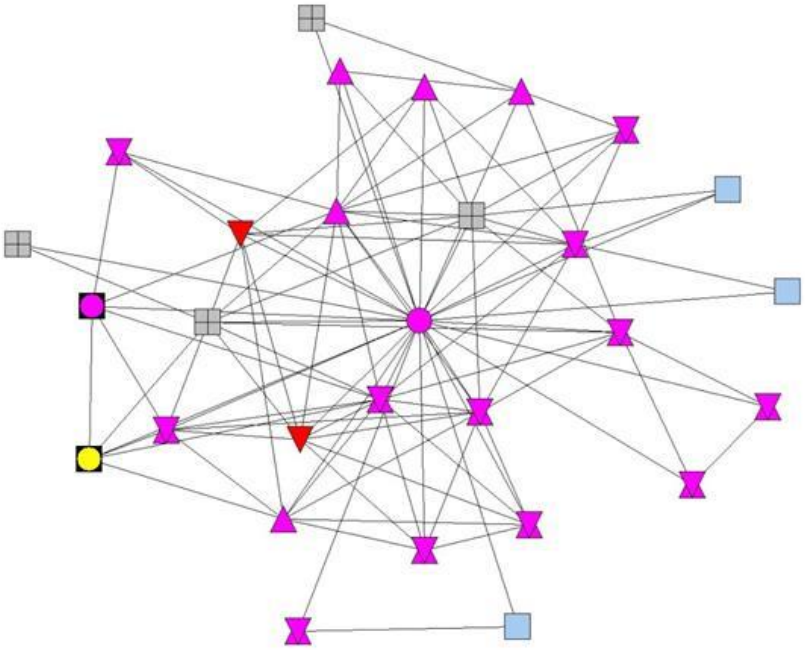


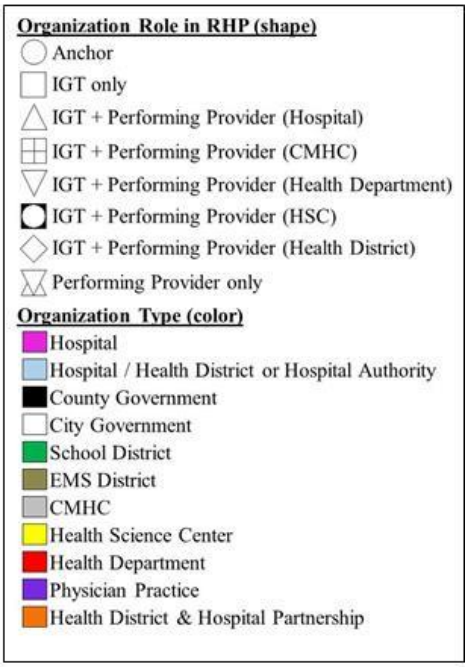
Diagrams are best viewed in color

RHP 3: Network Diagram T_0, All Collaboration



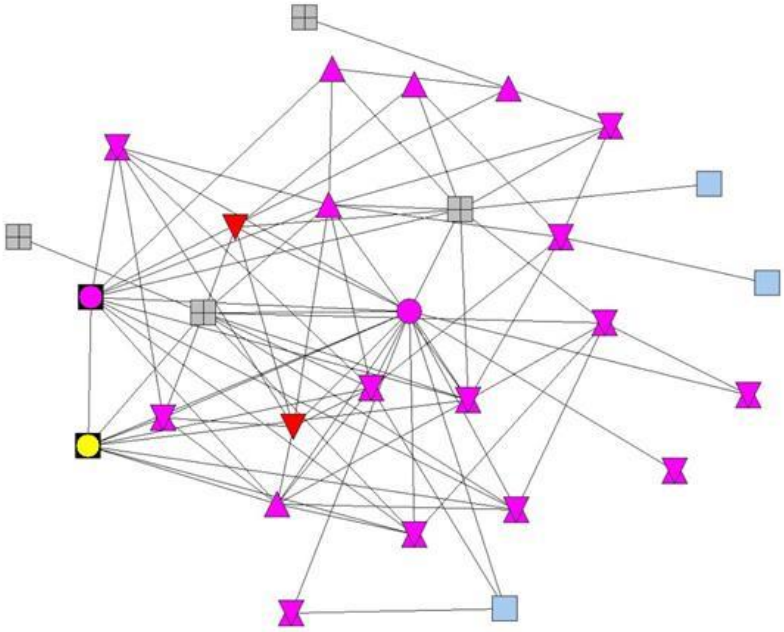
RHP 3: Network Diagram T_1, All Collaboration



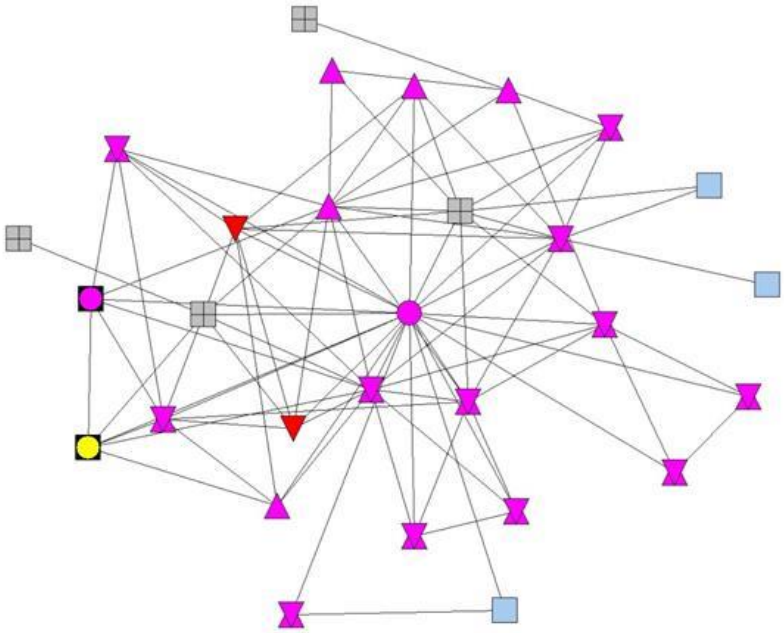


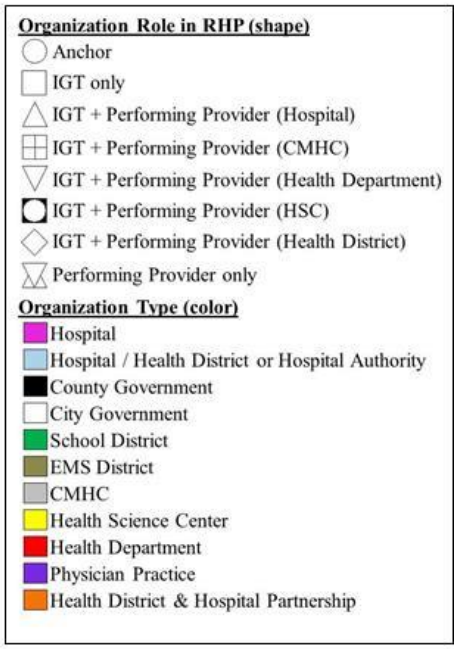
Diagrams are best viewed in color

RHP 3: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 3: Network Diagram T_1, Collaboration to Deliver Programs and Services





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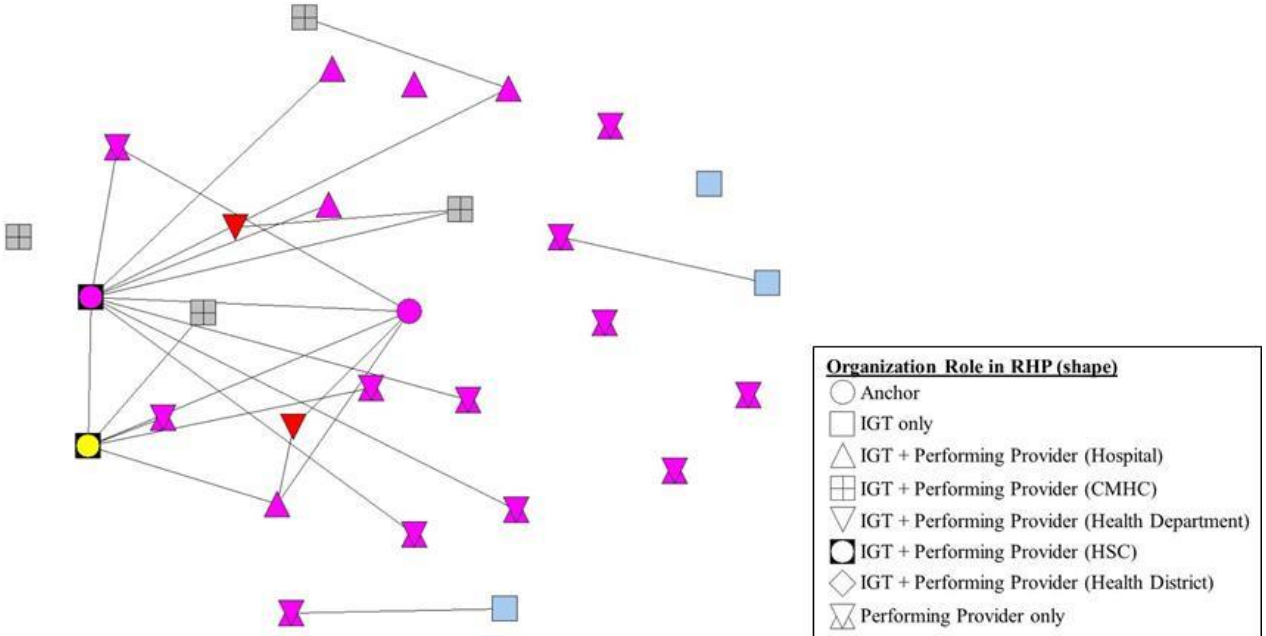
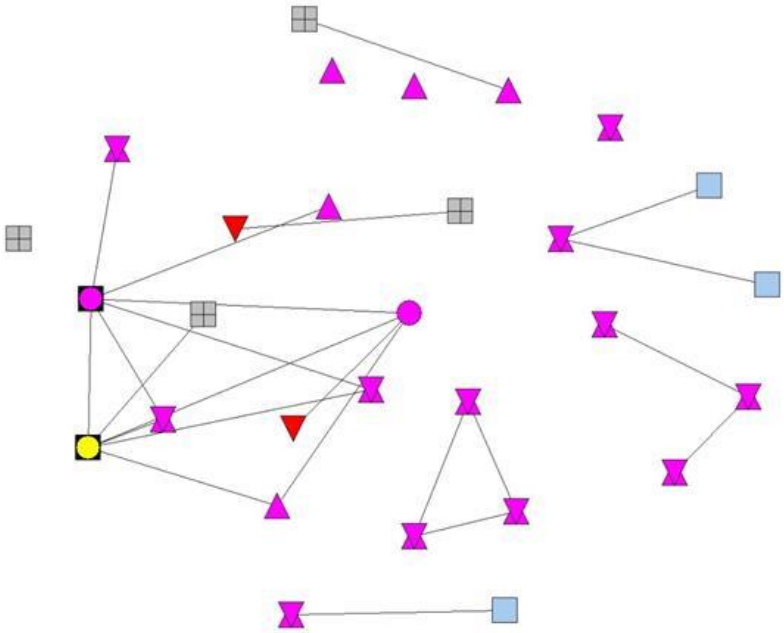
RHP 3: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 3: Network Diagram T_1, Collaboration to Share Tangible Resources



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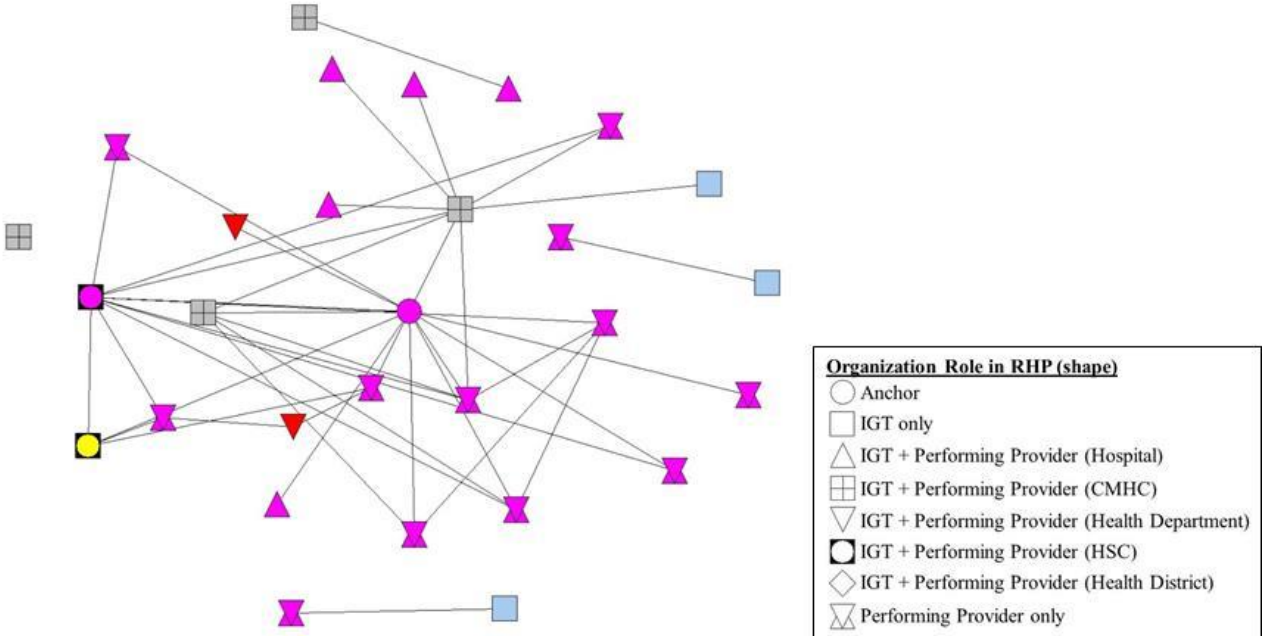
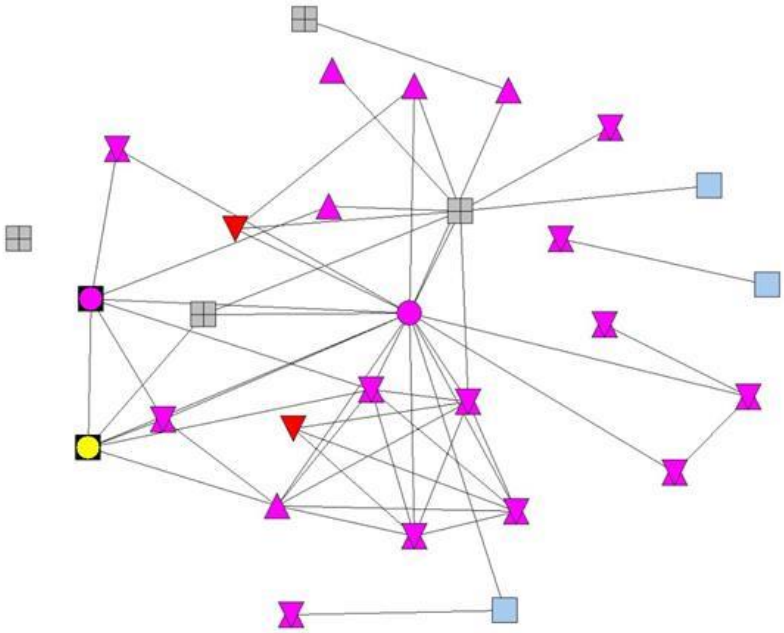
RHP 3: Network Diagram T_0, Formal Data Sharing Agreements



RHP 3: Network Diagram T_1, Formal Data Sharing Agreements



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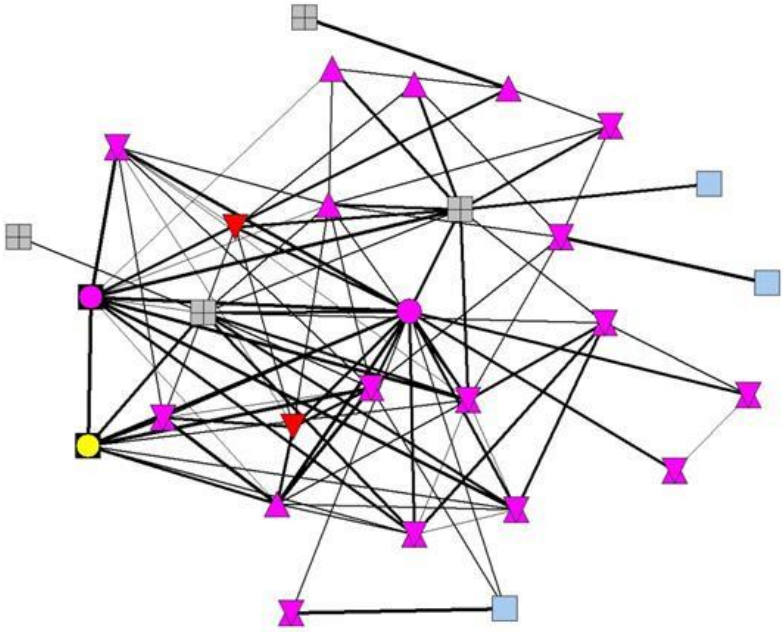
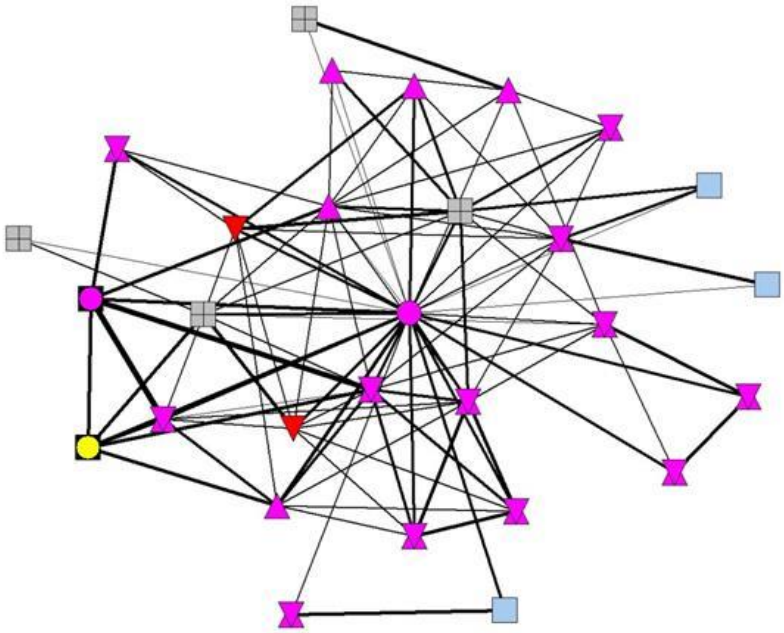
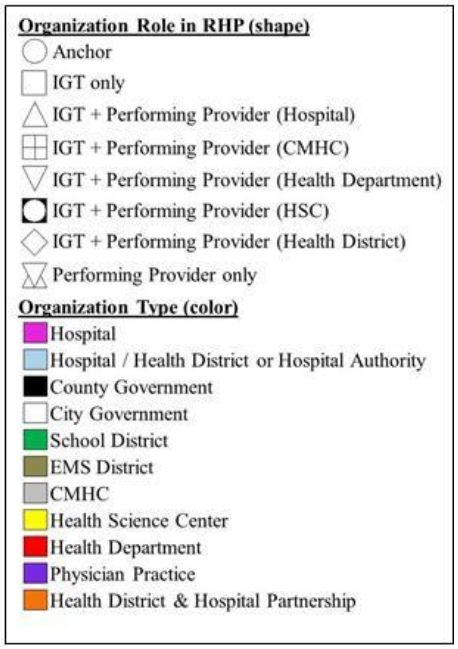
RHP 3: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 3: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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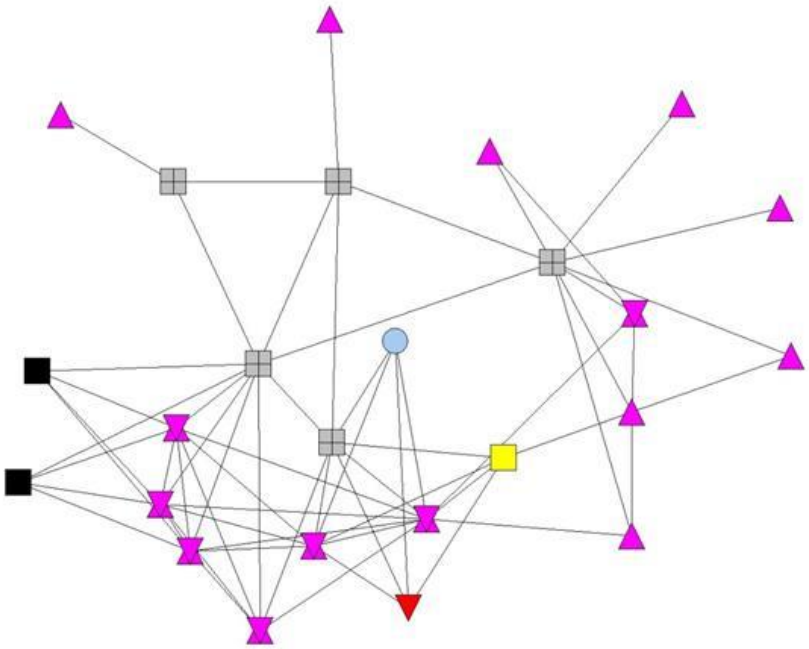
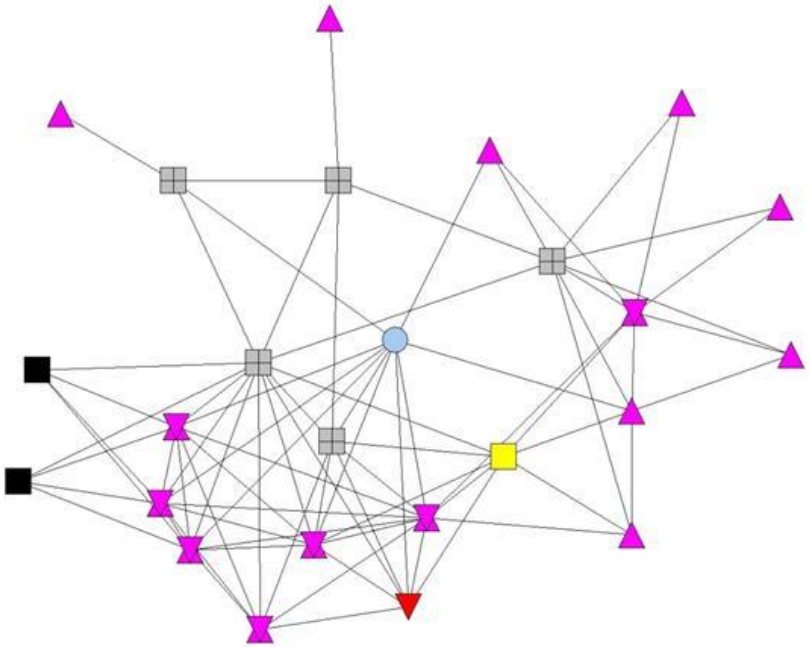
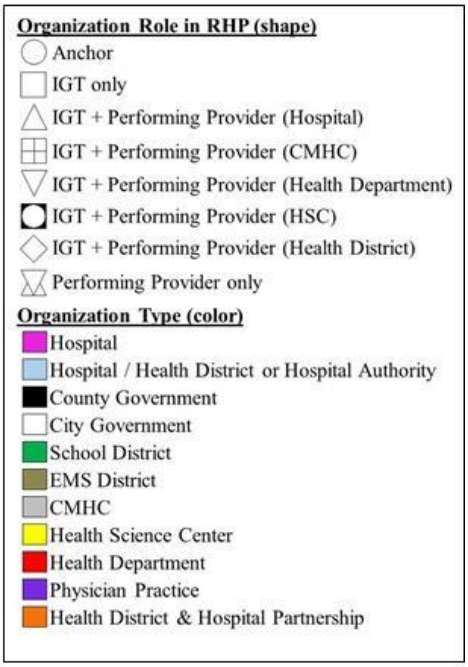
RHP 4: Network Diagram T_0, All Collaboration



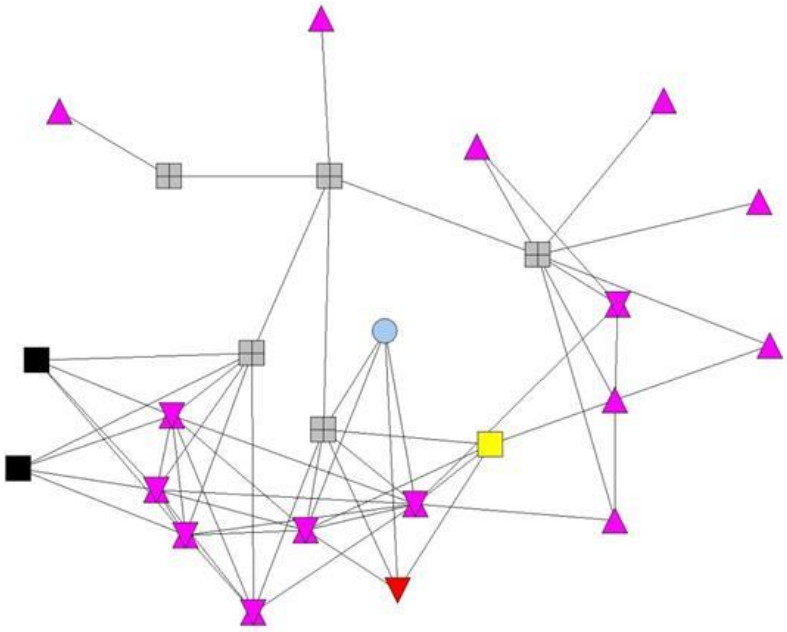
RHP 4: Network Diagram T_1, All Collaboration



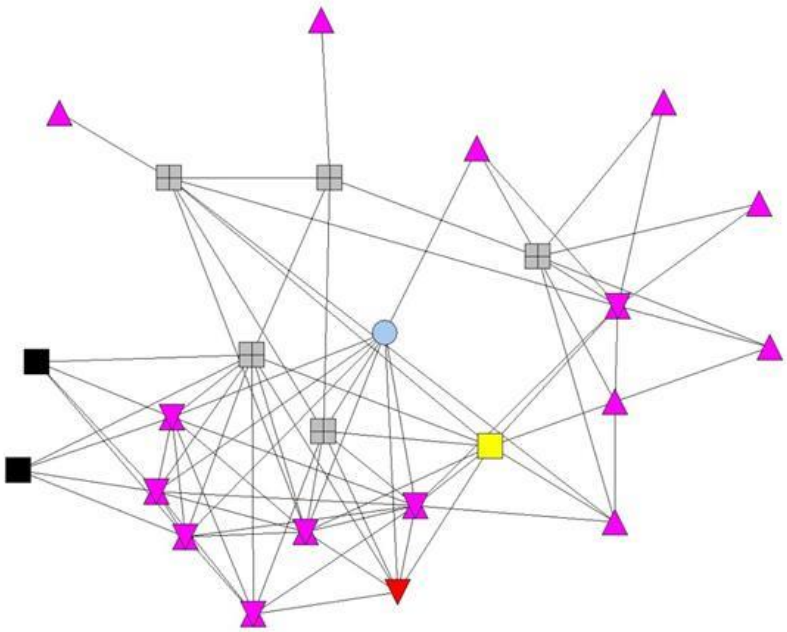


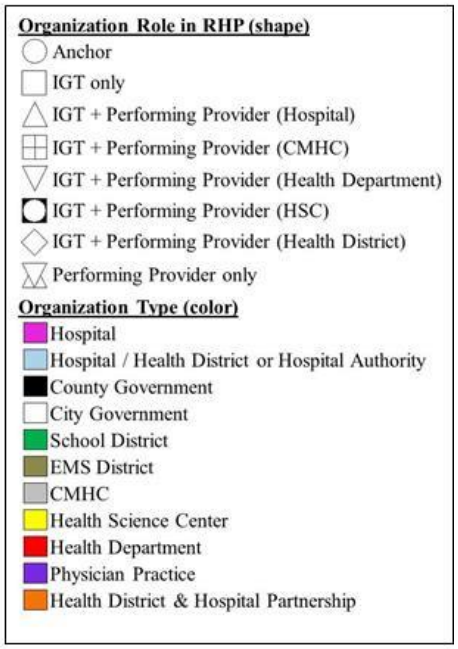
Diagrams are best viewed in color

RHP 4: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 4: Network Diagram T_1, Collaboration to Deliver Programs and Services





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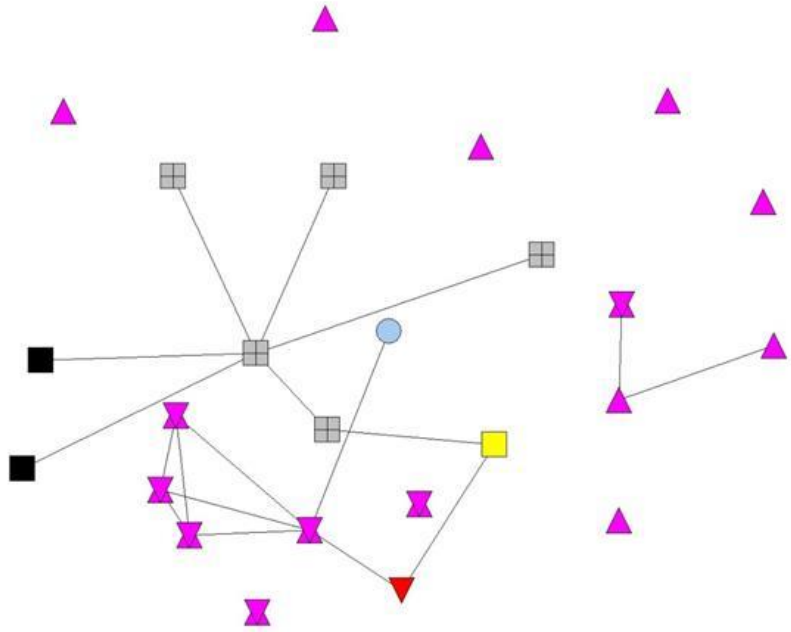
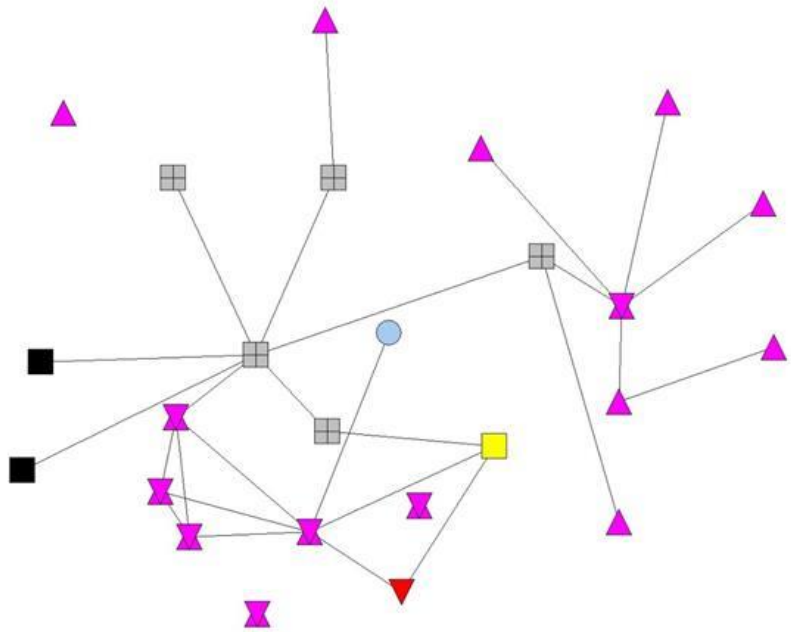
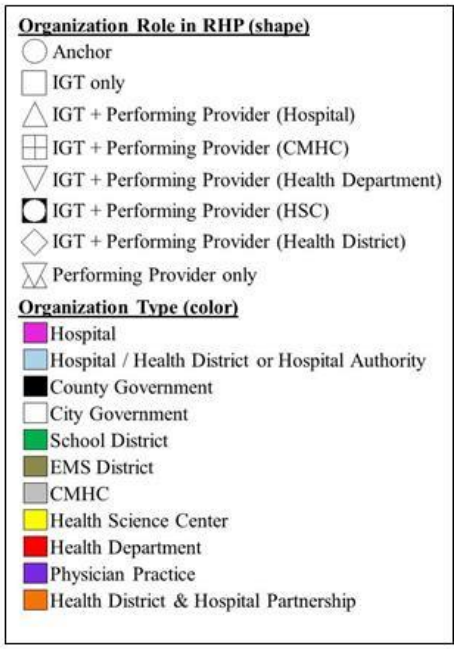
RHP 4: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 4: Network Diagram T_1, Collaboration to Share Tangible Resources





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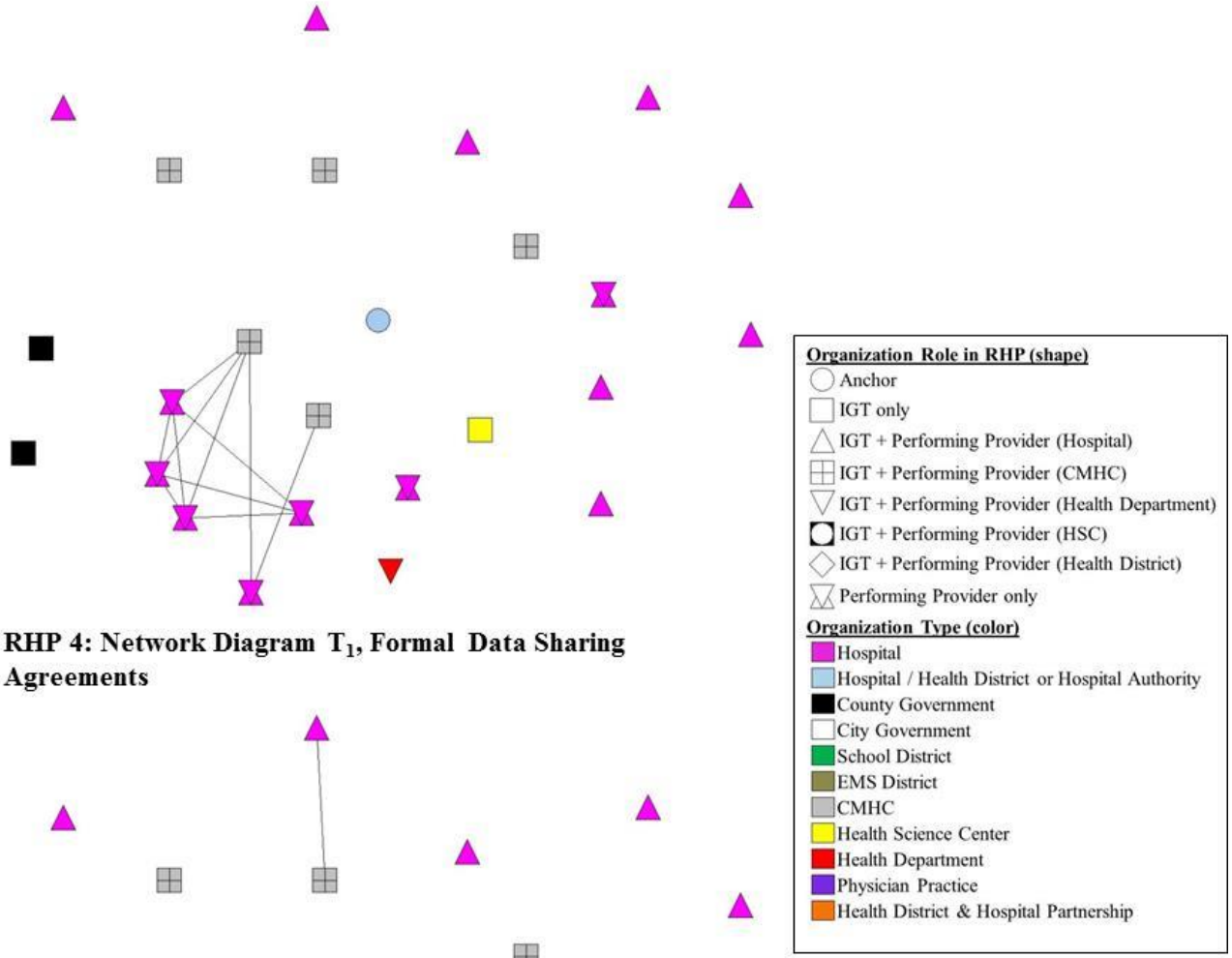
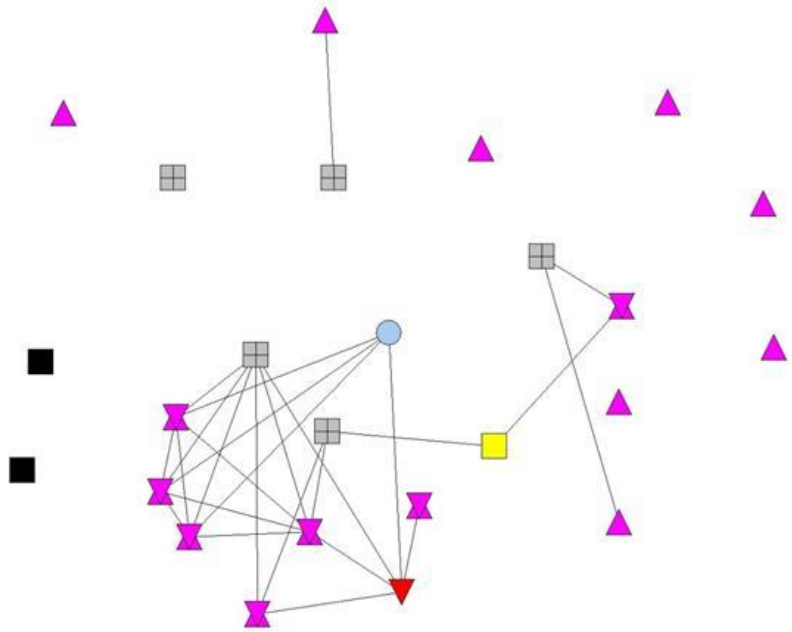
RHP 4: Network Diagram T_0, Formal Data Sharing Agreements



RHP 4: Network Diagram T_1, Formal Data Sharing Agreements



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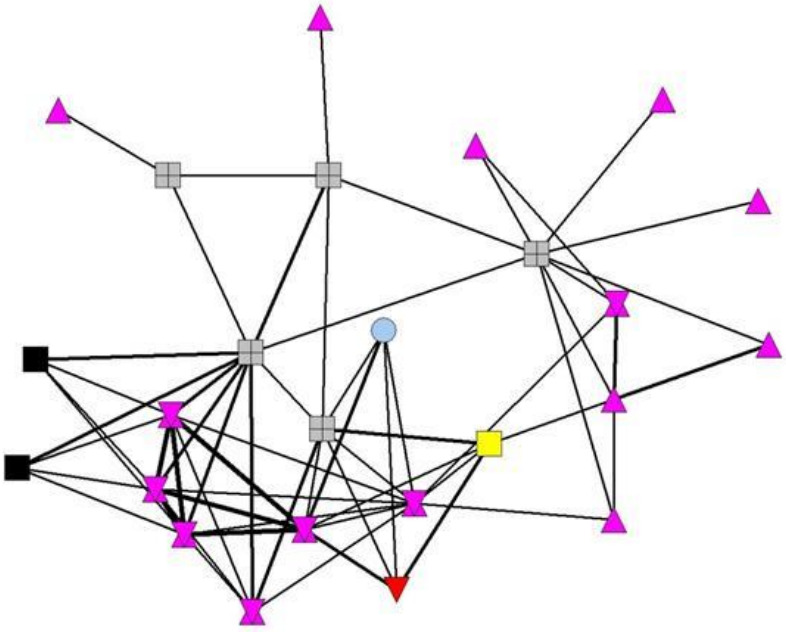
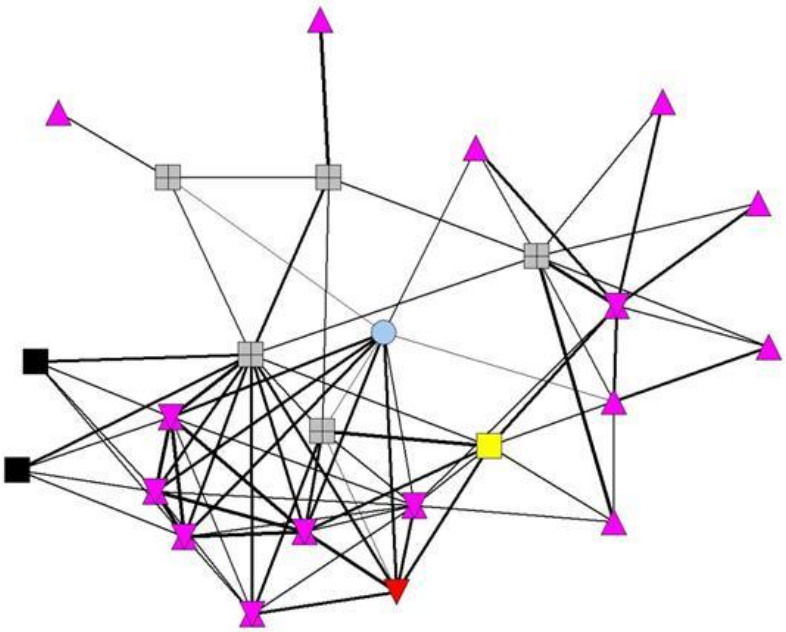
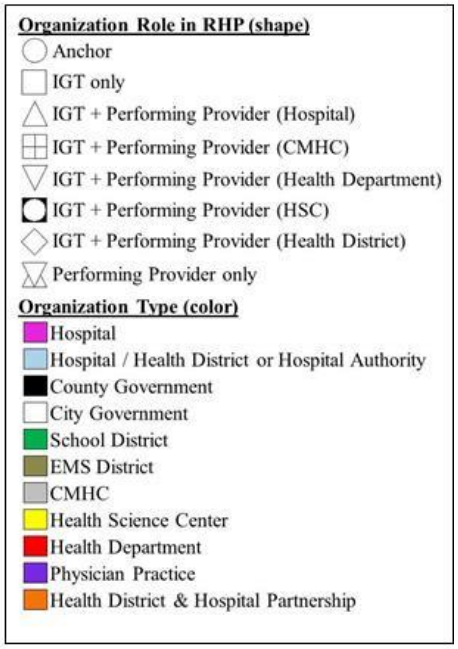
RHP 4: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 4: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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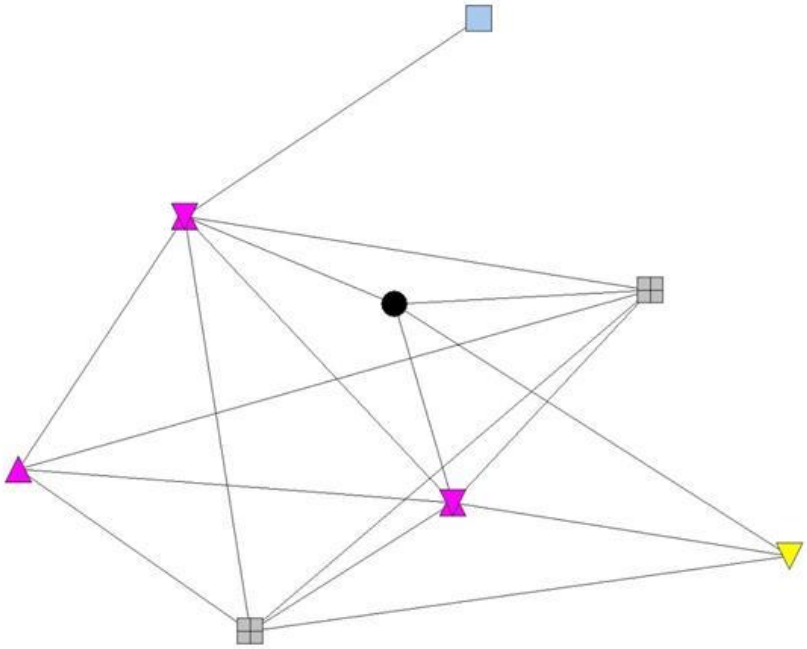
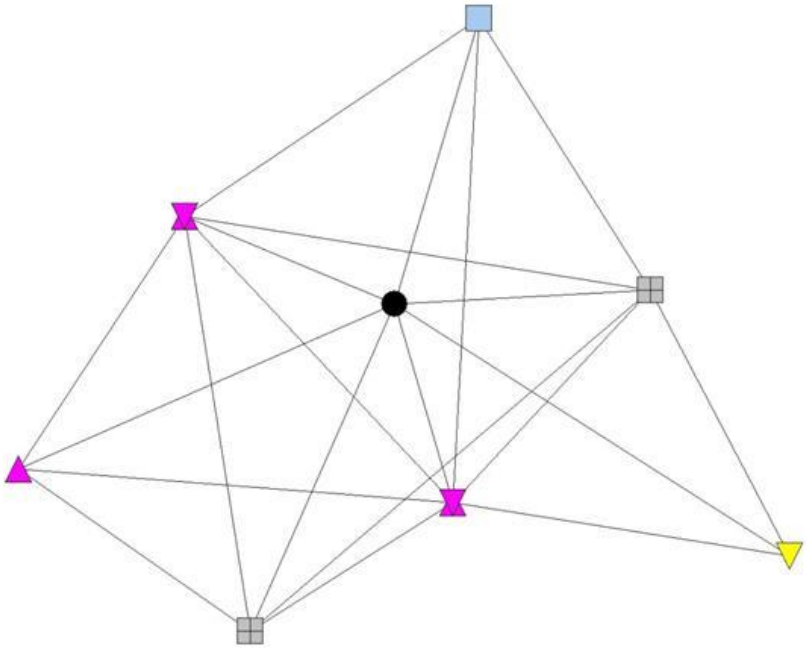
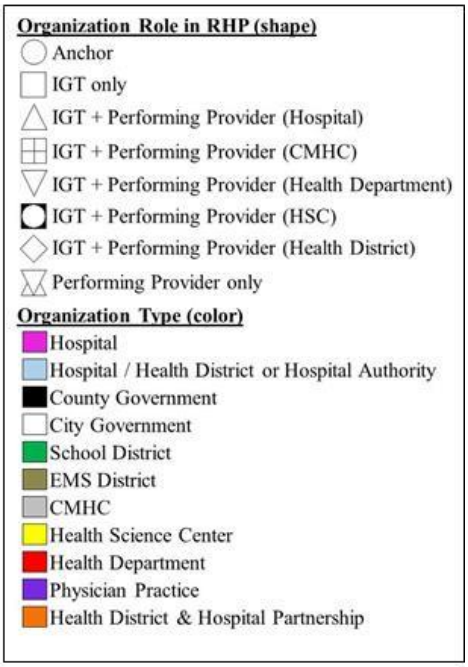
RHP 5: Network Diagram T_0, All Collaboration



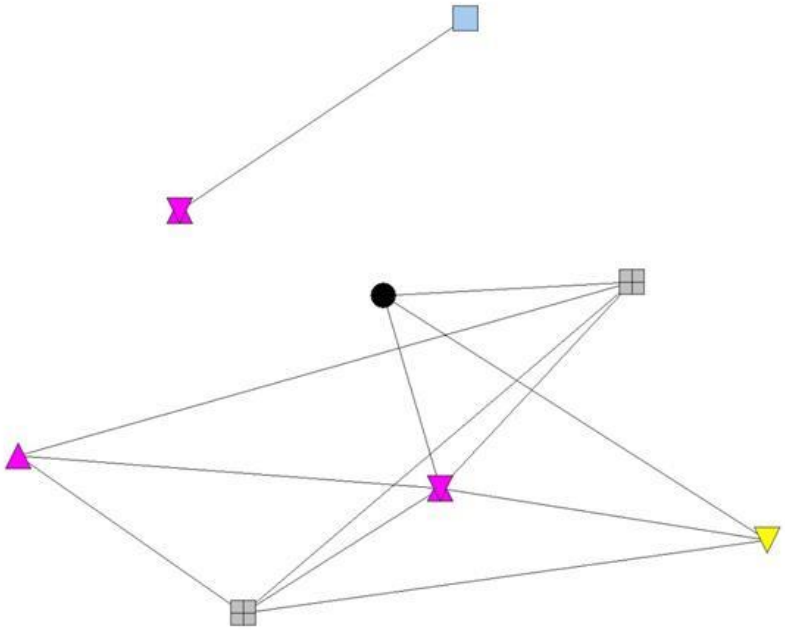
RHP 5: Network Diagram T_1, All Collaboration



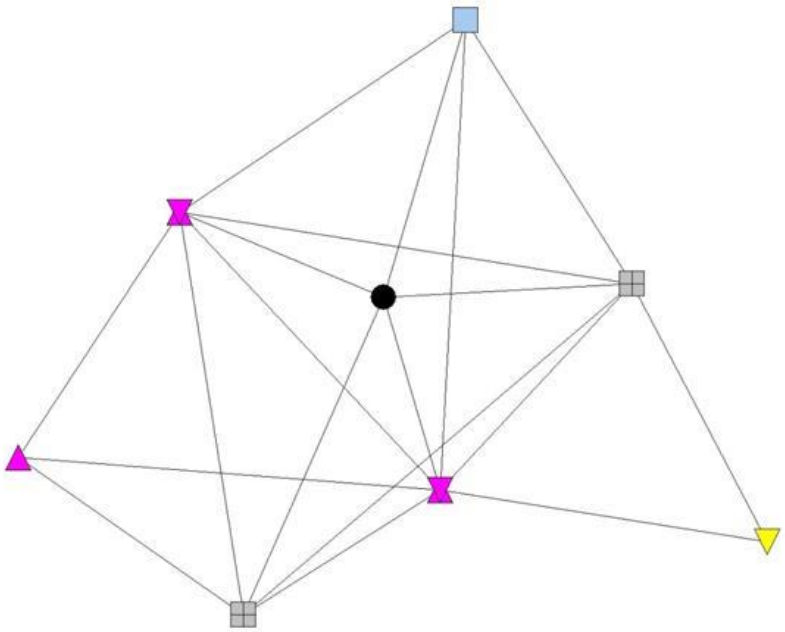


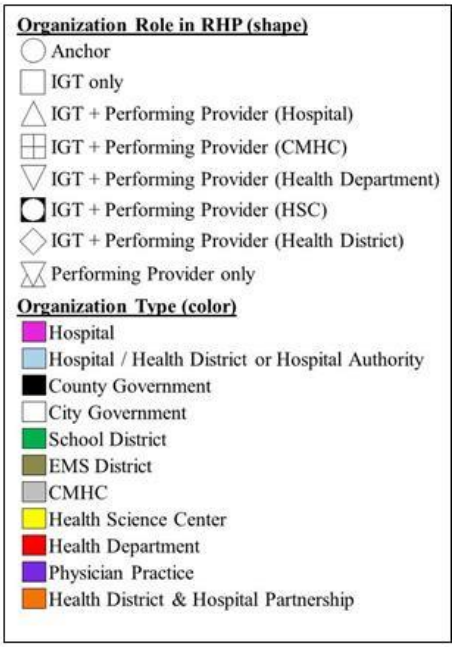
Diagrams are best viewed in color

RHP 5: Network Diagram T_0, Collaboration to Deliver Programs and Services



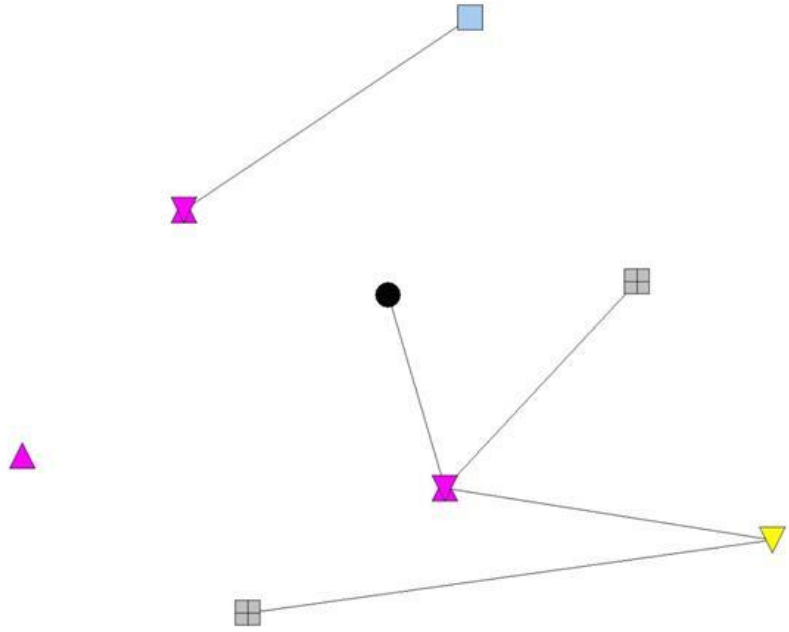
RHP 5: Network Diagram T_1, Collaboration to Deliver Programs and Services



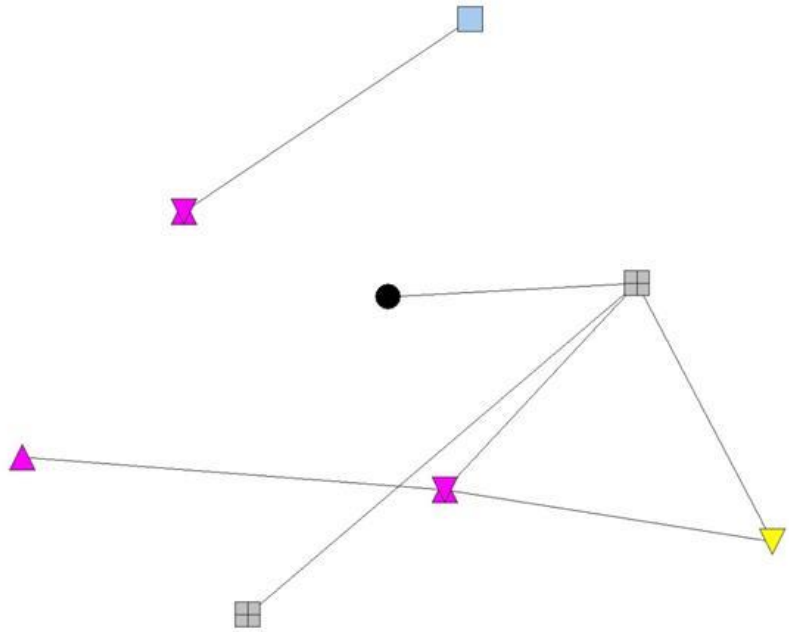


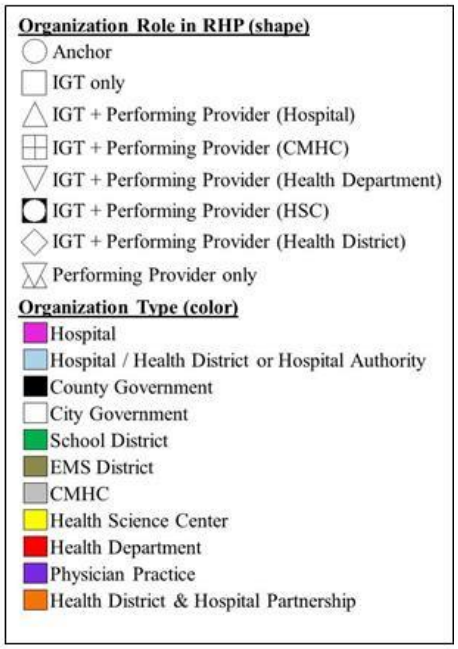
Diagrams are best viewed in color

RHP 5: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 5: Network Diagram T_1, Collaboration to Share Tangible Resources





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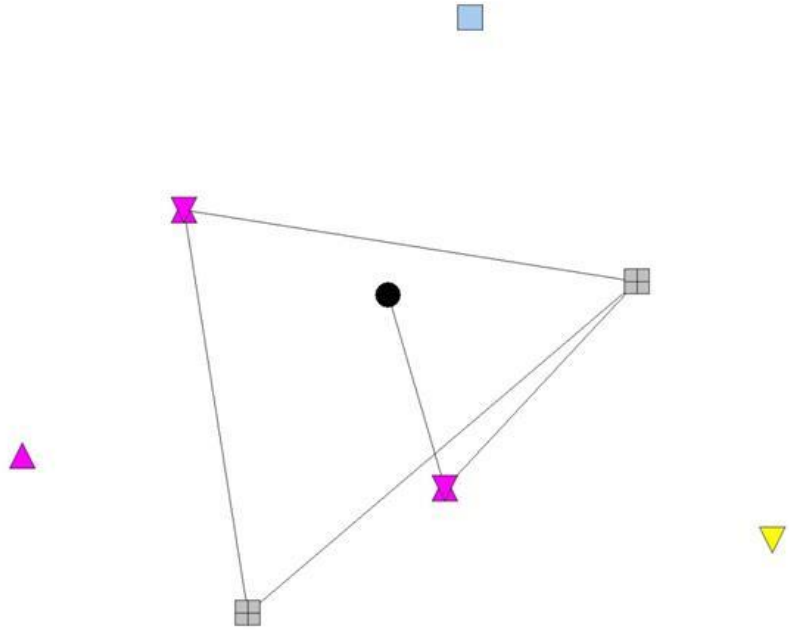
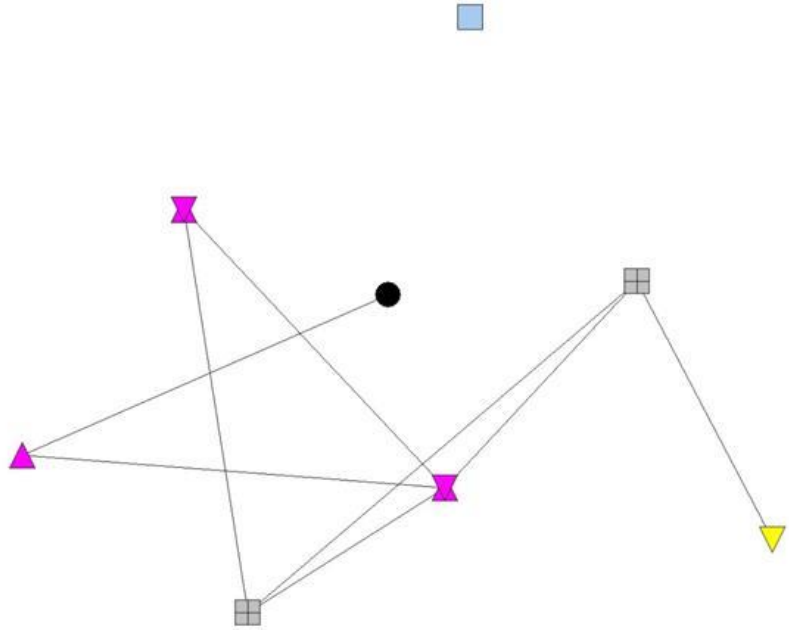
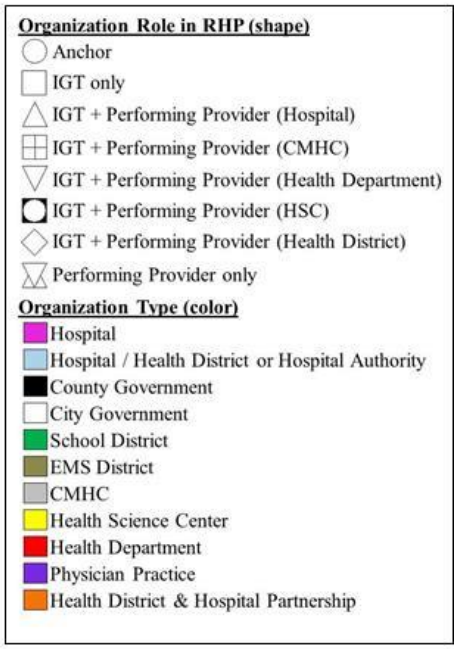
RHP 5: Network Diagram T_0, Formal Data Sharing Agreements



RHP 5: Network Diagram T_1, Formal Data Sharing Agreements





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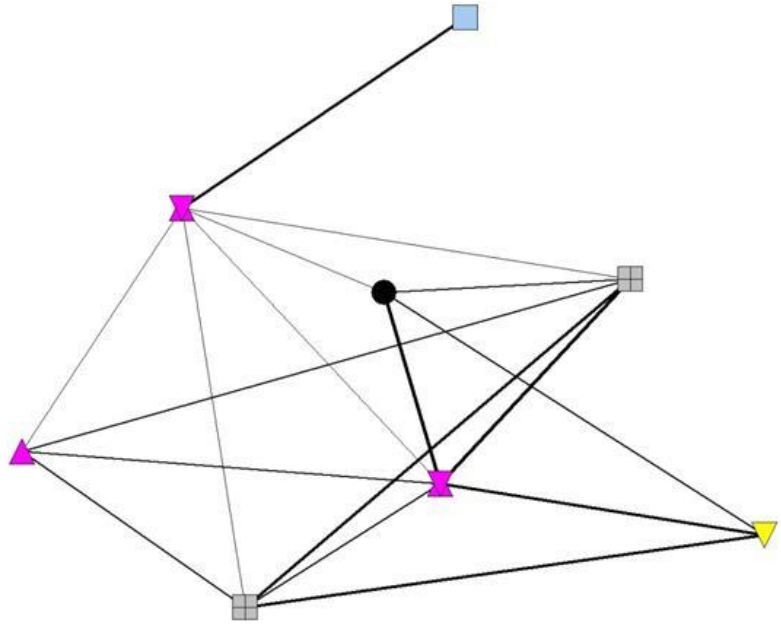
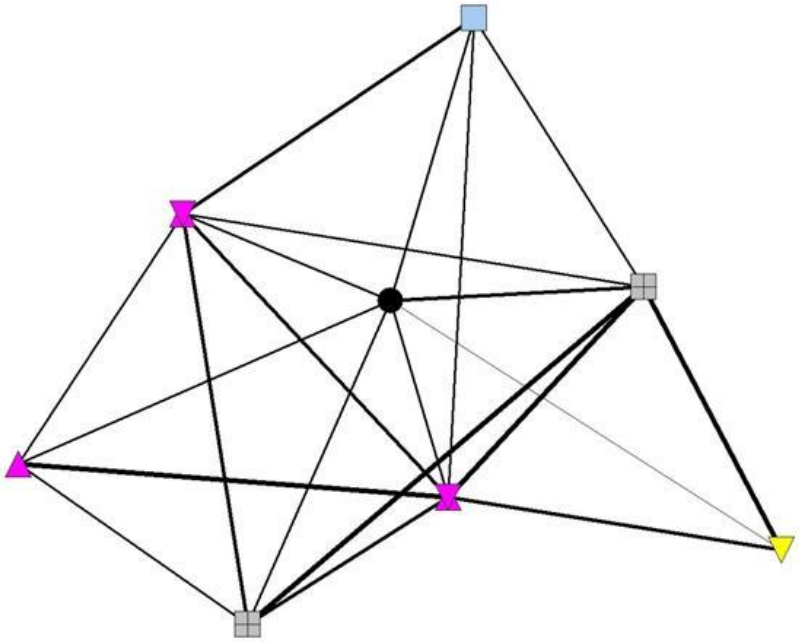
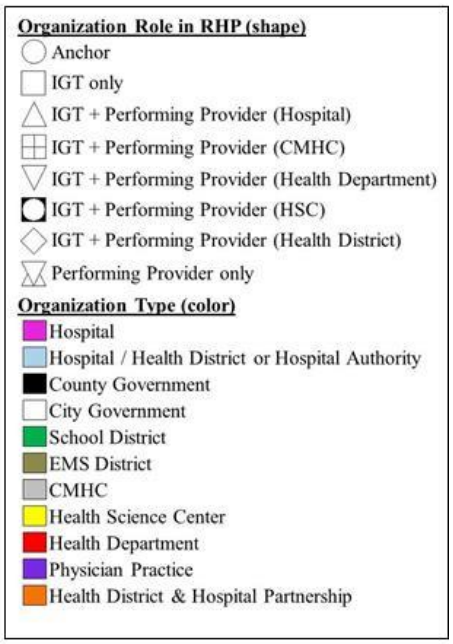
RHP 5: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 5: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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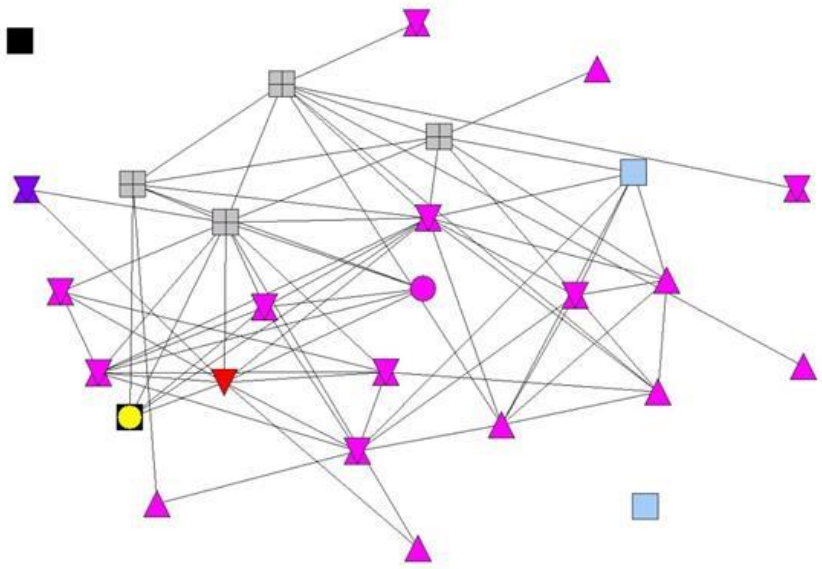
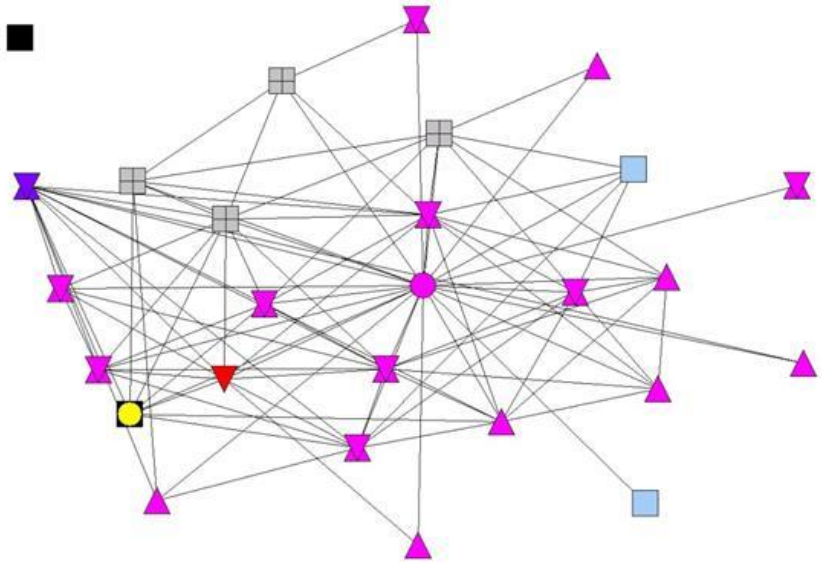
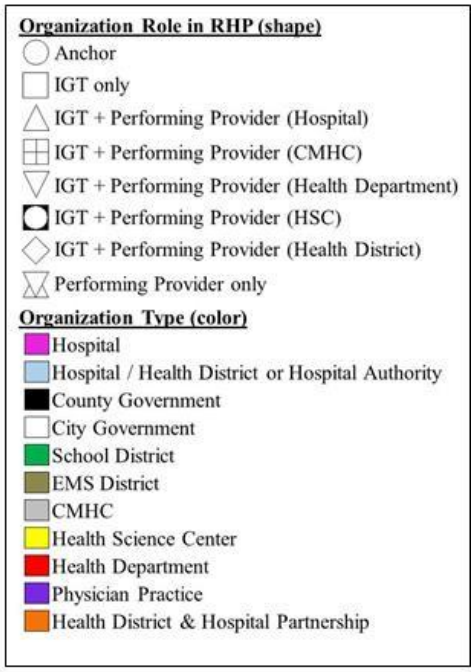
RHP 6: Network Diagram T_0, All Collaboration



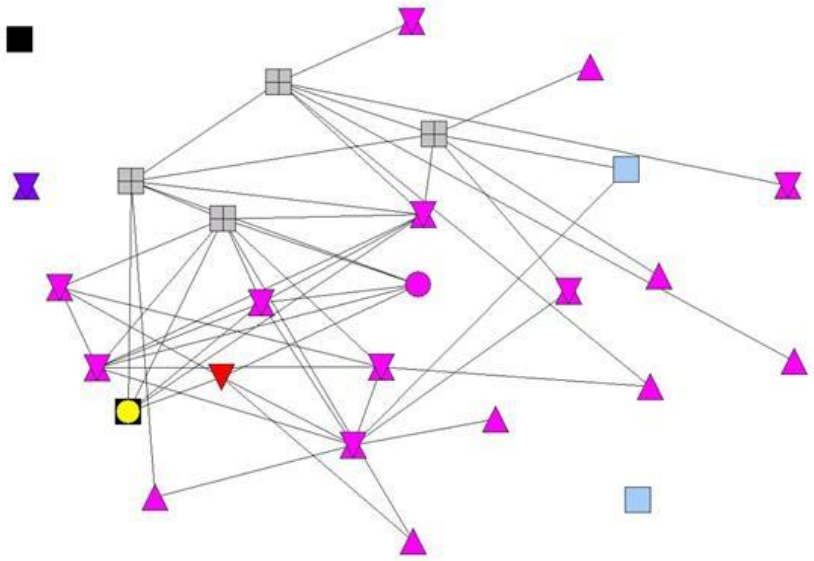
RHP 6: Network Diagram T_1, All Collaboration



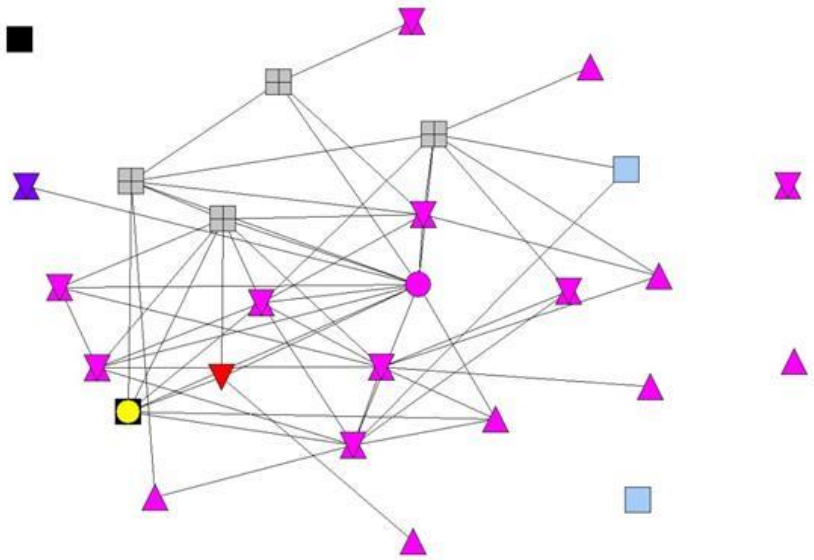


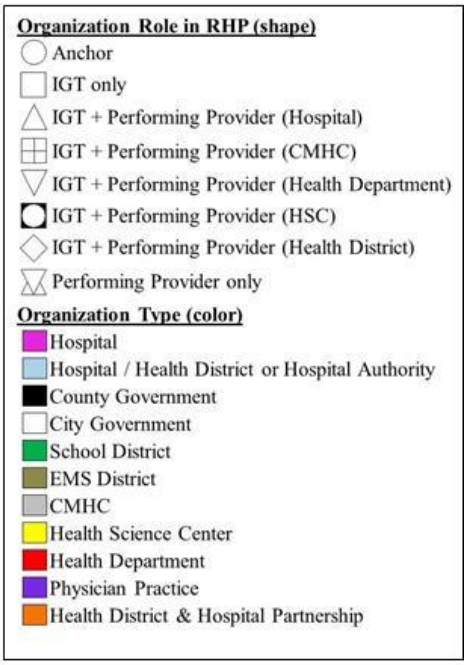
Diagrams are best viewed in color

RHP 6: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 6: Network Diagram T_1, Collaboration to Deliver Programs and Services





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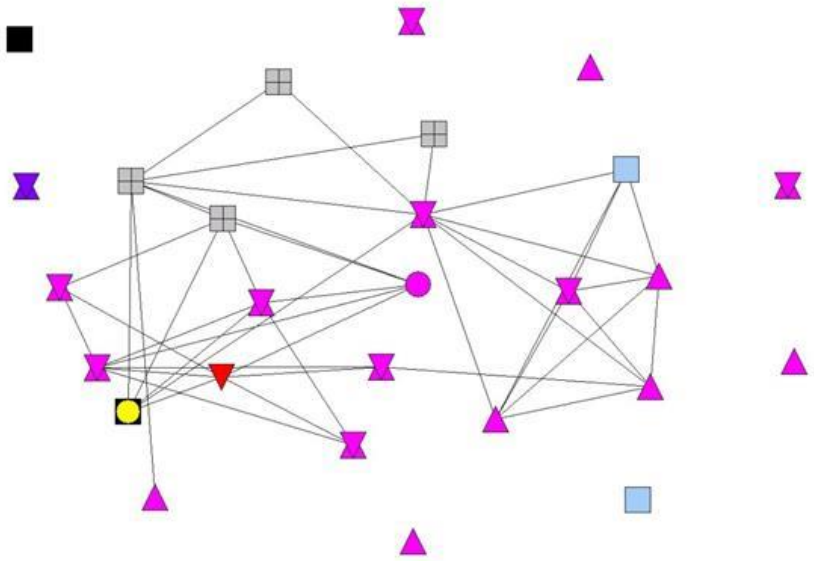
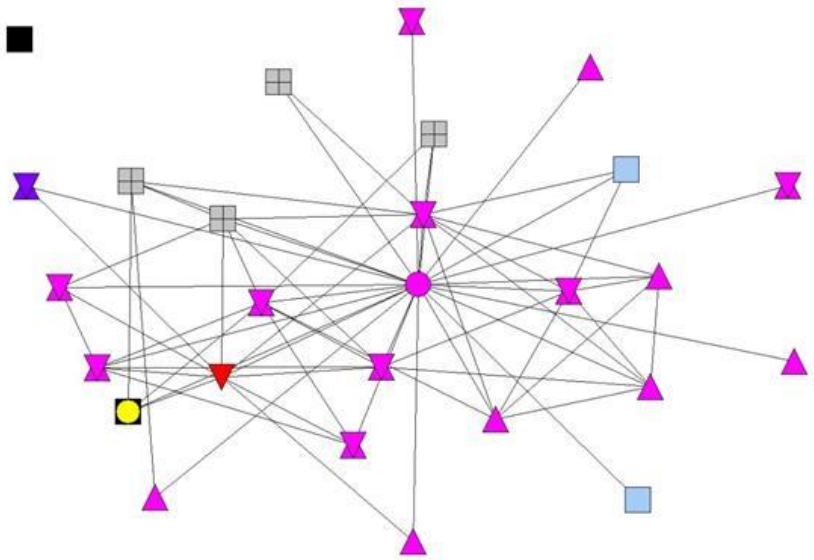
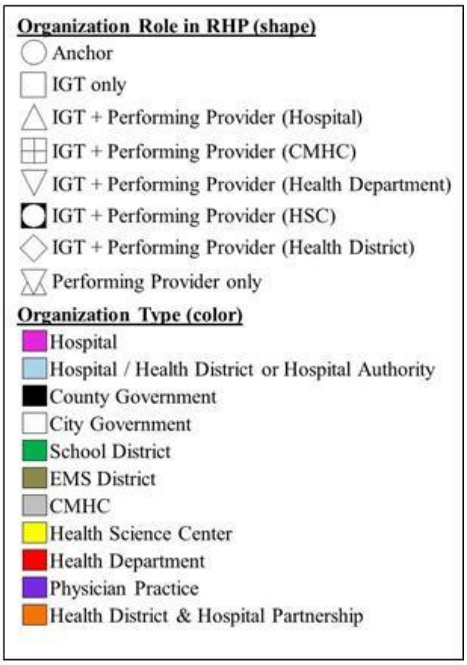
RHP 6: Network Diagram T_0, Collaboration to Share Tangible Resources



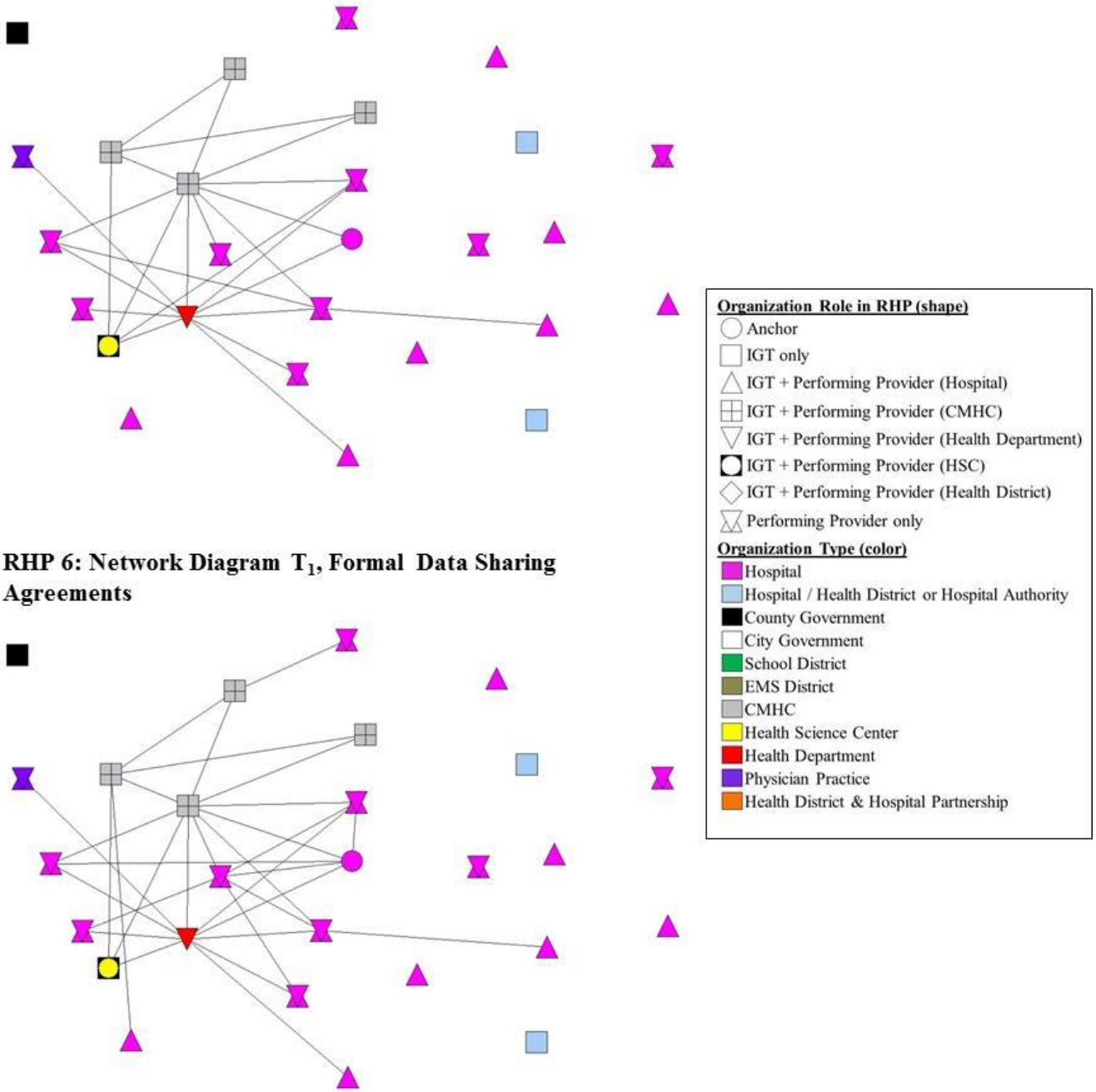
RHP 6: Network Diagram T_1, Collaboration to Share Tangible Resources





Diagrams are best viewed in color

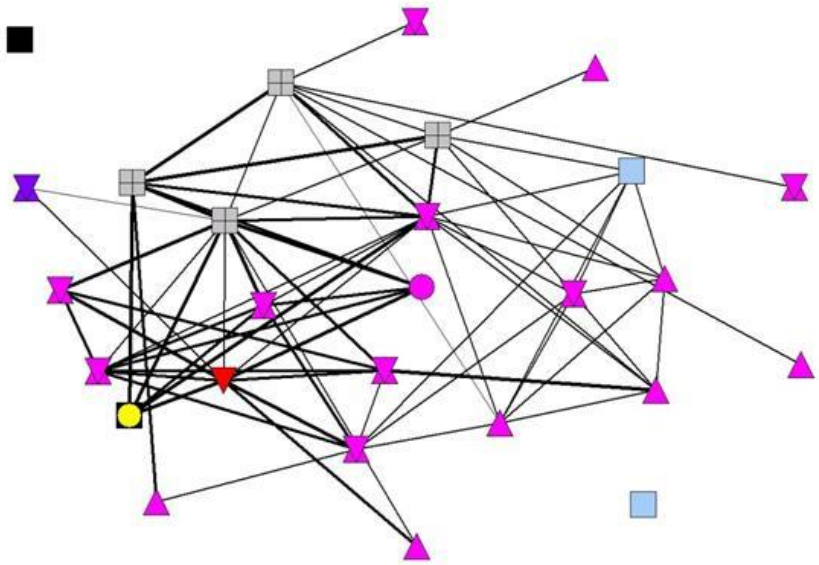
RHP 6: Network Diagram T_0, Formal Data Sharing Agreements



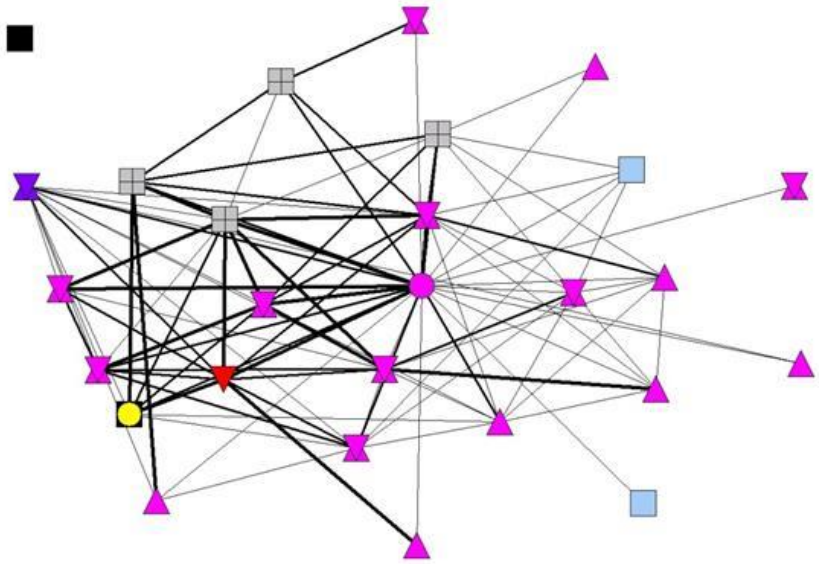
RHP 6: Network Diagram T_1, Formal Data Sharing Agreements

Diagrams are best viewed in color

RHP 6: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 6: Network Diagram T_1, Mean Strengths of Ties Between Organizations



Organization Role in RHP (shape)
- Anchor
- IGT only
- IGT + Performing Provider (Hospital)
- IGT + Performing Provider (CMHC)
- IGT + Performing Provider (Health Department)
- IGT + Performing Provider (HSC)
- IGT + Performing Provider (Health District)
- Performing Provider only

Organization Type (color)
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- Hospital / Health District or Hospital Authority
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- City Government
- School District
- EMS District
- CMHC
- Health Science Center
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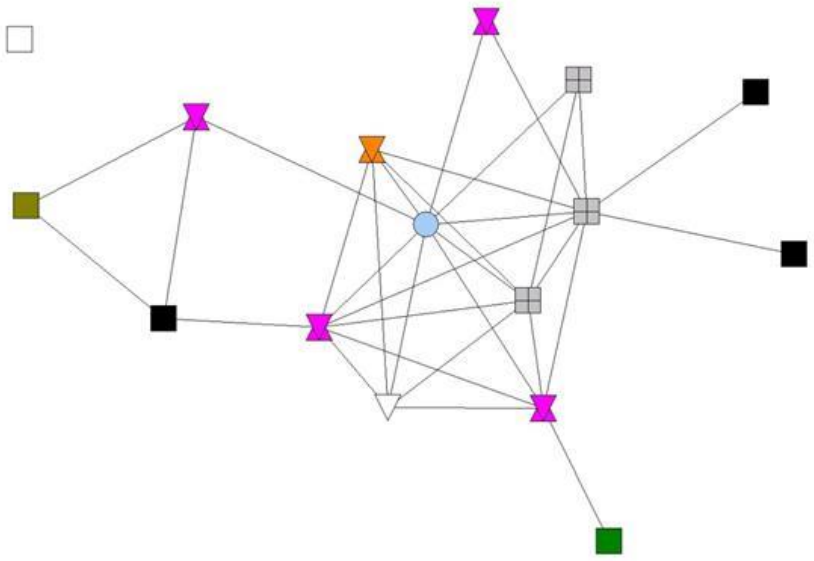
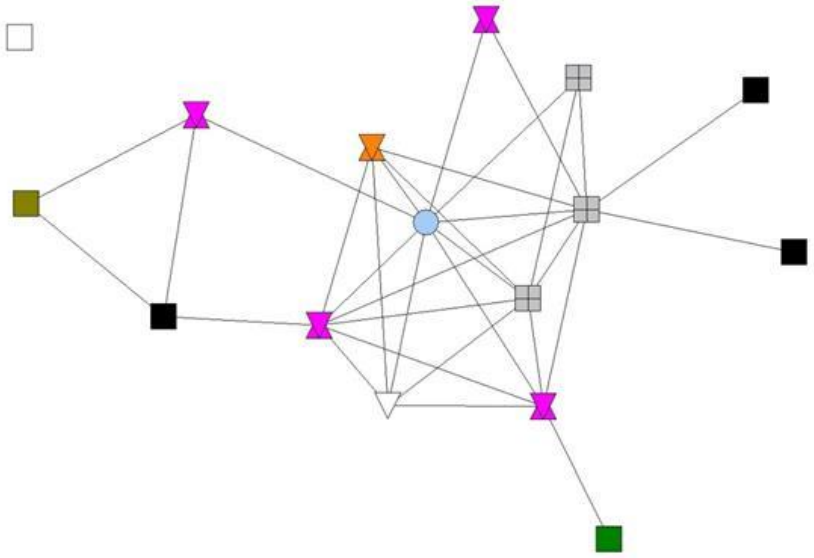
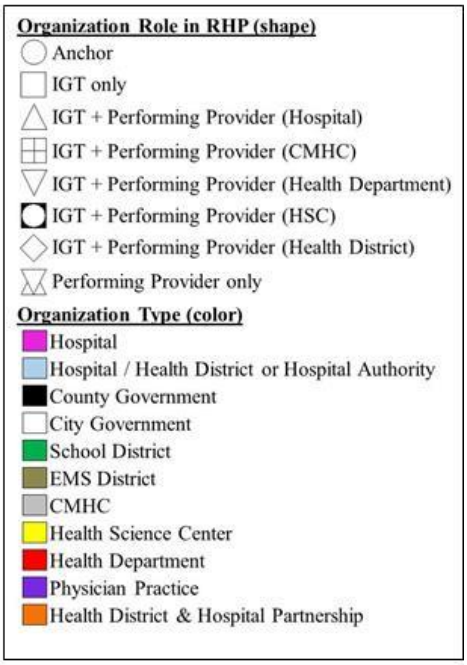
RHP 7: Network Diagram T_0, All Collaboration



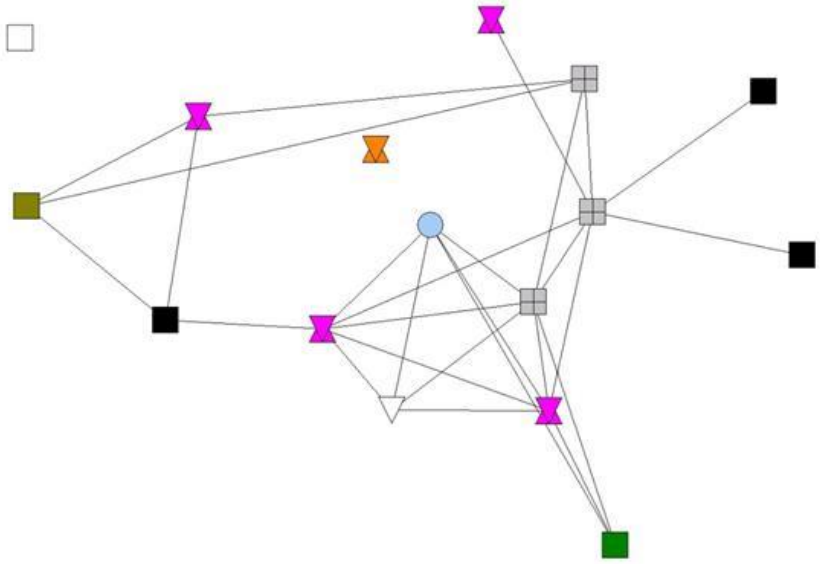
RHP 7: Network Diagram T_1, All Collaboration





Diagrams are best viewed in color

RHP 7: Network Diagram T_0, Collaboration to Deliver Programs and Services



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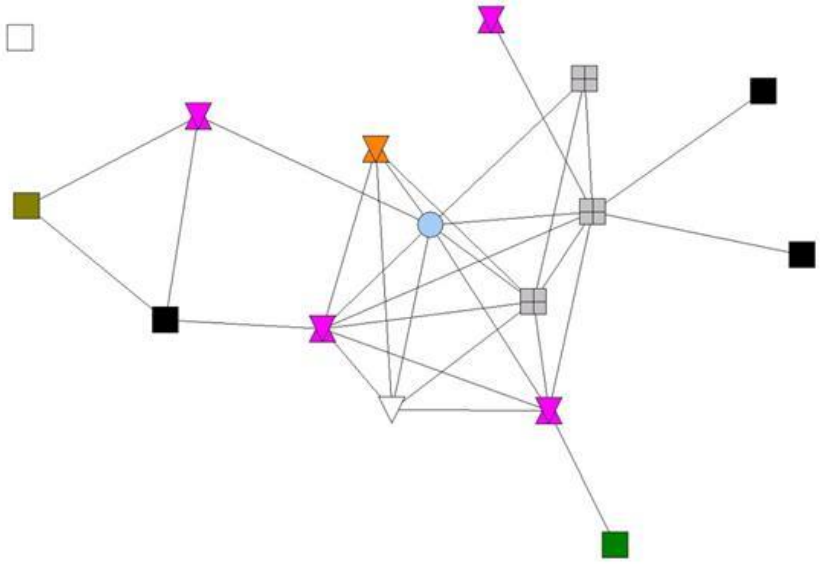
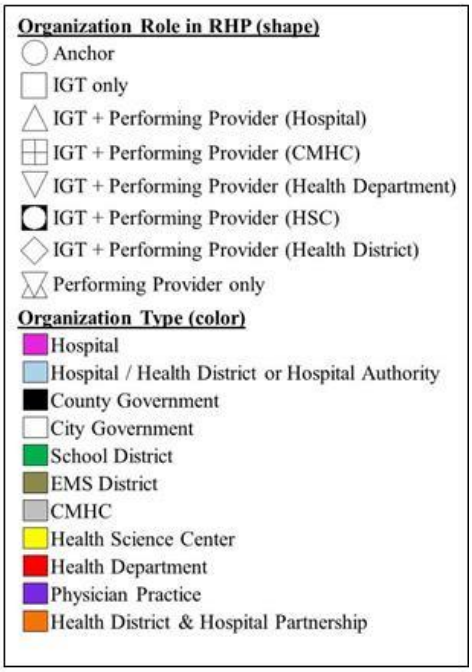
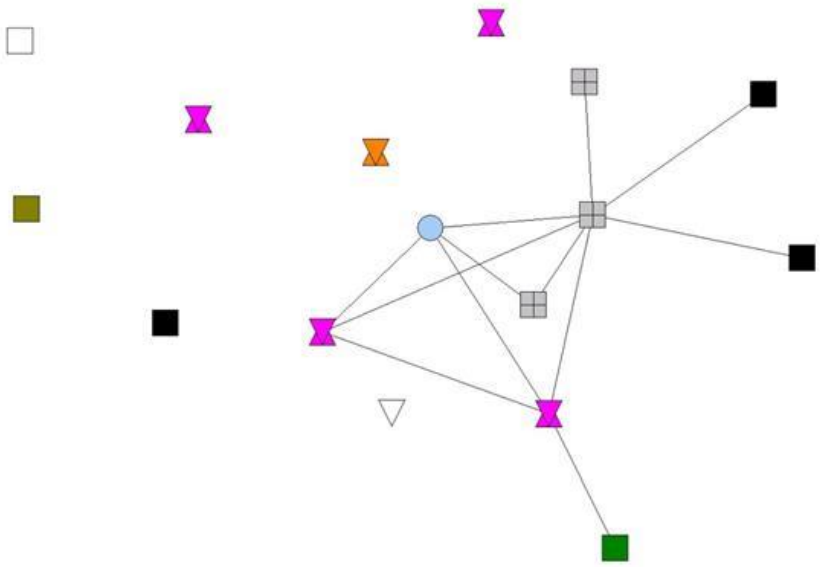


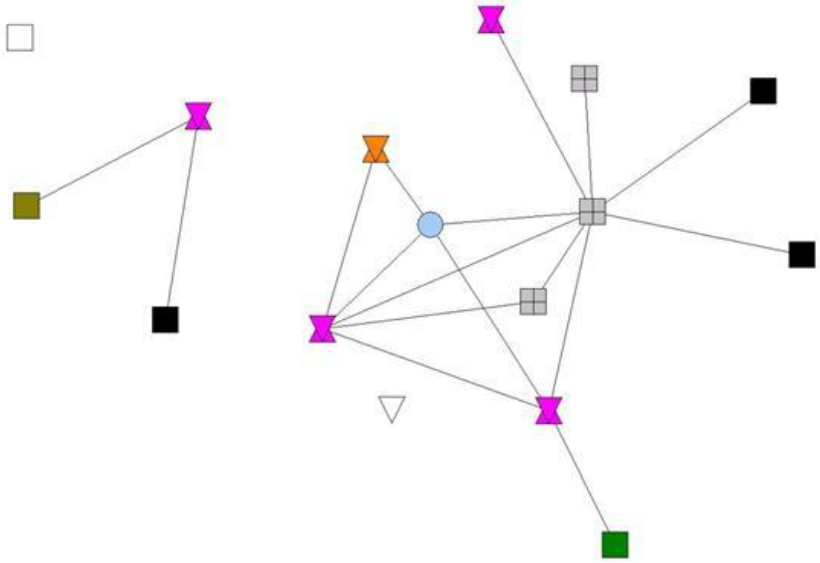


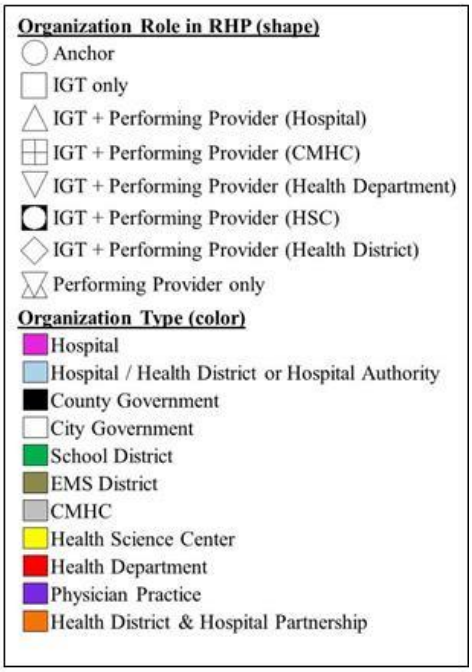
Diagrams are best viewed in color

RHP 7: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 7: Network Diagram T_1, Collaboration to Share Tangible Resources





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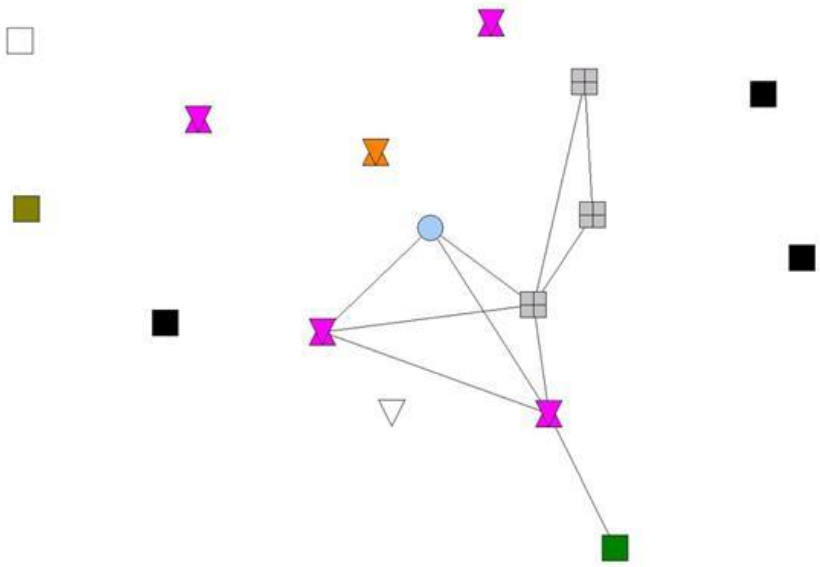
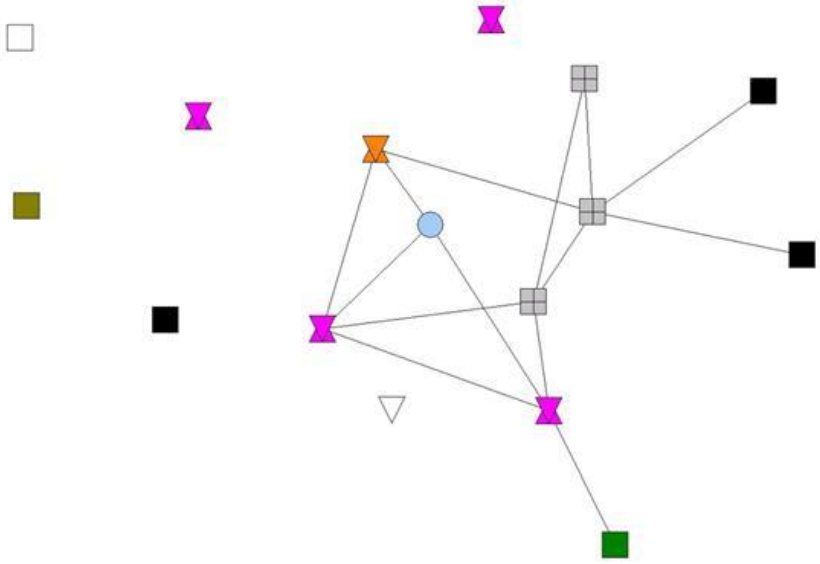
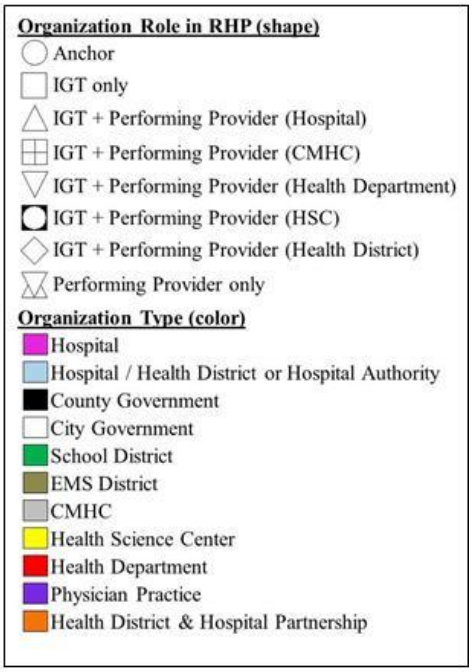
RHP 7: Network Diagram T_0, Formal Data Sharing Agreements



RHP 7: Network Diagram T_1, Formal Data Sharing Agreements





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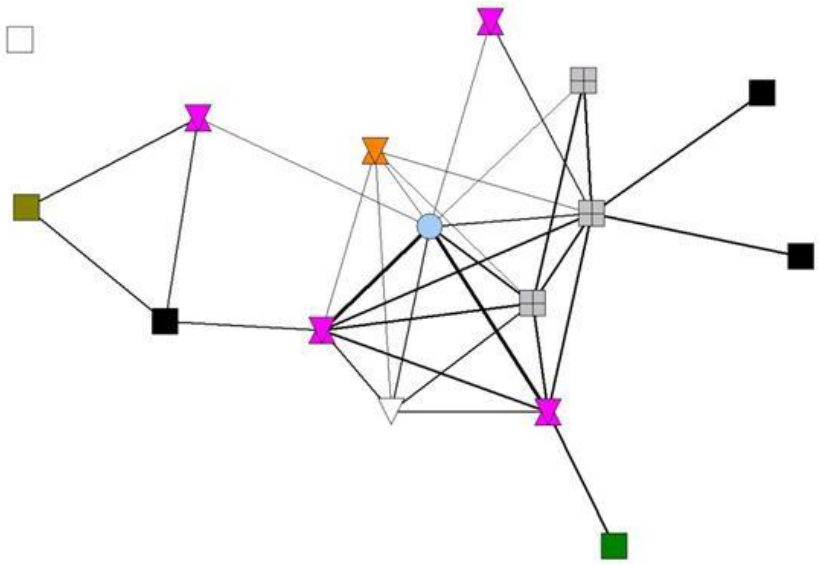
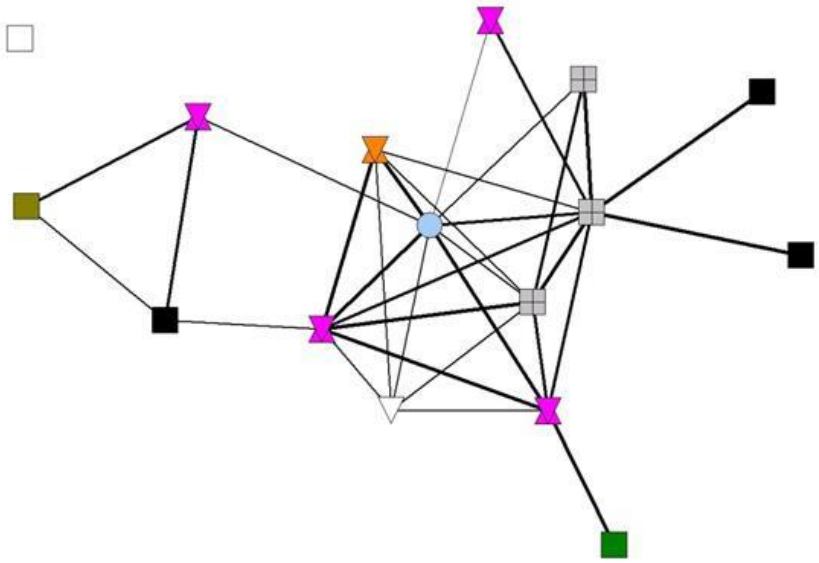
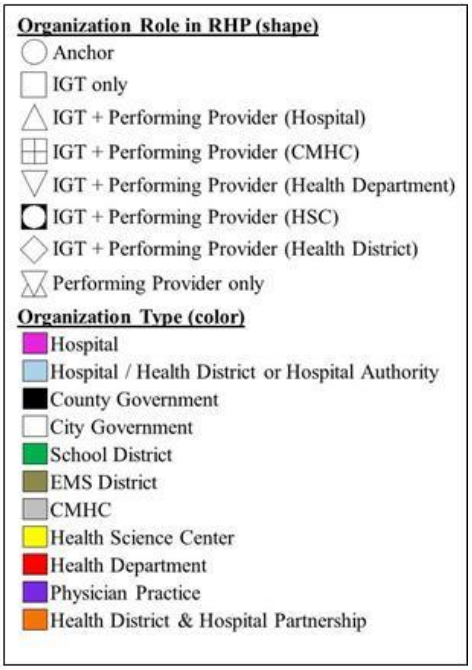
RHP 7: Network Diagram T_0, Mean Strengths of Ties Between Organizations



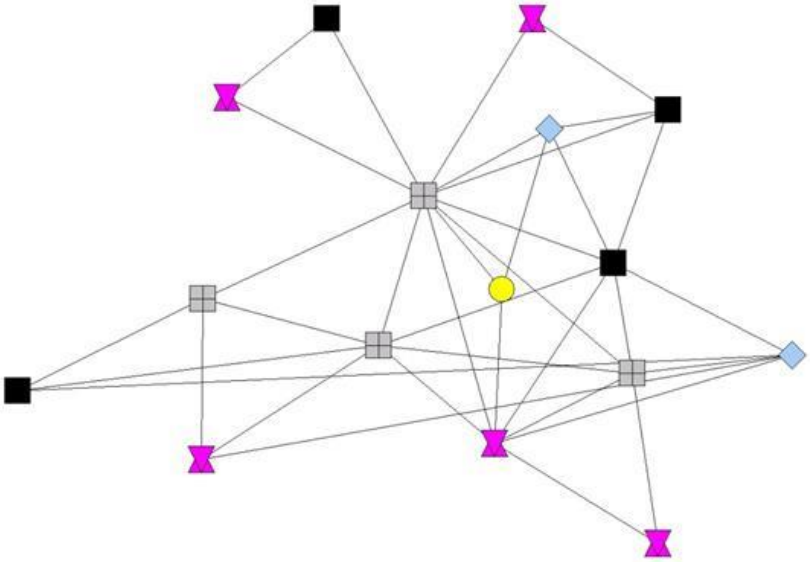
RHP 7: Network Diagram T_1, Mean Strengths of Ties Between Organizations



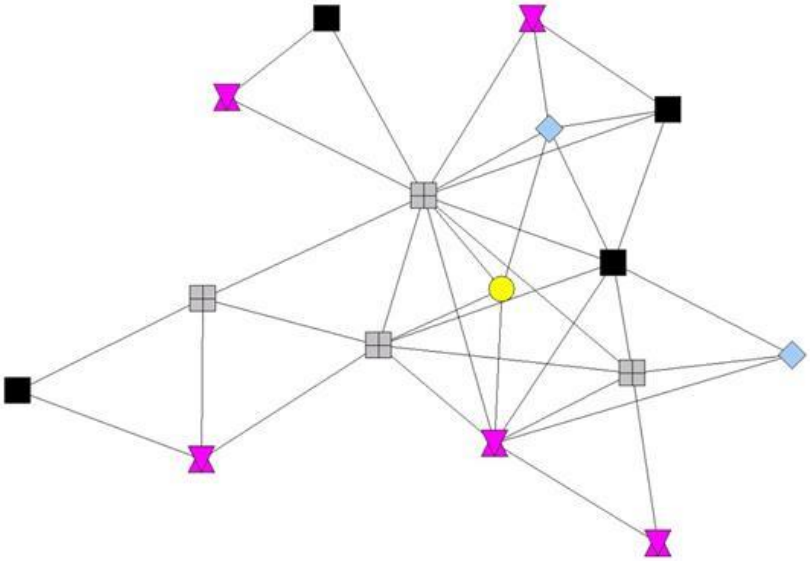


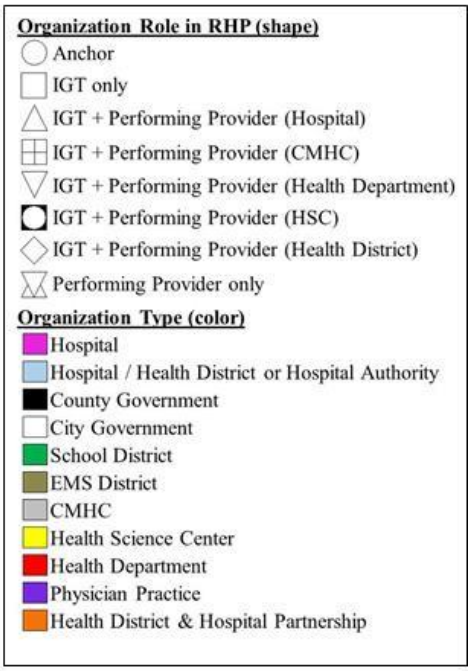
Diagrams are best viewed in color

RHP 8: Network Diagram T_0, All Collaboration



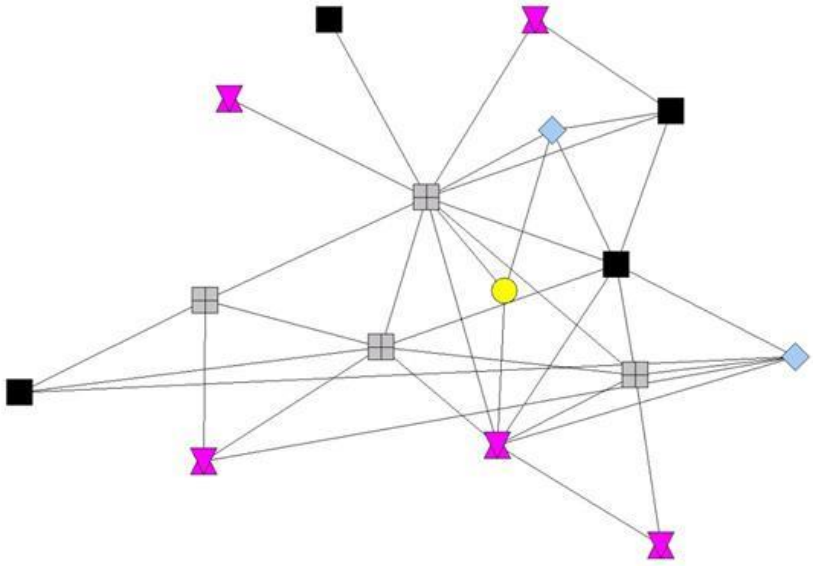
RHP 8: Network Diagram T_1, All Collaboration



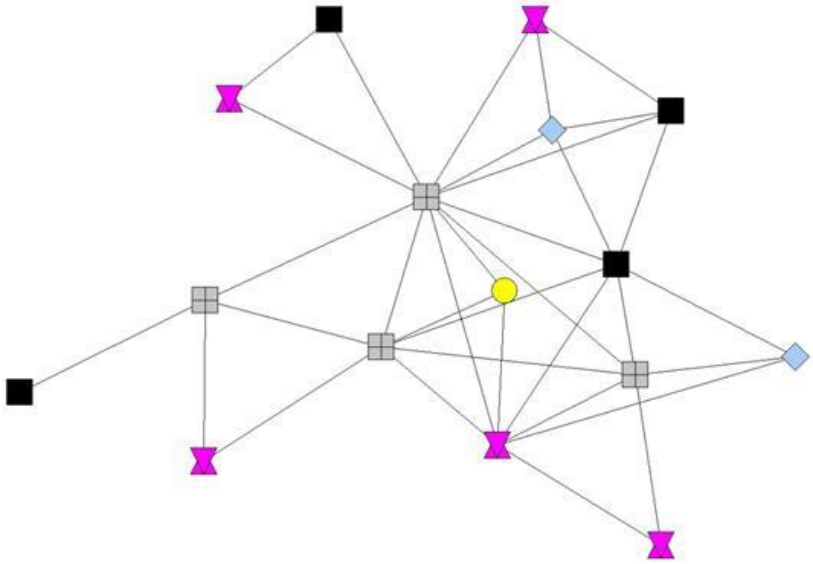


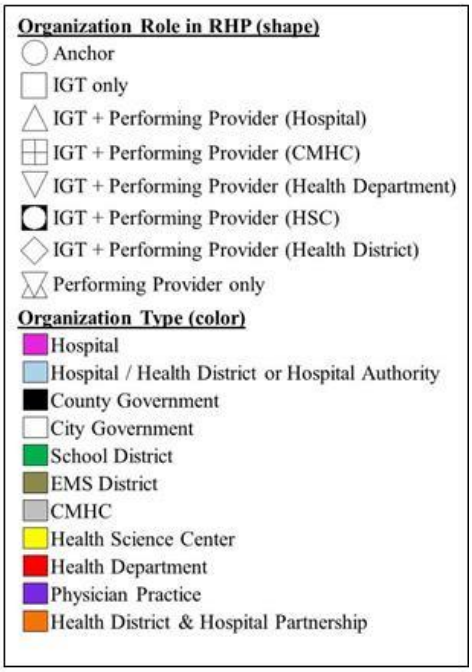
Diagrams are best viewed in color

RHP 8: Network Diagram T_0, Collaboration to Deliver Programs and Services



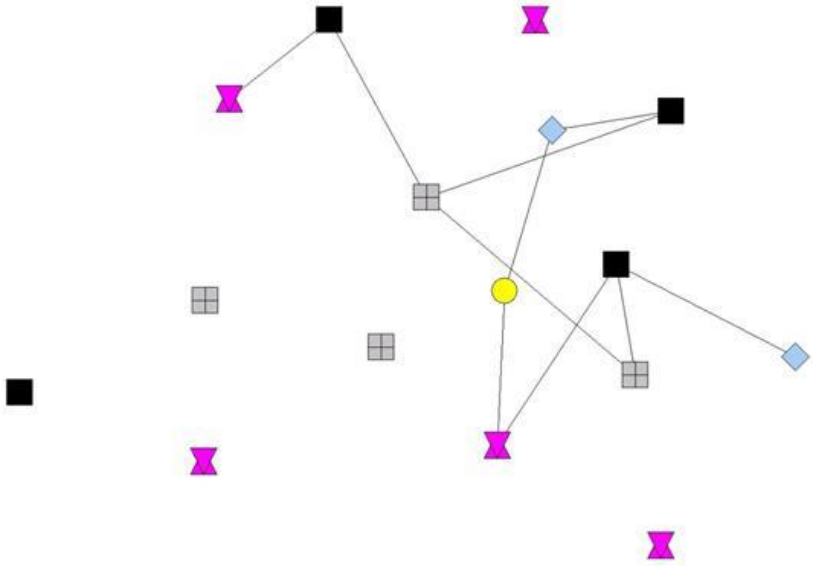
RHP 8: Network Diagram T_1, Collaboration to Deliver Programs and Services



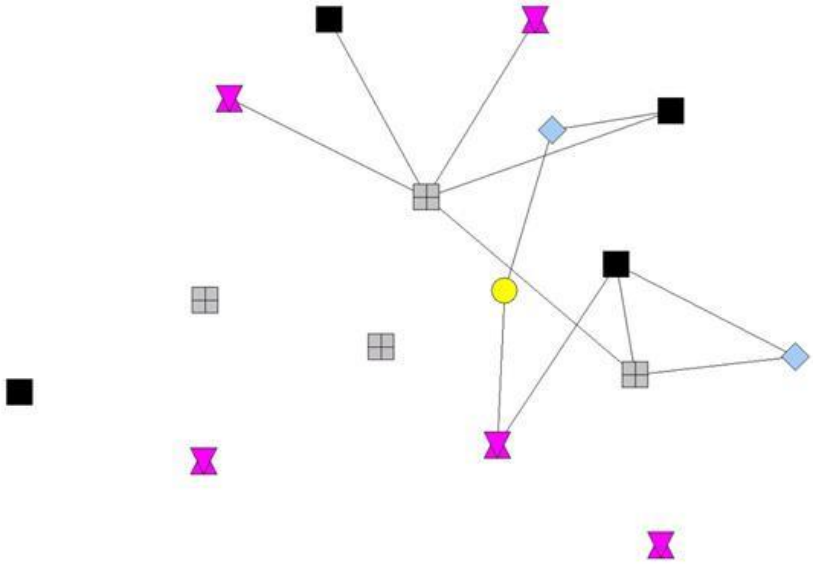


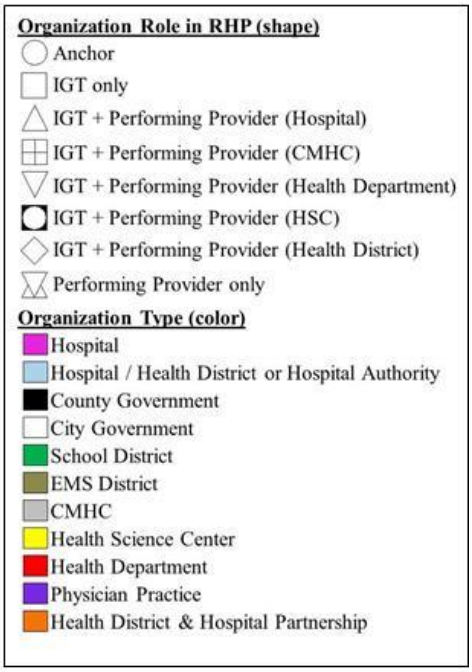
Diagrams are best viewed in color

RHP 8: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 8: Network Diagram T_1, Collaboration to Share Tangible Resources





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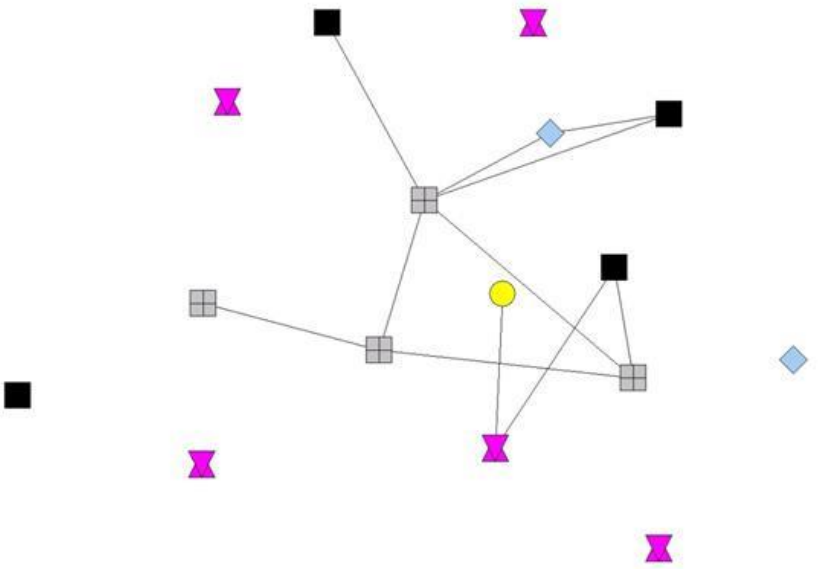
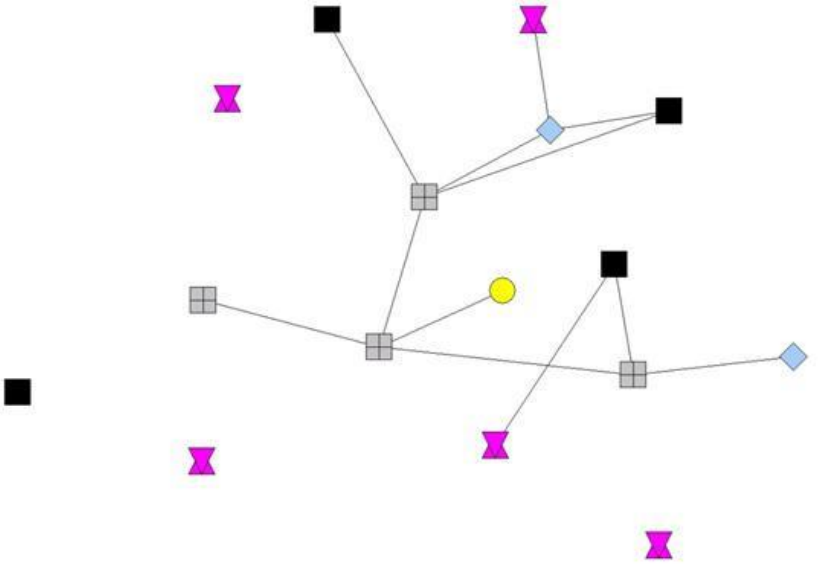
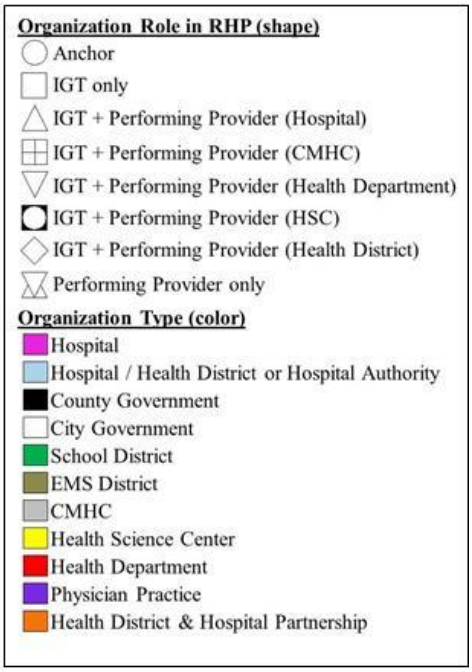
RHP 8: Network Diagram T_0, Formal Data Sharing Agreements



RHP 8: Network Diagram T_1, Formal Data Sharing Agreements





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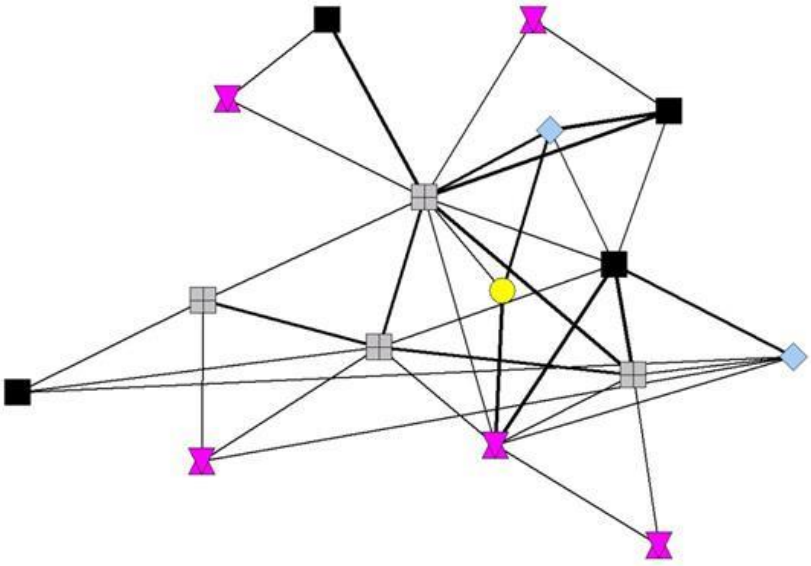
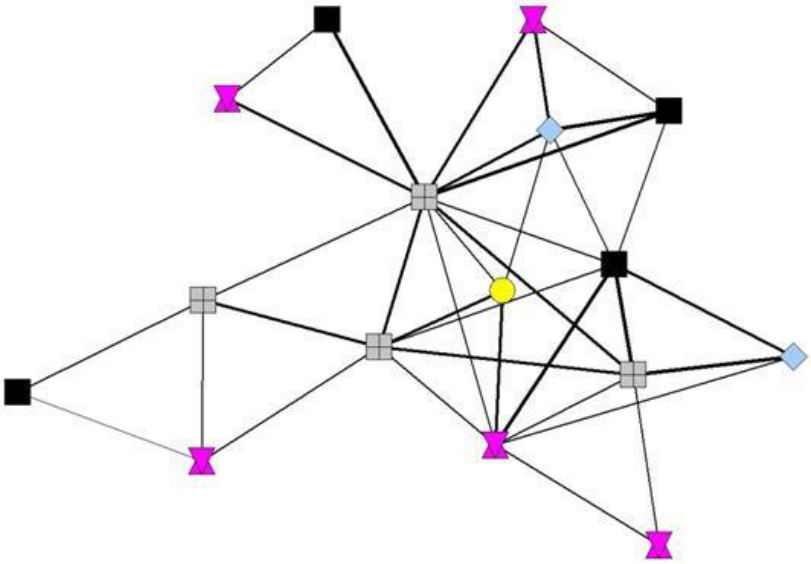
RHP 8: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 8: Network Diagram T_1, Mean Strengths of Ties Between Organizations



Organization Role in RHP (shape)
- Anchor
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Organization Type (color)
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- Hospital / Health District or Hospital Authority
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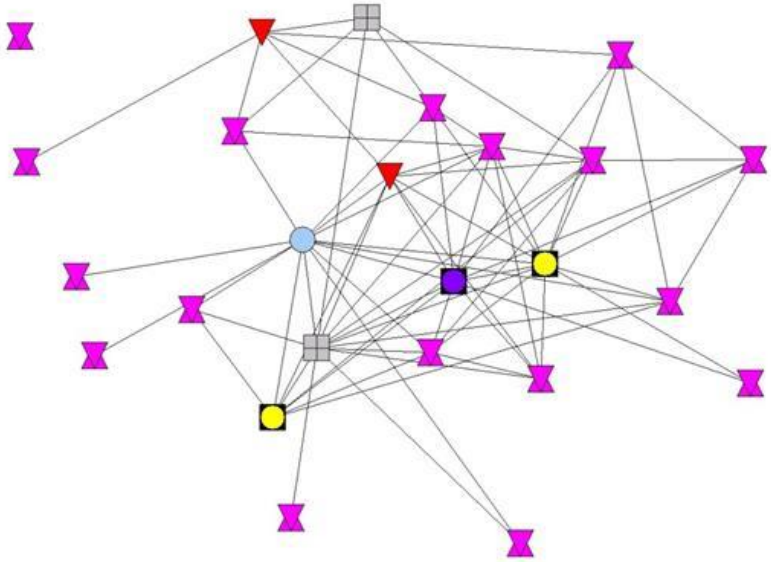
RHP 9: Network Diagram T_0, All Collaboration



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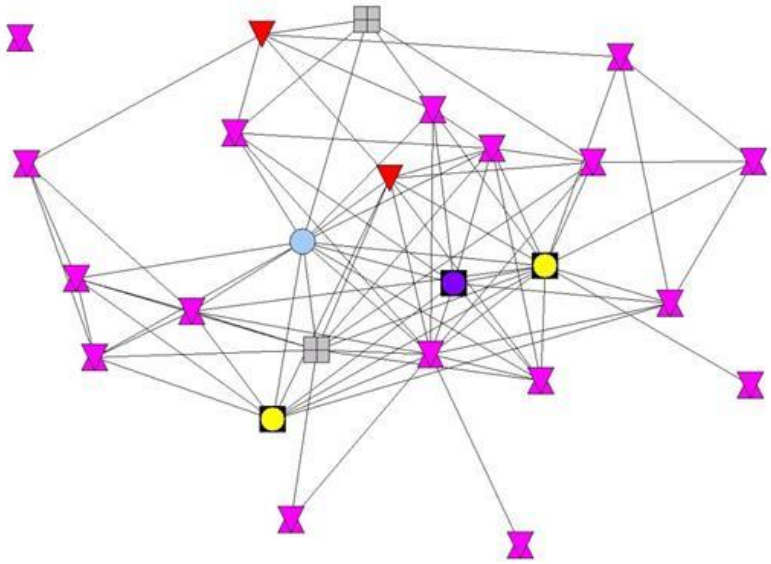
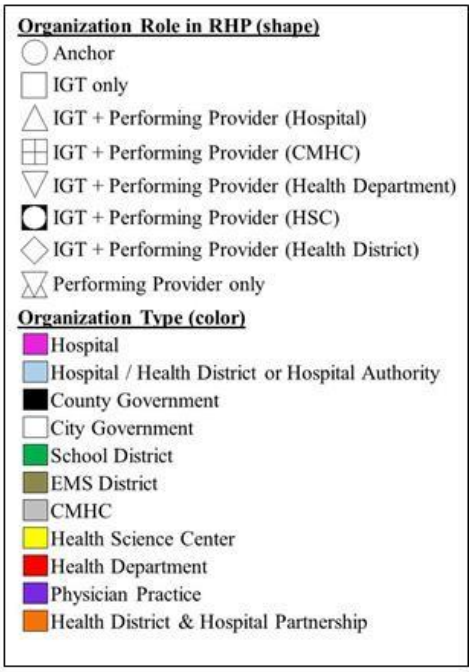
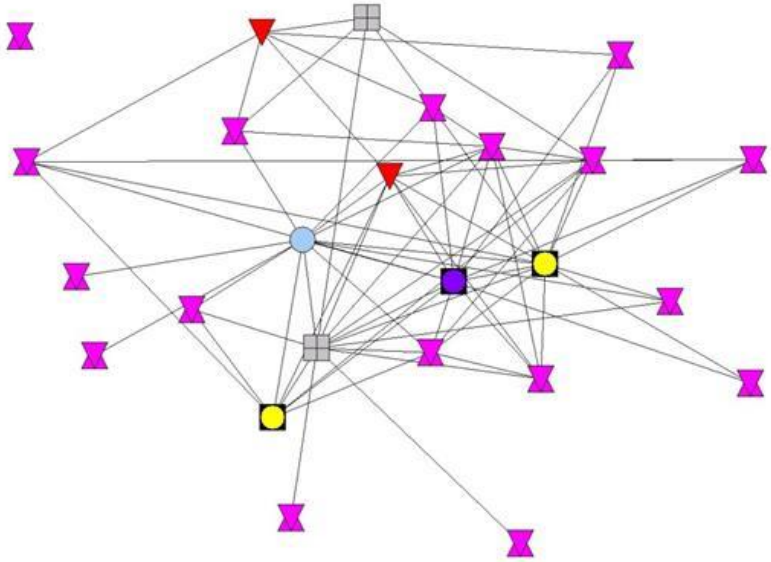




Diagrams are best viewed in color

RHP 9: Network Diagram T_0, Collaboration to Deliver Programs and Services



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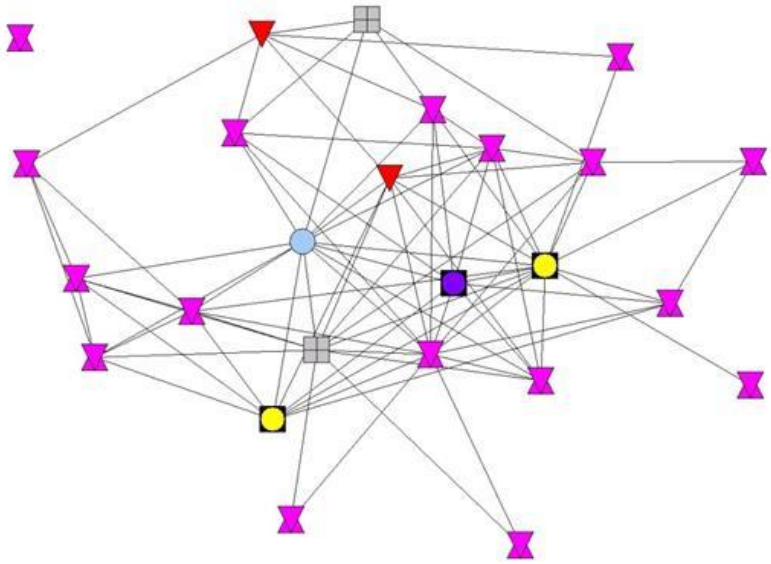

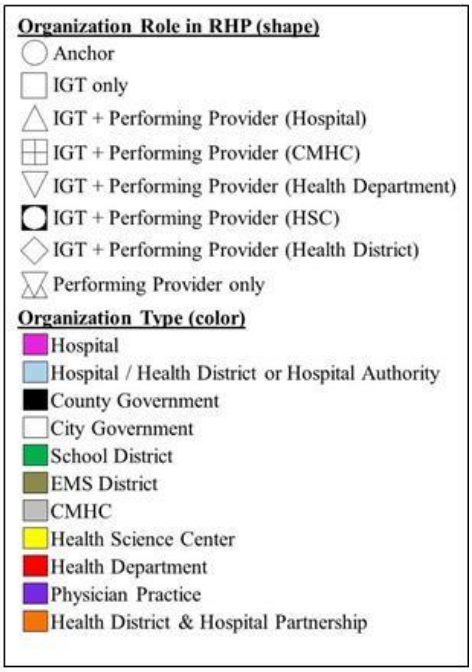

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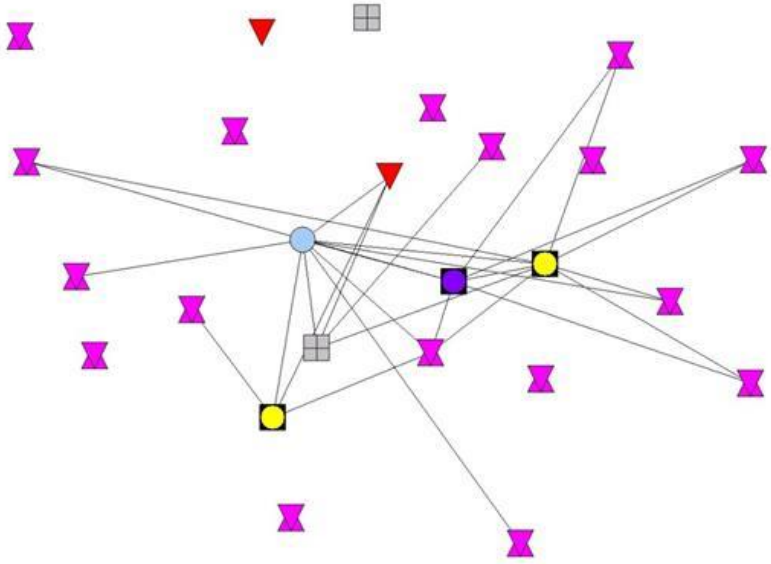
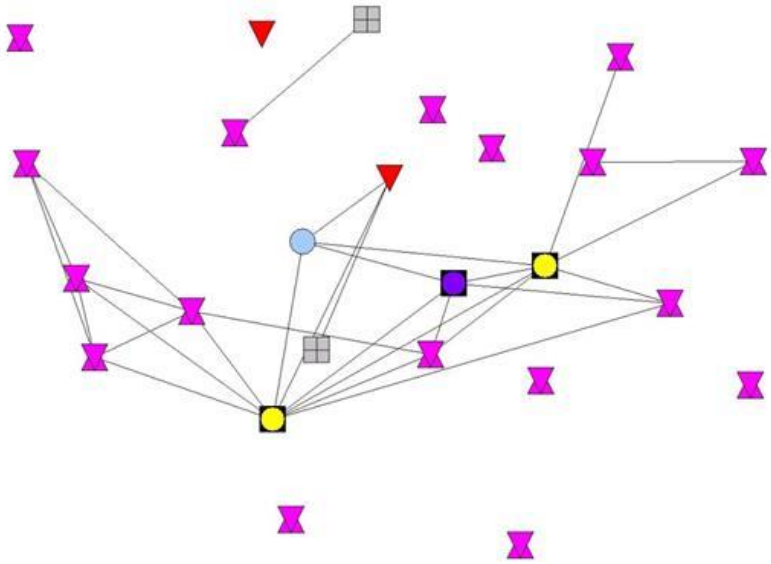
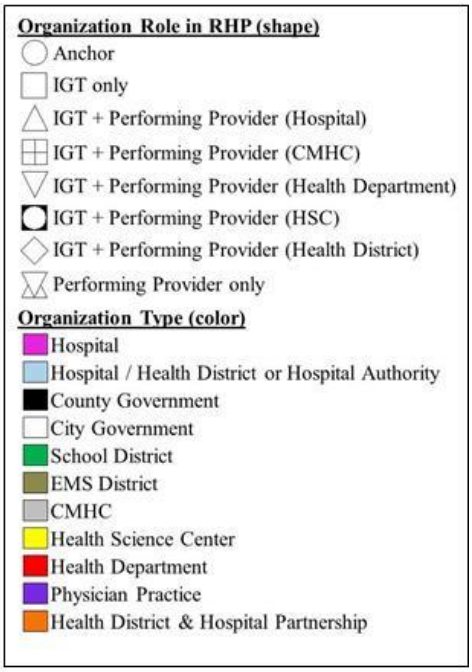
RHP 9: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 9: Network Diagram T_1, Collaboration to Share Tangible Resources





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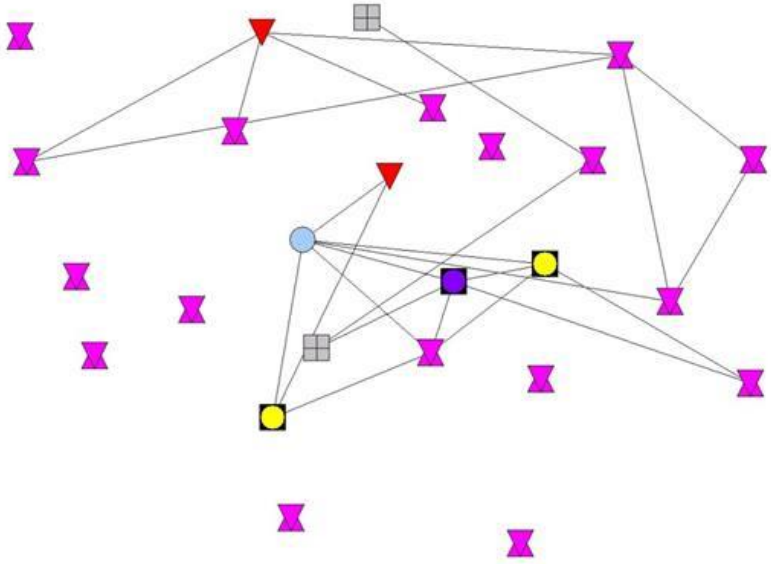
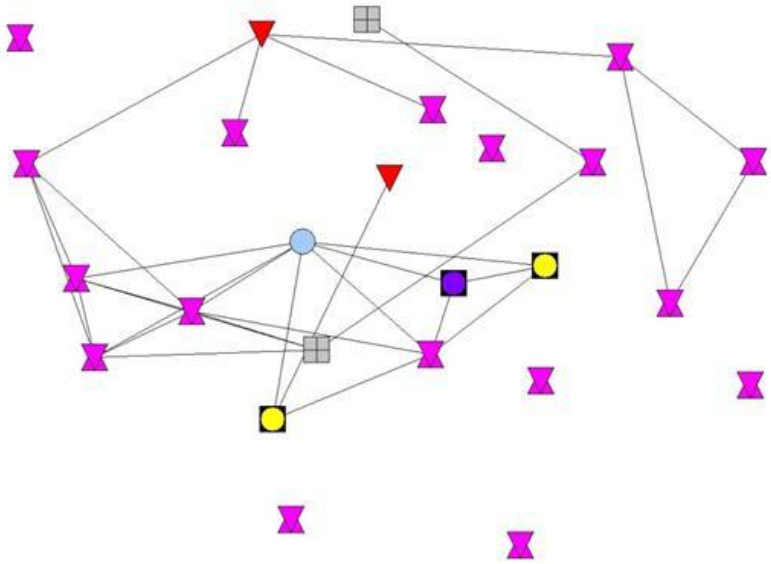
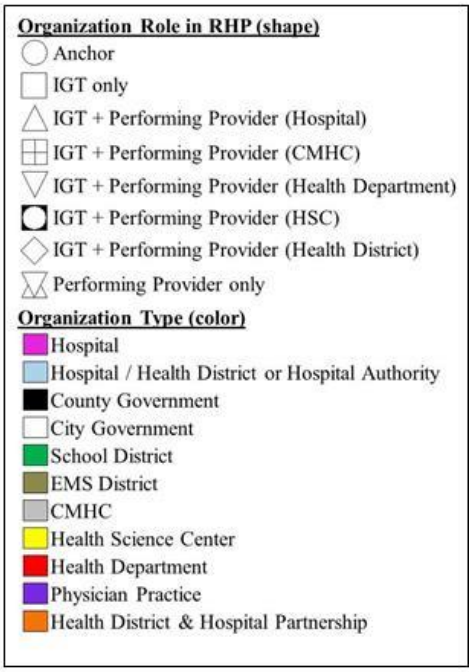
RHP 9: Network Diagram T_0, Formal Data Sharing Agreements



RHP 9: Network Diagram T_1, Formal Data Sharing Agreements





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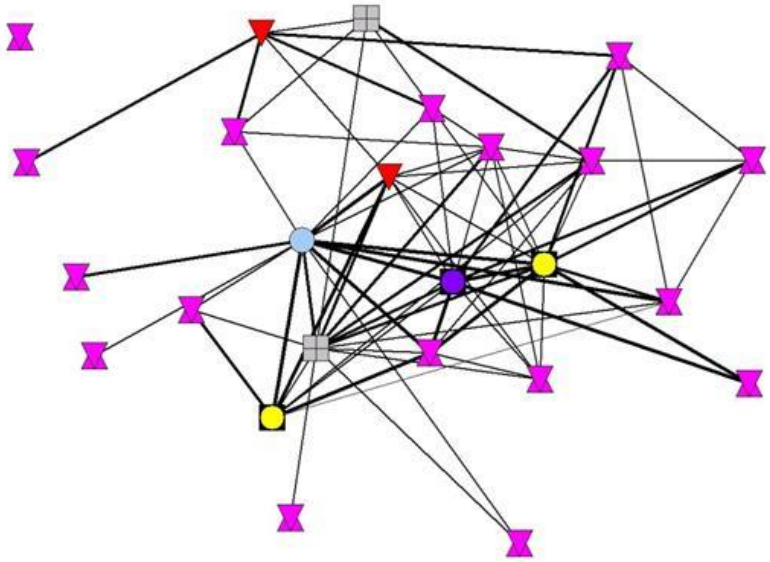
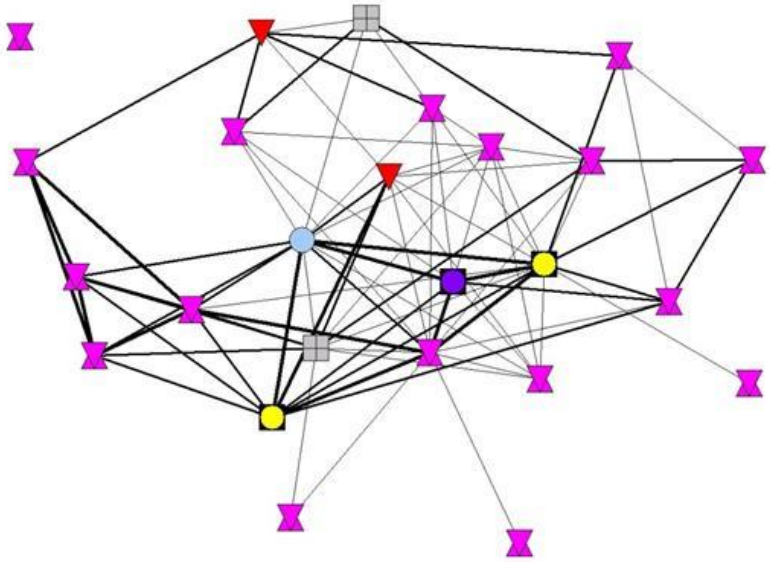
RHP 9: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 9: Network Diagram T_1, Mean Strengths of Ties Between Organizations



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- Performing Provider only

Organization Type (color)
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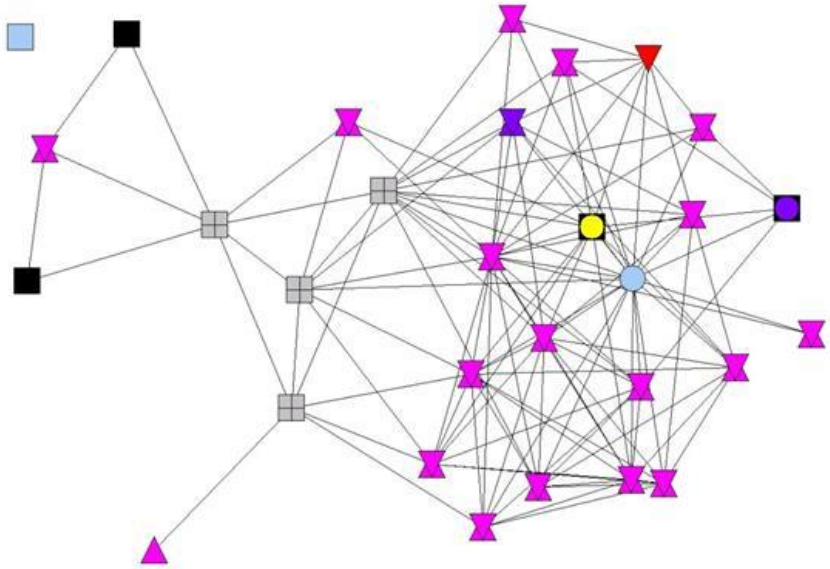
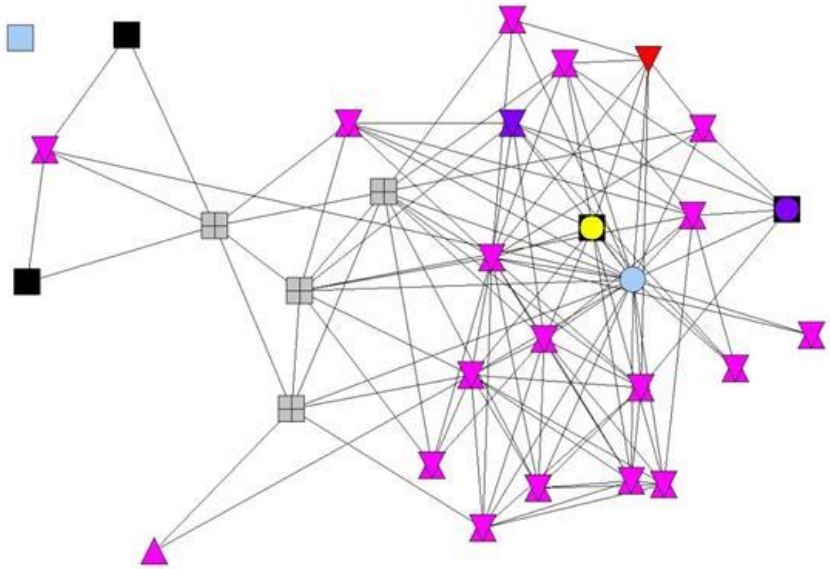
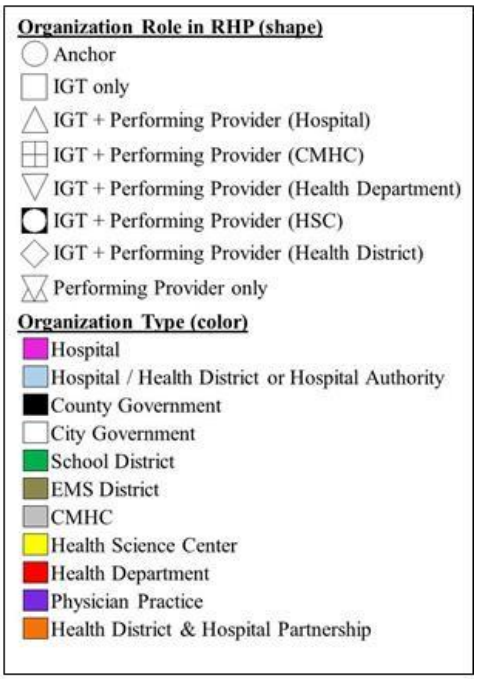
RHP 10: Network Diagram T_0, All Collaboration



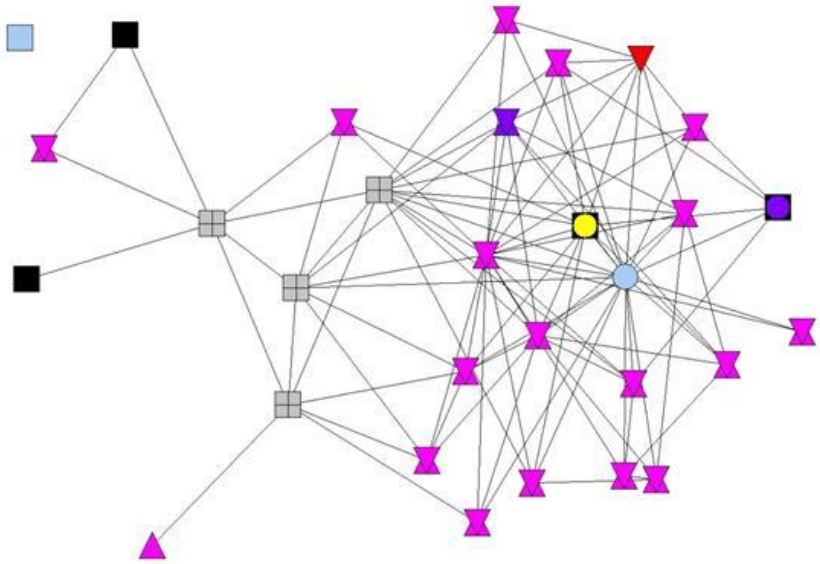
RHP 10: Network Diagram T_1, All Collaboration



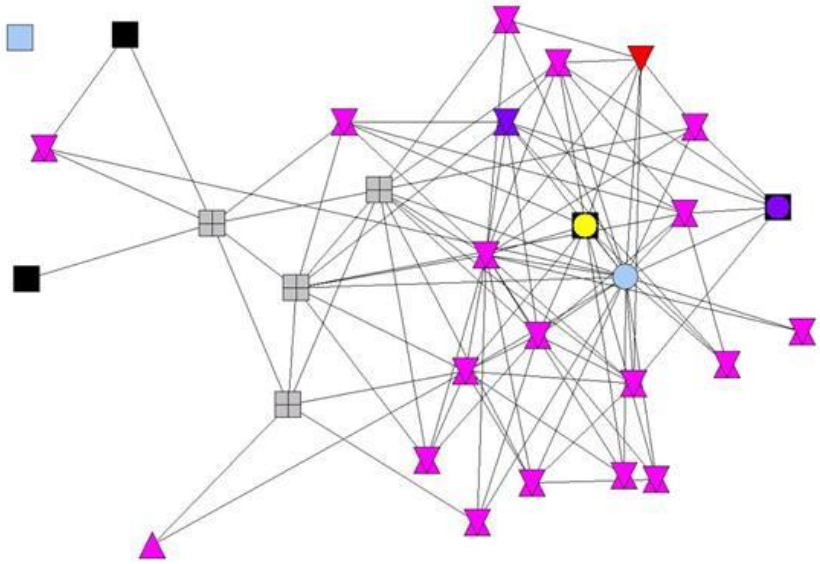


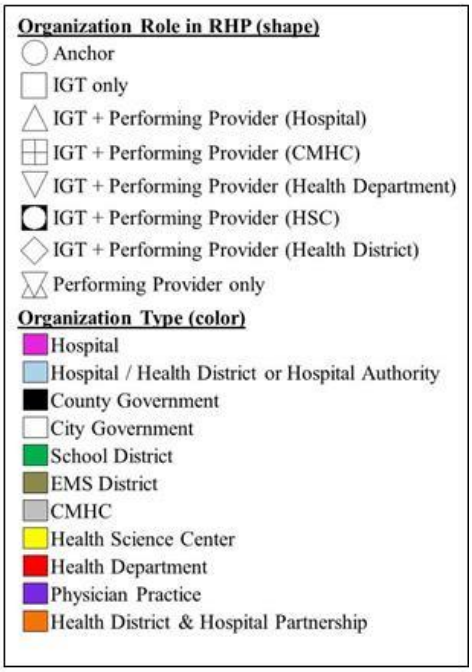
Diagrams are best viewed in color

RHP 10: Network Diagram T_0, Collaboration to Deliver Programs and Services



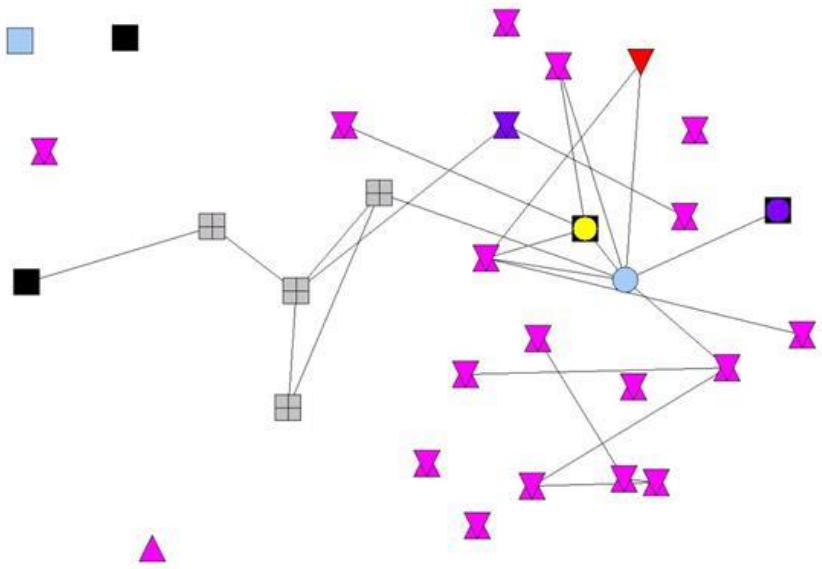
RHP 10: Network Diagram T_1, Collaboration to Deliver Programs and Services



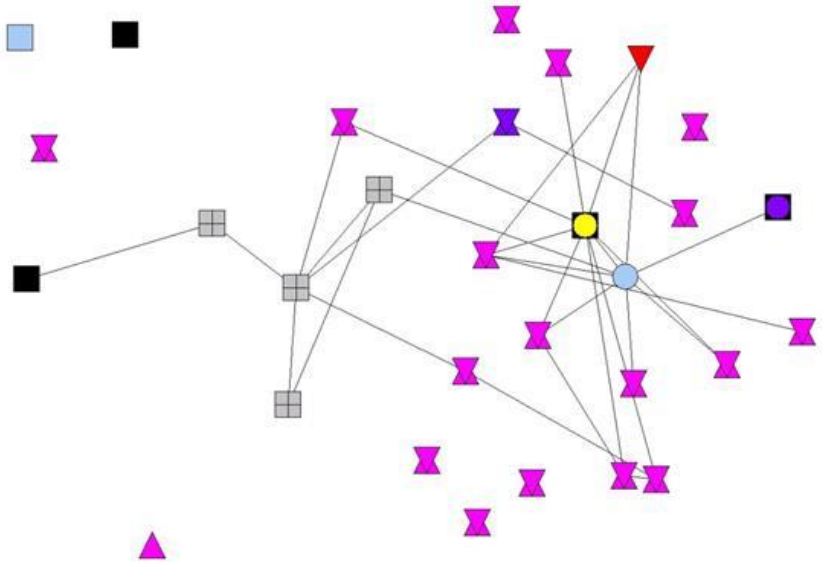


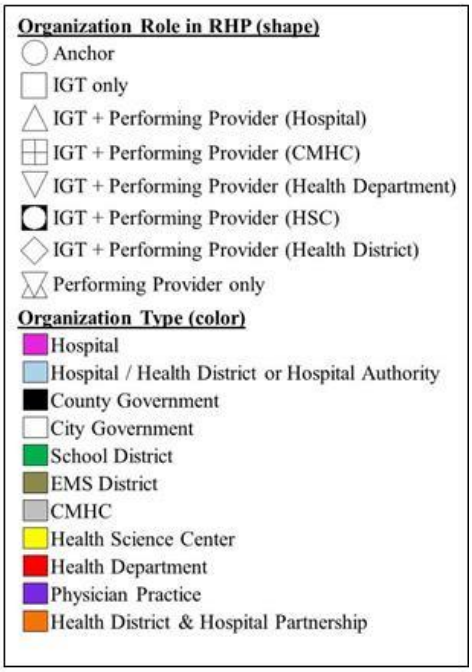
Diagrams are best viewed in color

RHP 10: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 10: Network Diagram T_1, Collaboration to Share Tangible Resources





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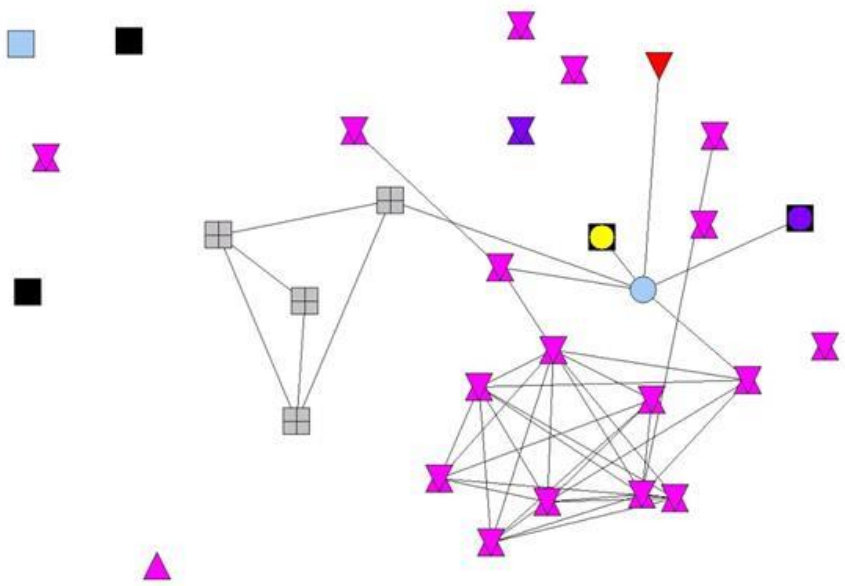
RHP 10: Network Diagram T_0, Formal Data Sharing Agreements



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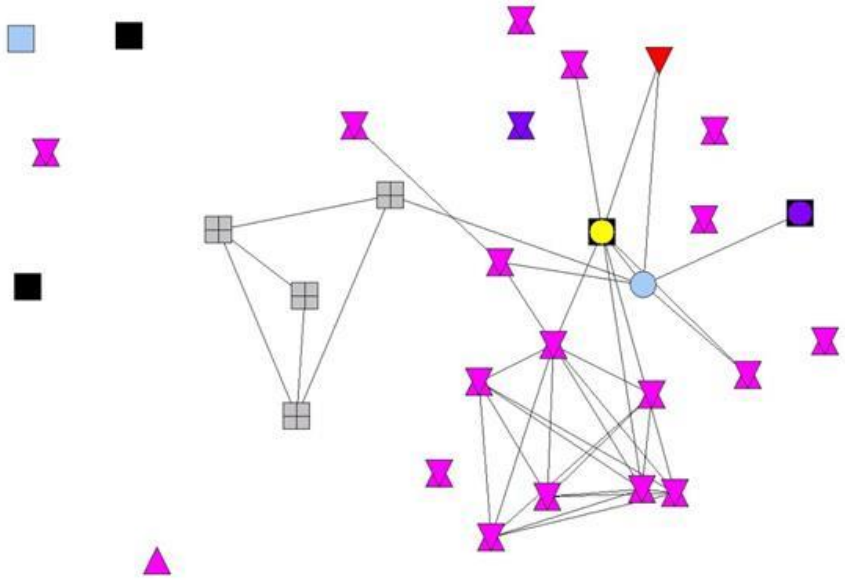

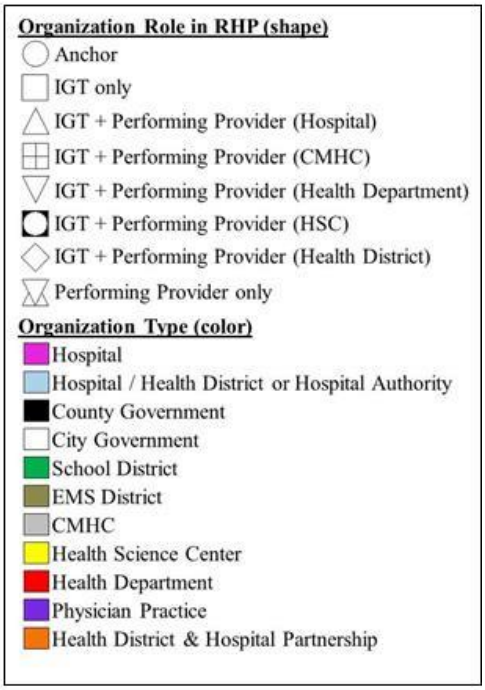

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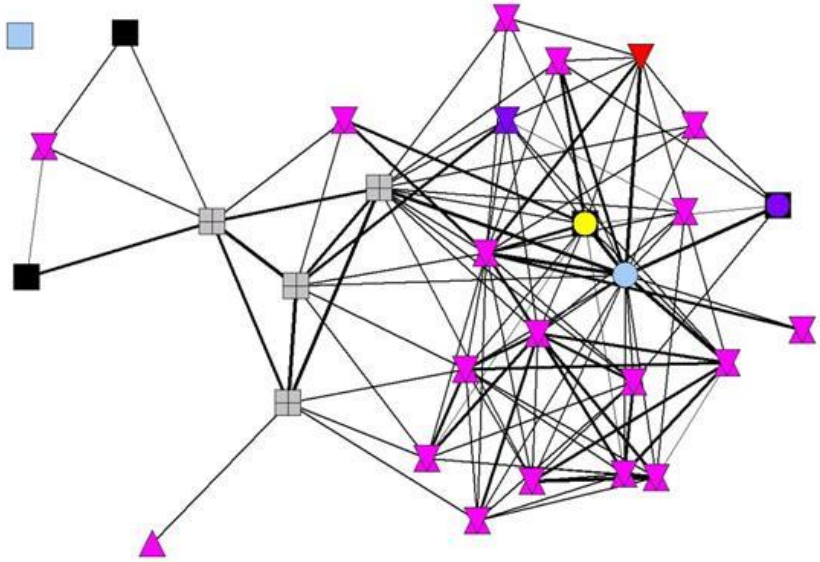
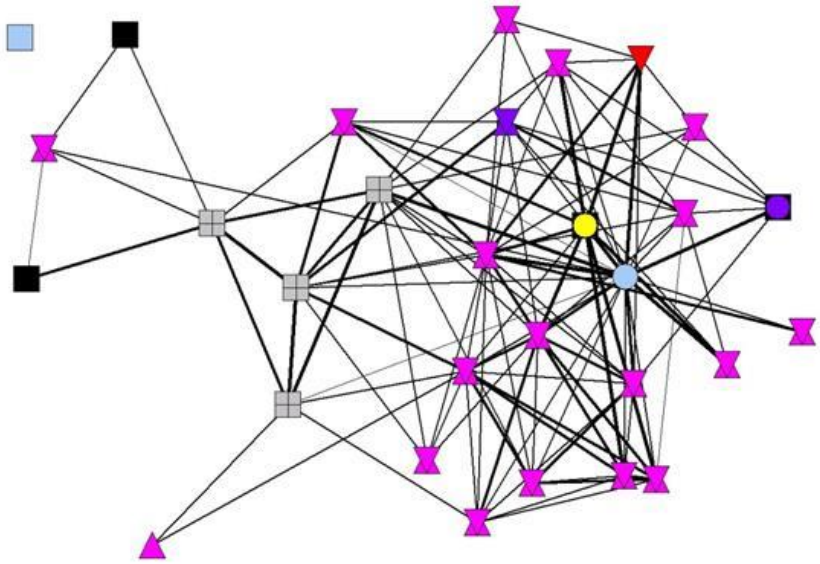
RHP 10: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 10: Network Diagram T_1, Mean Strengths of Ties Between Organizations

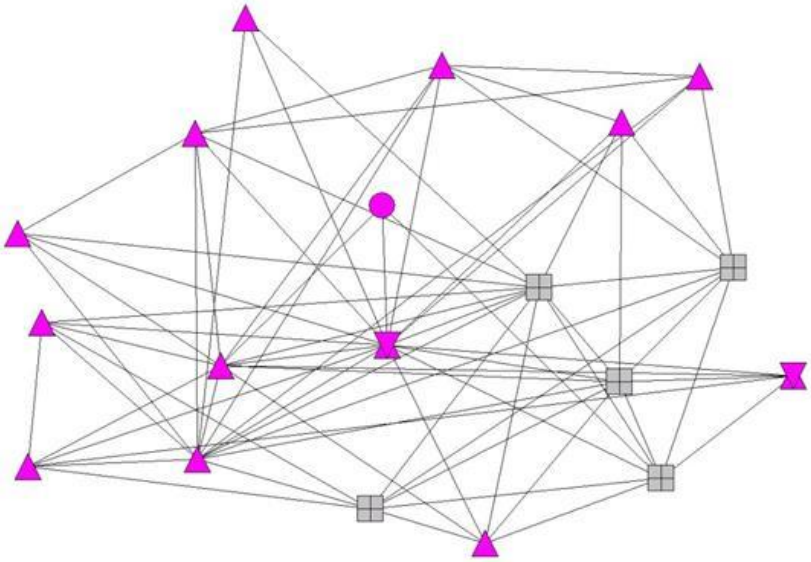


Organization Role in RHP (shape)
- Anchor
- IGT only
- IGT + Performing Provider (Hospital)
- IGT + Performing Provider (CMHC)
- IGT + Performing Provider (Health Department)
- IGT + Performing Provider (HSC)
- IGT + Performing Provider (Health District)
- Performing Provider only

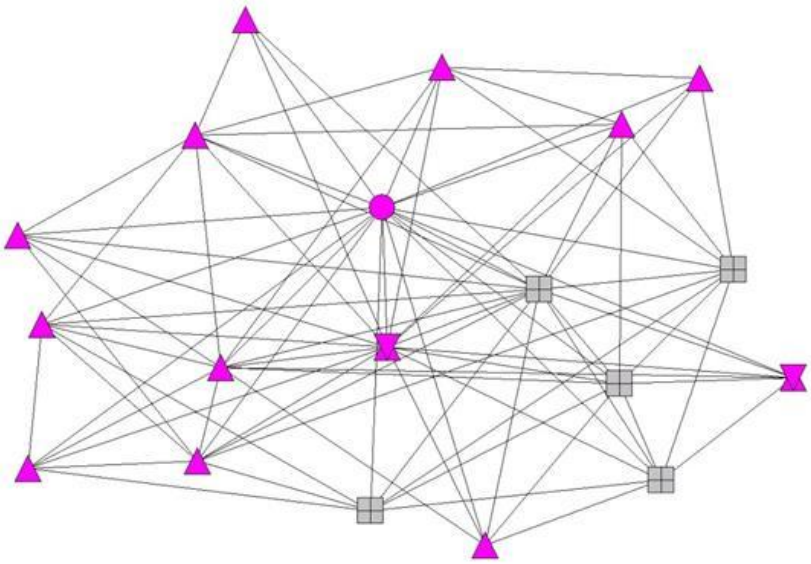
Organization Type (color)
- Hospital
- Hospital / Health District or Hospital Authority
- County Government
- City Government
- School District
- EMS District
- CMHC
- Health Science Center
- Health Department
- Physician Practice
- Health District & Hospital Partnership

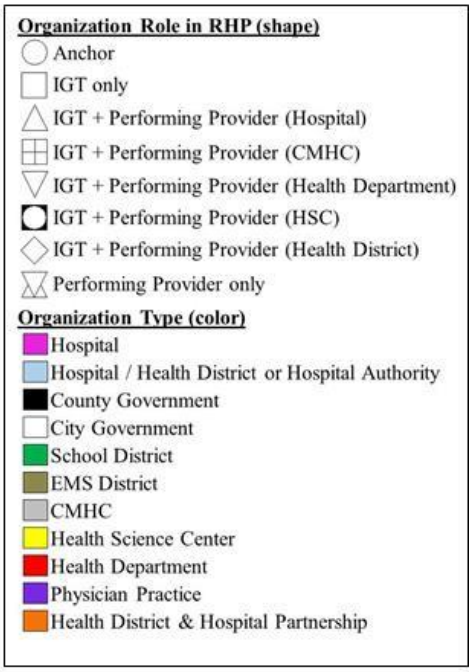
Diagrams are best viewed in color

RHP 11: Network Diagram T_0, All Collaboration



RHP 11: Network Diagram T_1, All Collaboration





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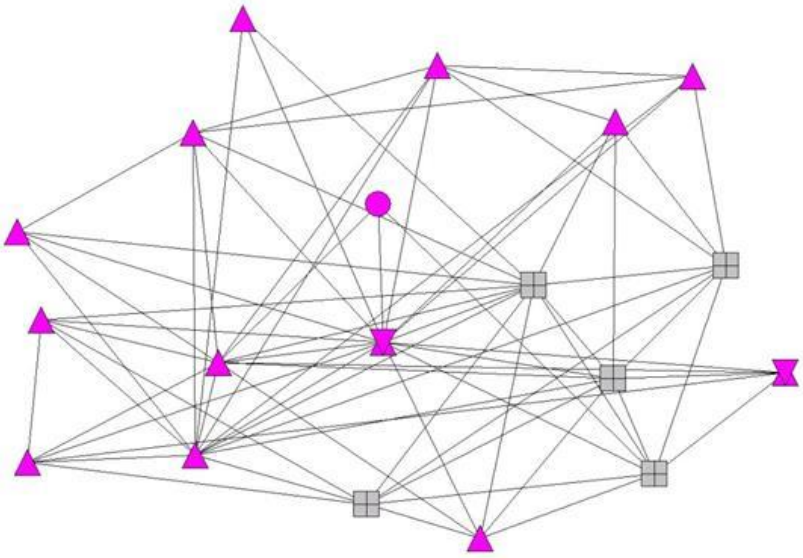
RHP 11: Network Diagram T_0, Collaboration to Deliver Programs and Services



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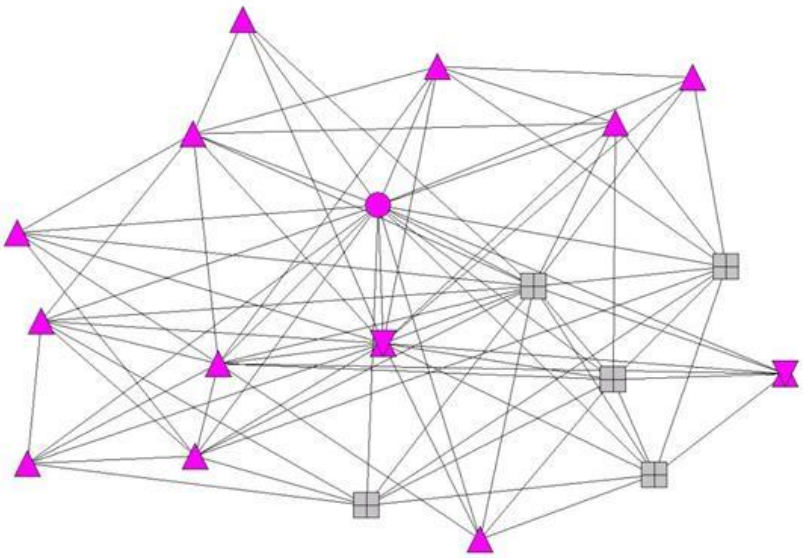
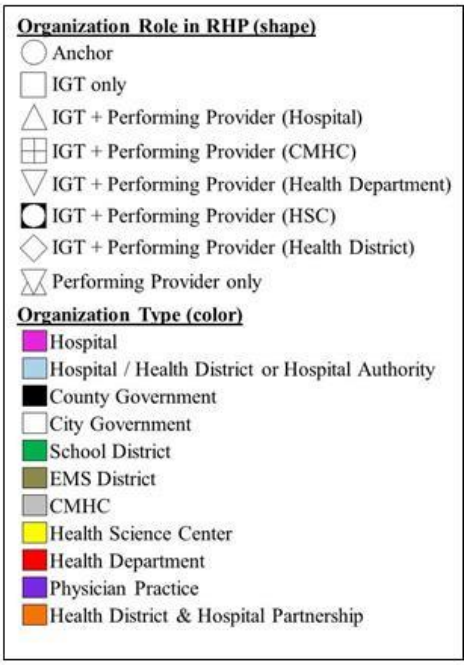
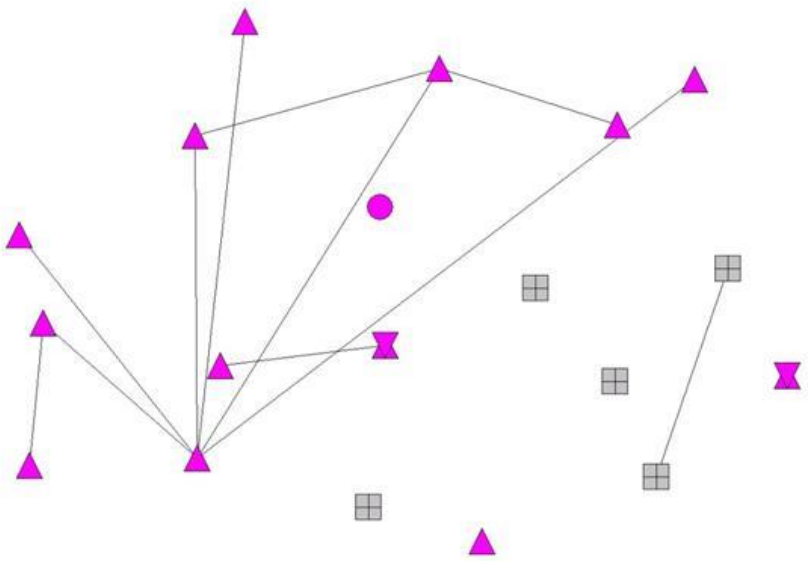


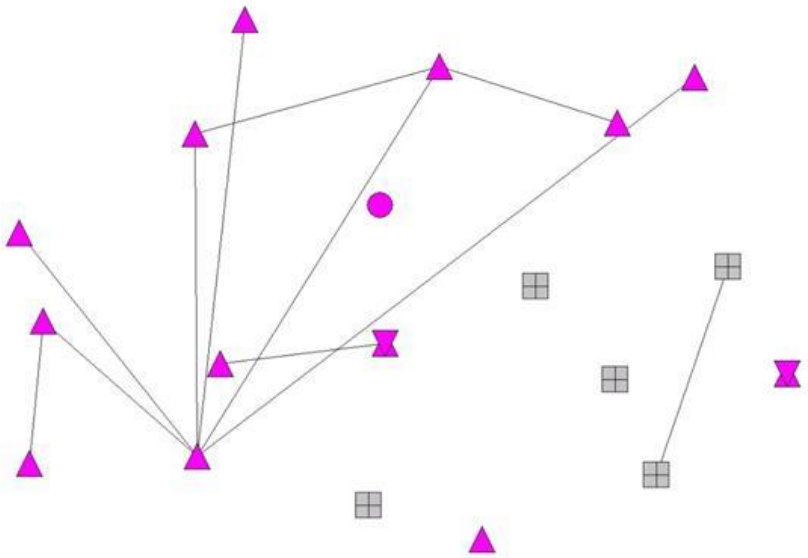


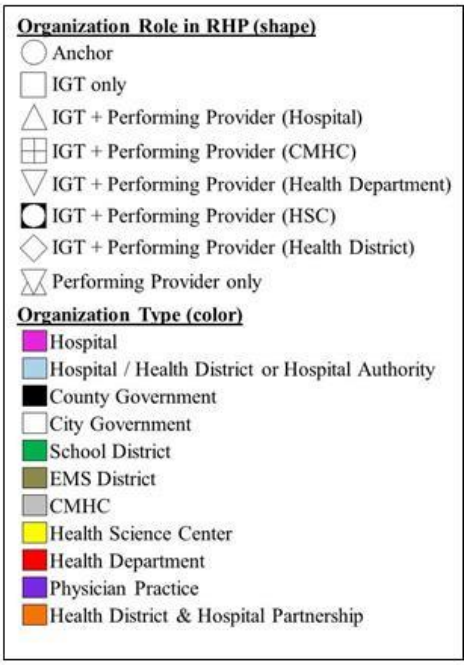
Diagrams are best viewed in color

RHP 11: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 11: Network Diagram T_1, Collaboration to Share Tangible Resources





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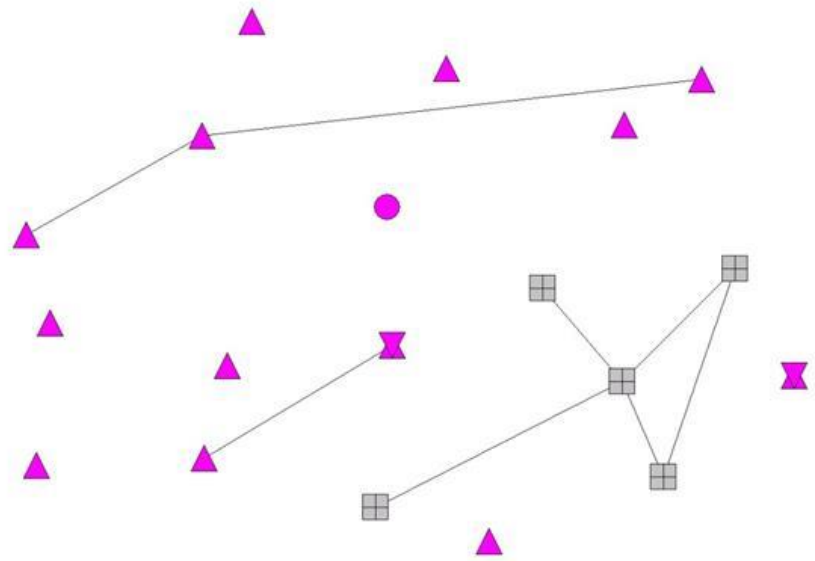
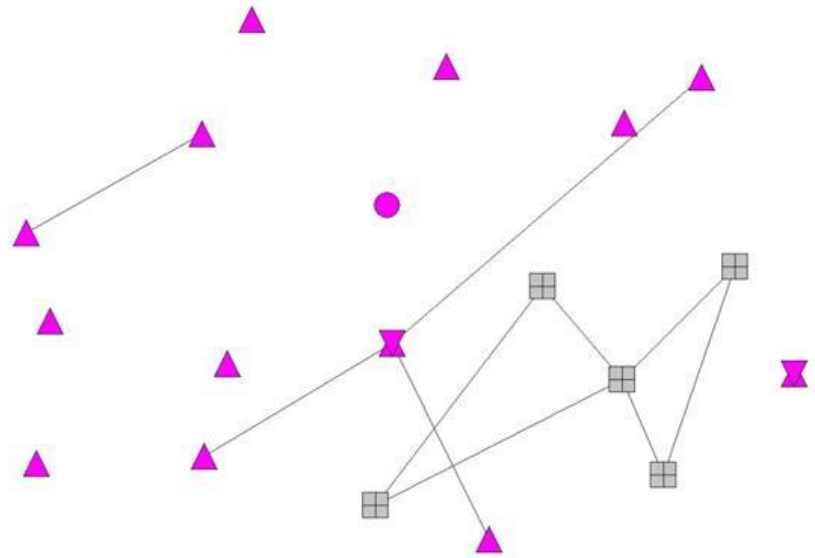
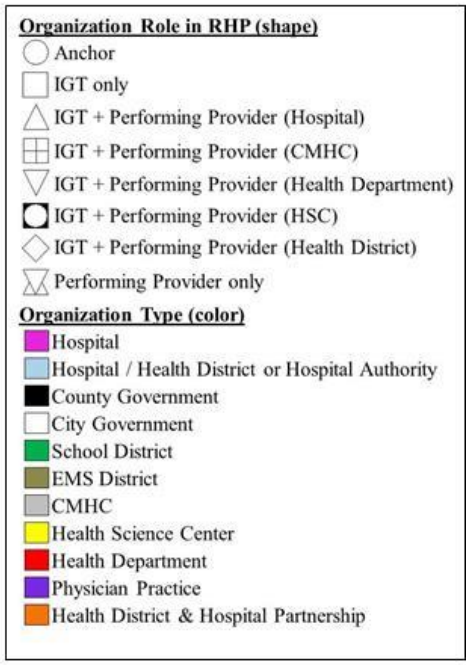
RHP 11: Network Diagram T_0, Formal Data Sharing Agreements



RHP 11: Network Diagram T_1, Formal Data Sharing Agreements





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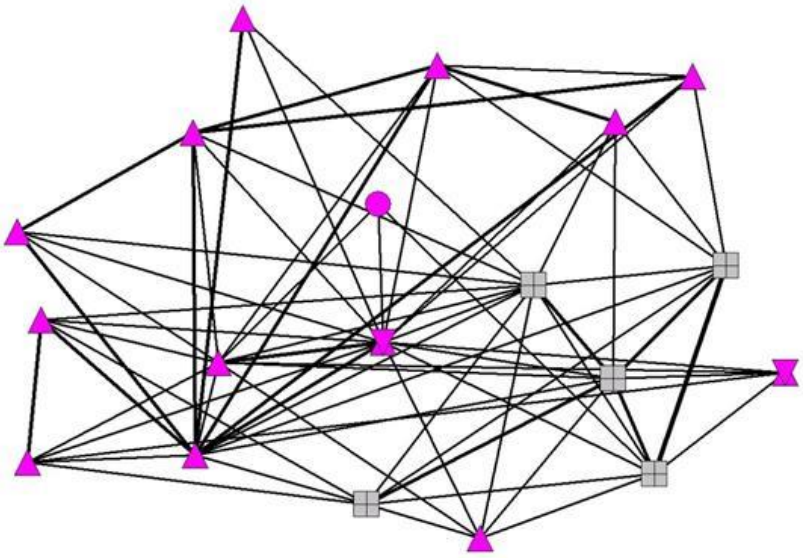
RHP 11: Network Diagram T_0, Mean Strengths of Ties Between Organizations



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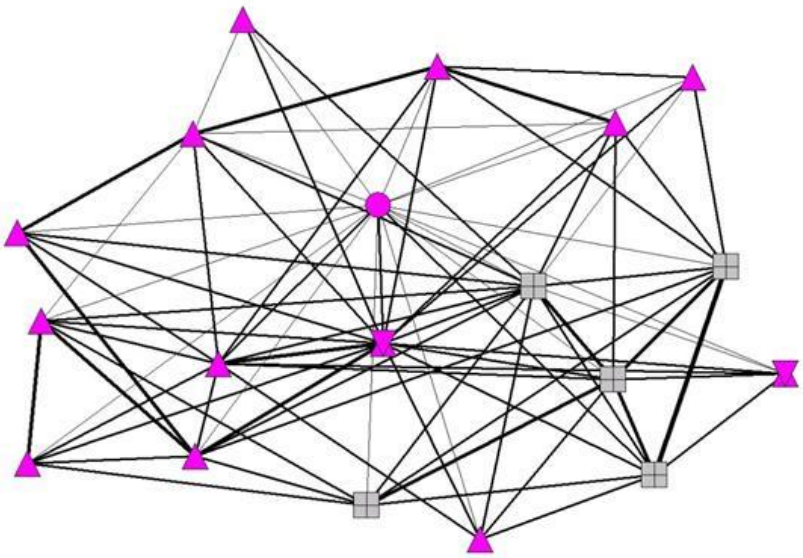

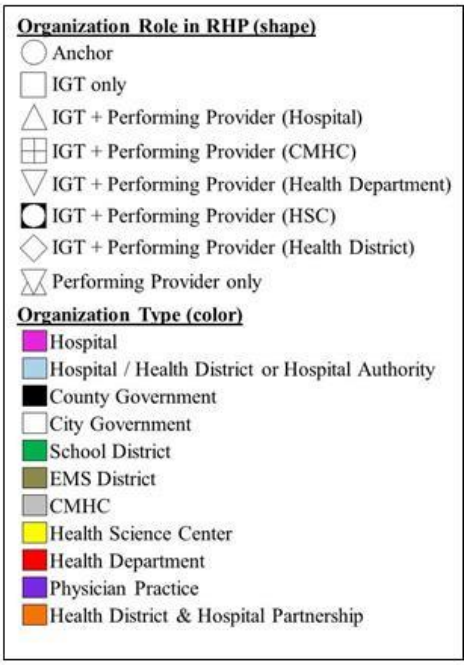

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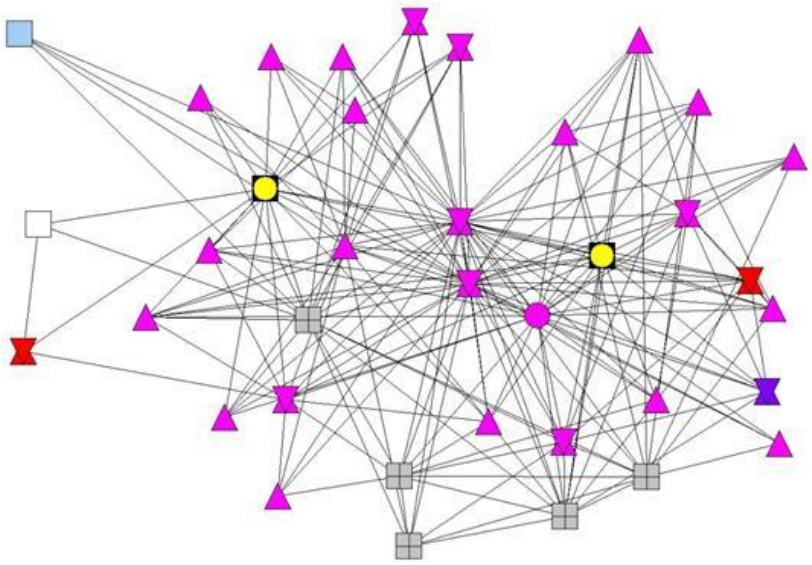
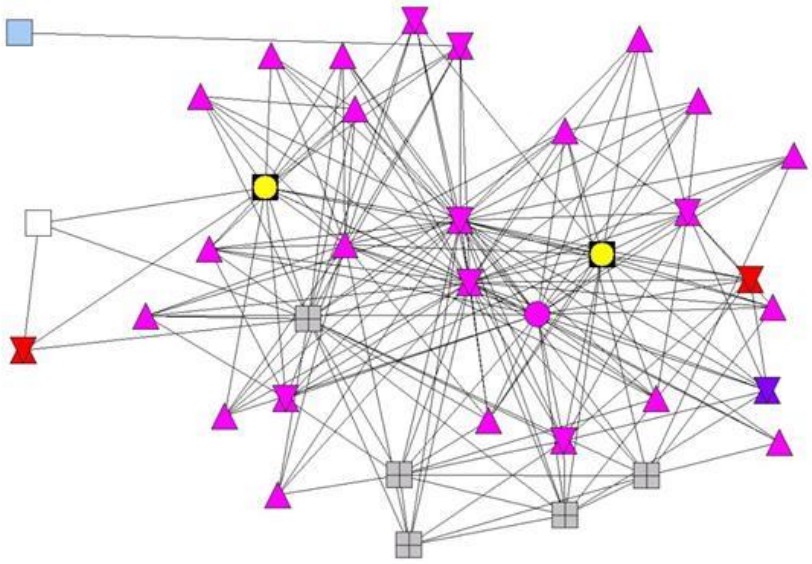
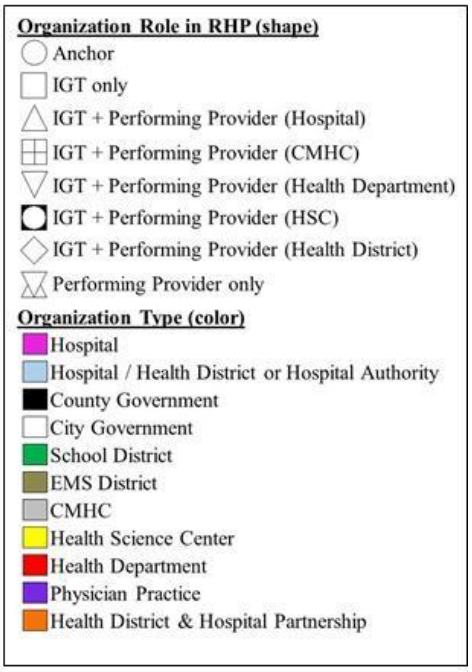
RHP 12: Network Diagram T_0, All Collaboration



RHP 12: Network Diagram T_1, All Collaboration





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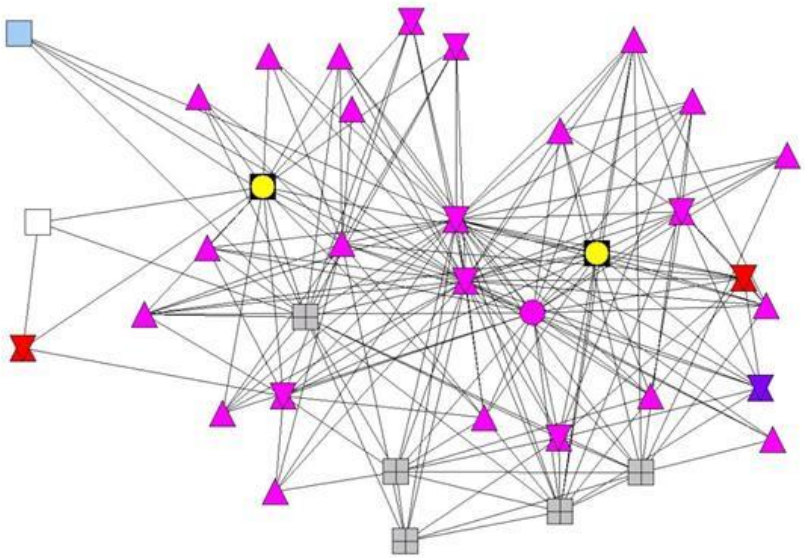
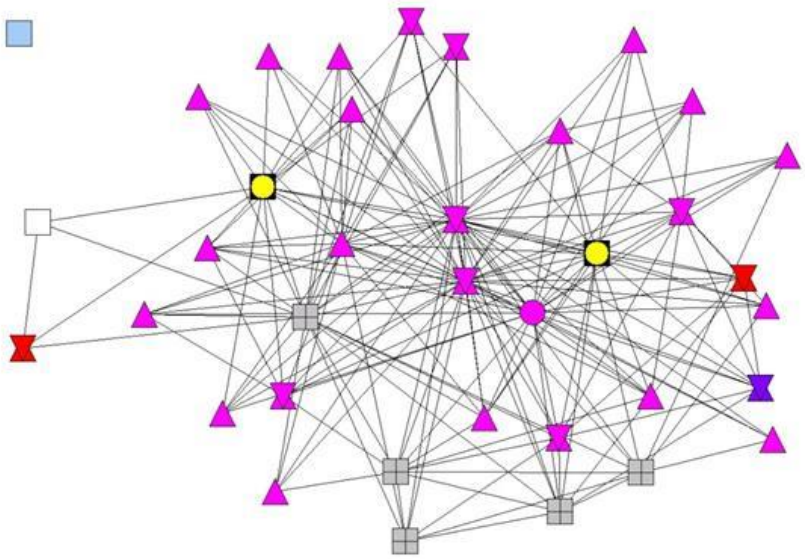
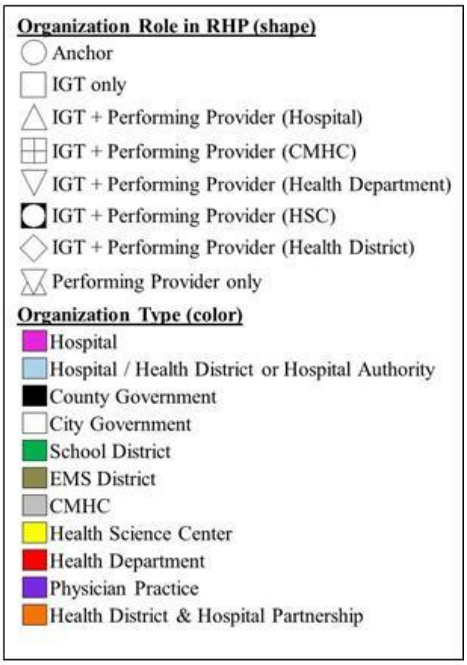
RHP 12: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 12: Network Diagram T_1, Collaboration to Deliver Programs and Services





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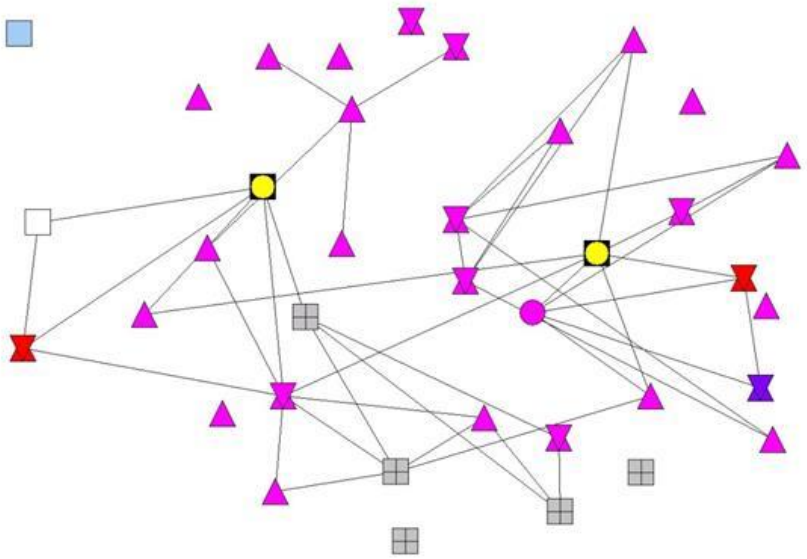
RHP 12: Network Diagram T_0, Collaboration to Share Tangible Resources



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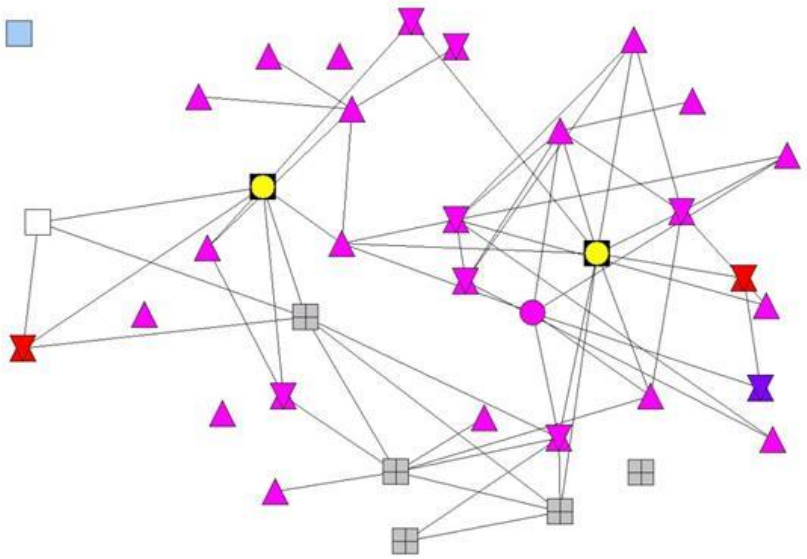

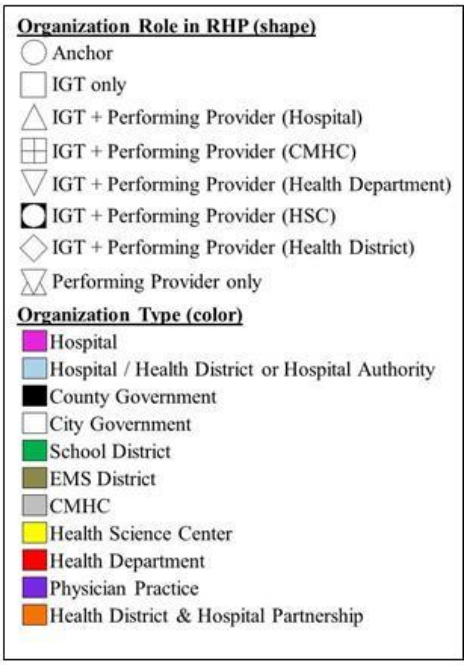

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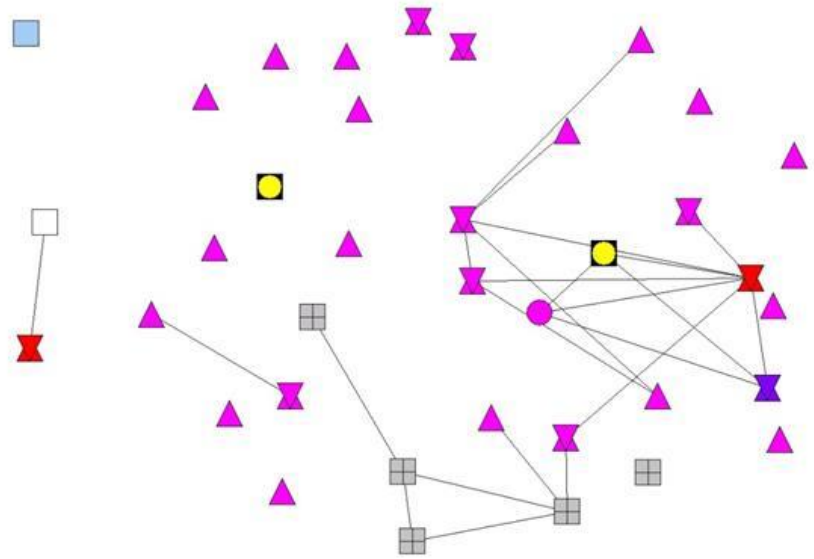
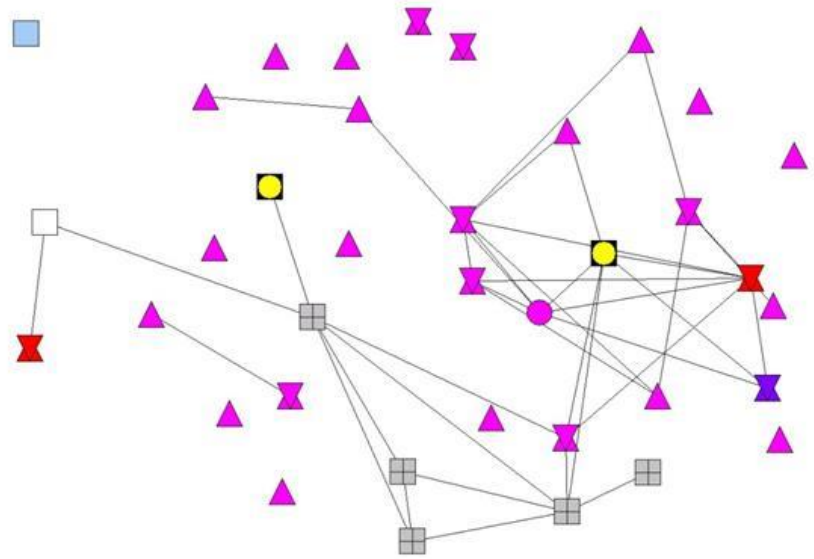
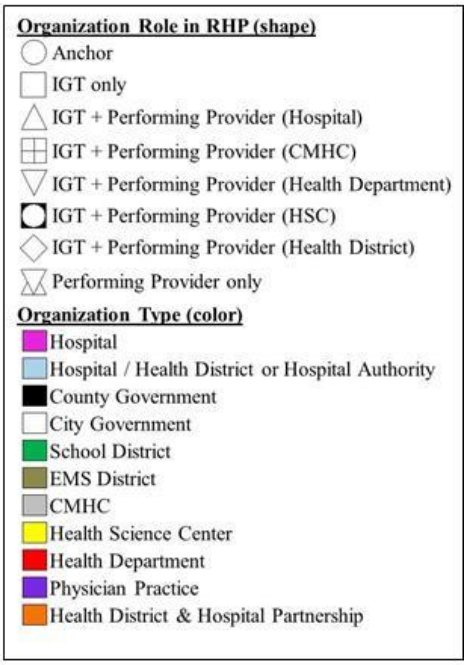
RHP 12: Network Diagram T_0, Formal Data Sharing Agreements



RHP 12: Network Diagram T_1, Formal Data Sharing Agreements





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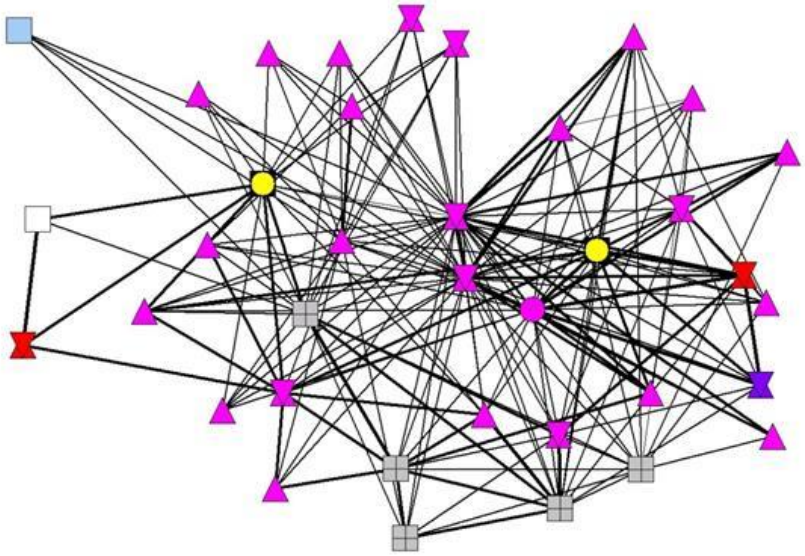
RHP 12: Network Diagram T_0, Mean Strengths of Ties Between Organizations



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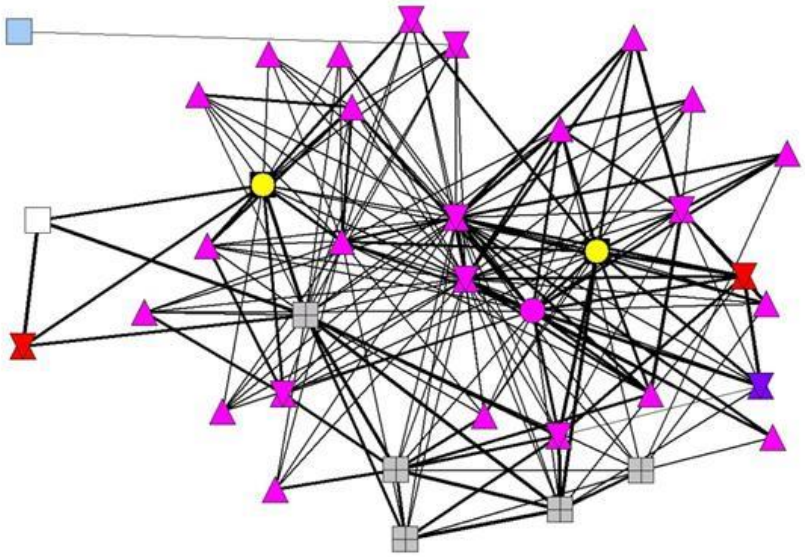

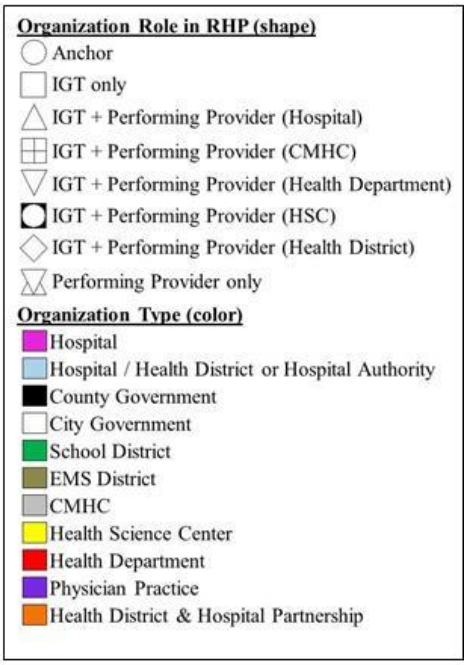

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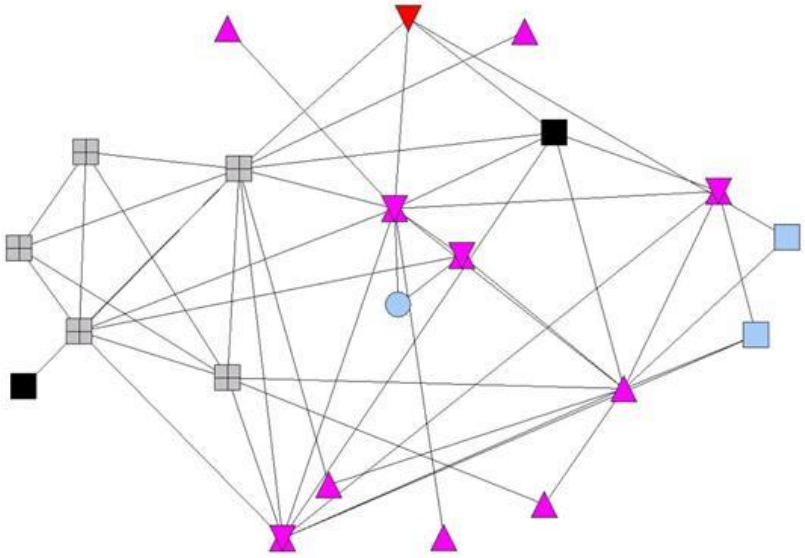
RHP 13: Network Diagram T_0, All Collaboration



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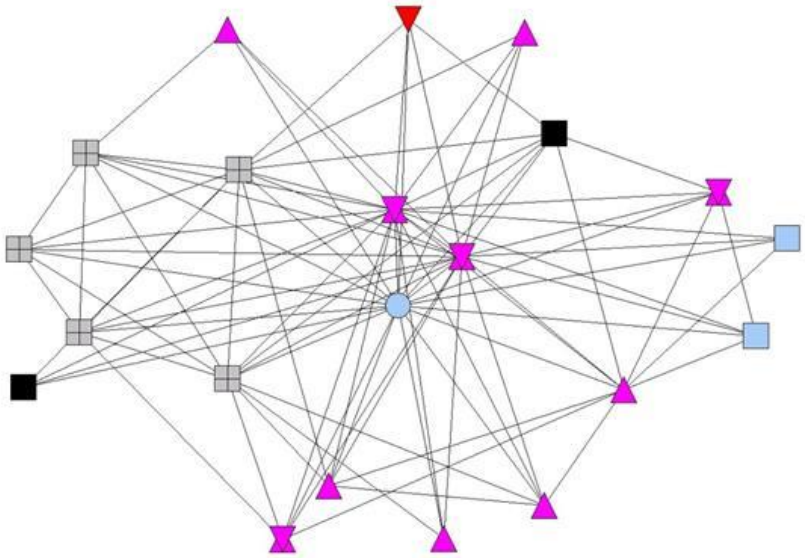

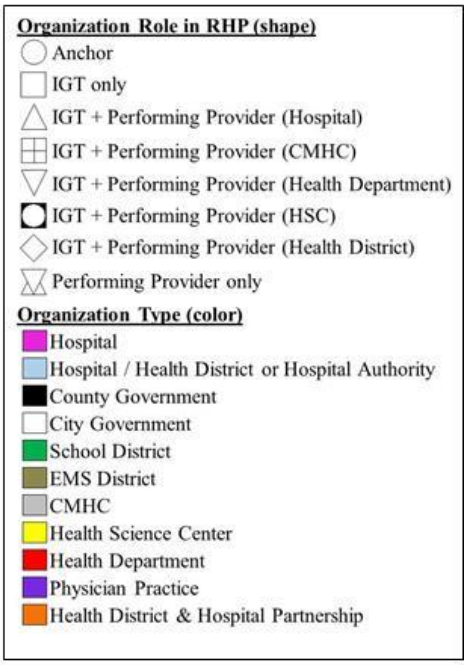

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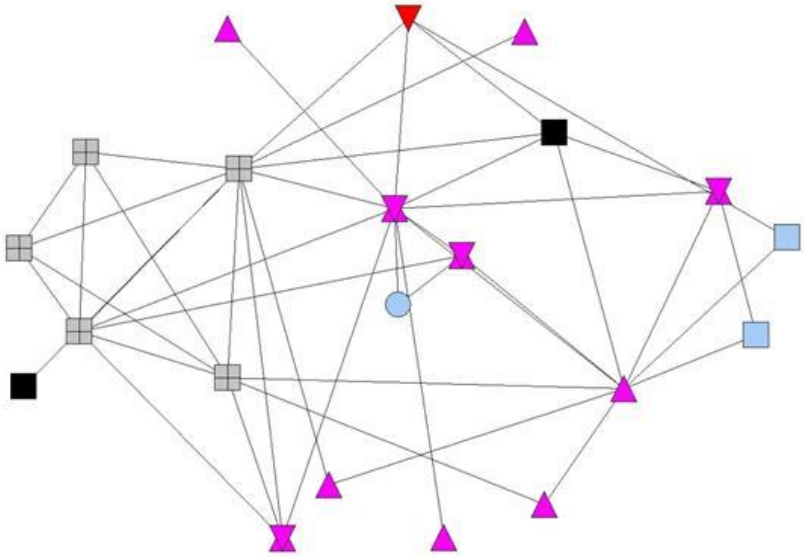
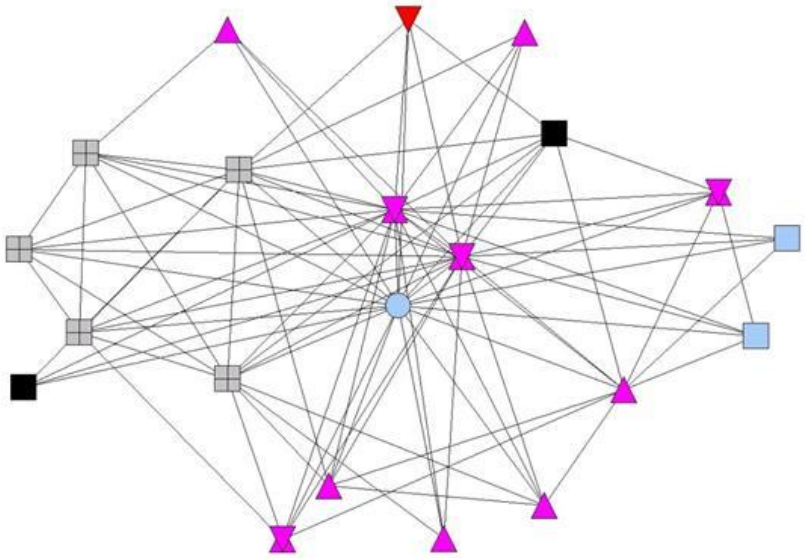
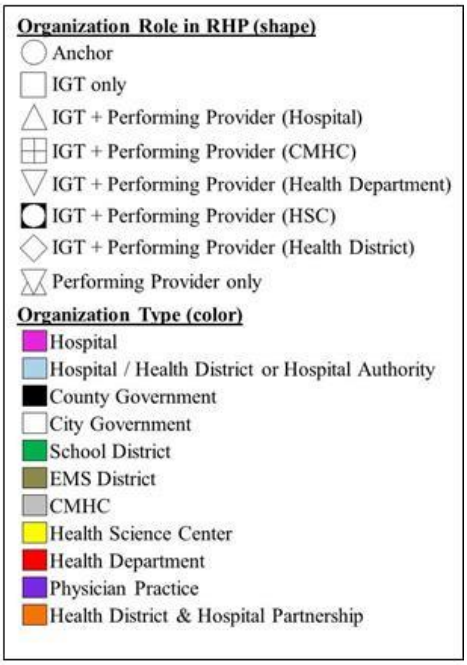
RHP 13: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 13: Network Diagram T_1, Collaboration to Deliver Programs and Services





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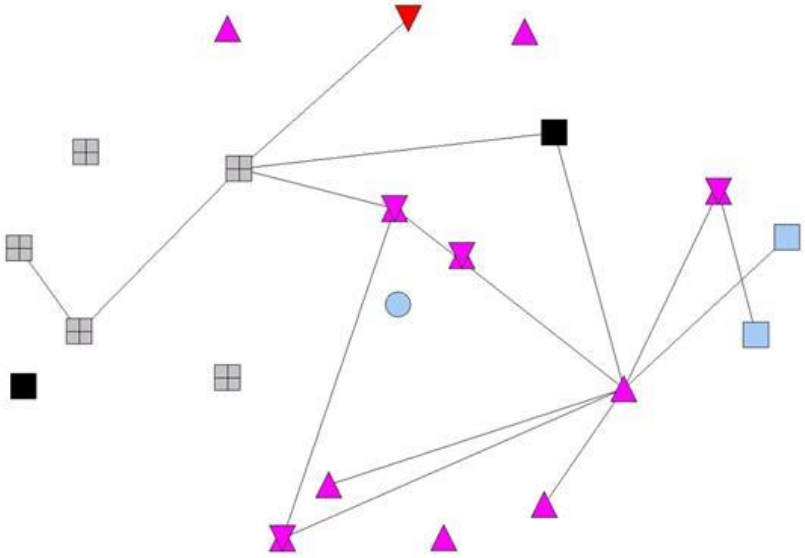
RHP 13: Network Diagram T_0, Collaboration to Share Tangible Resources



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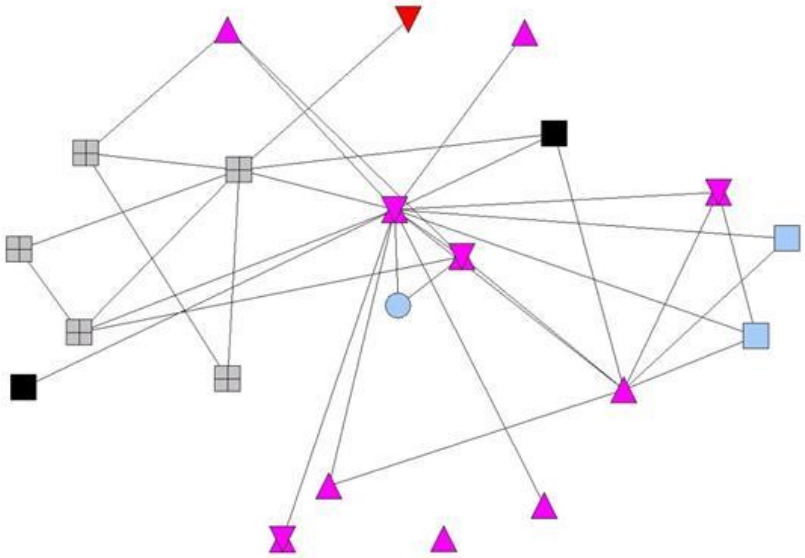

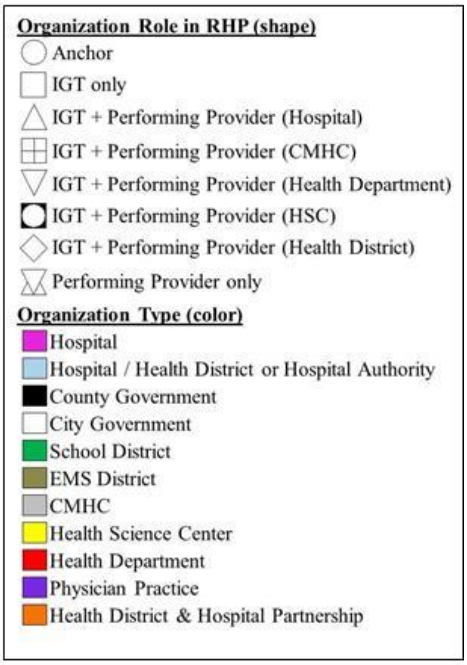

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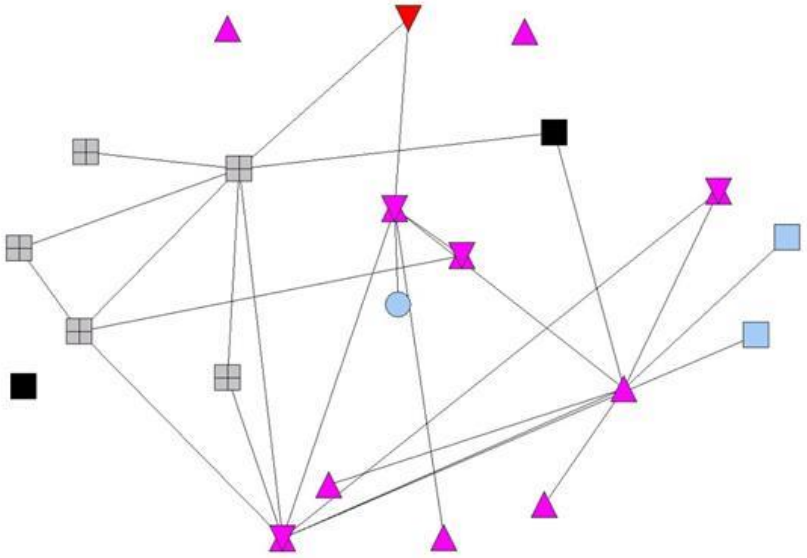
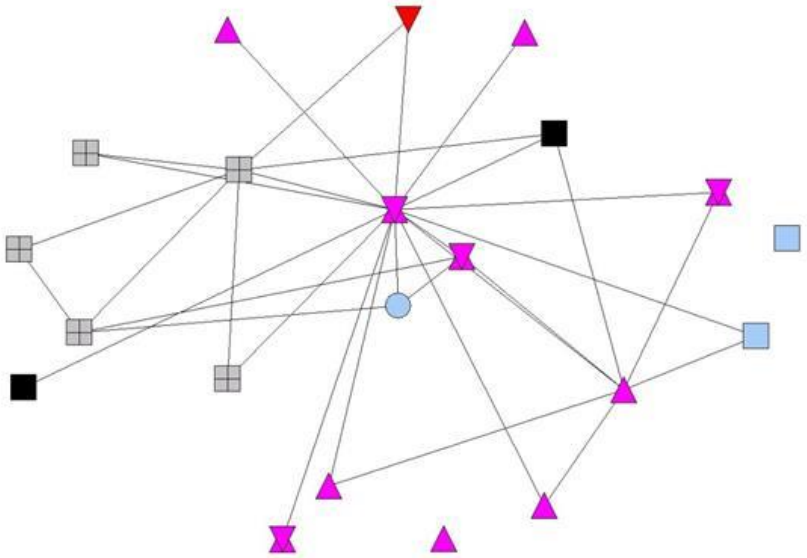
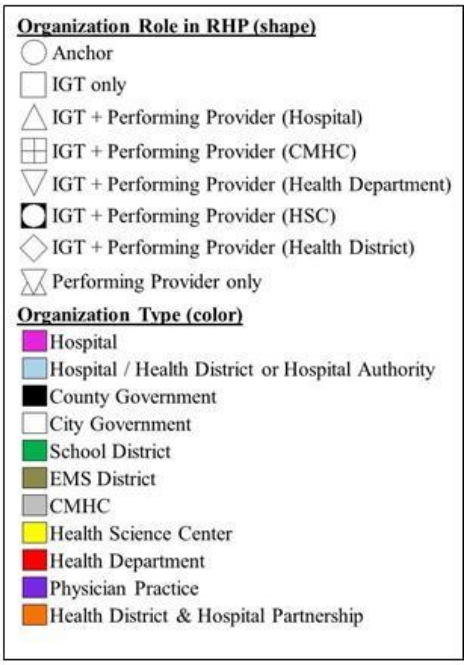
RHP 13: Network Diagram T_0, Formal Data Sharing Agreements



RHP 13: Network Diagram T_1, Formal Data Sharing Agreements





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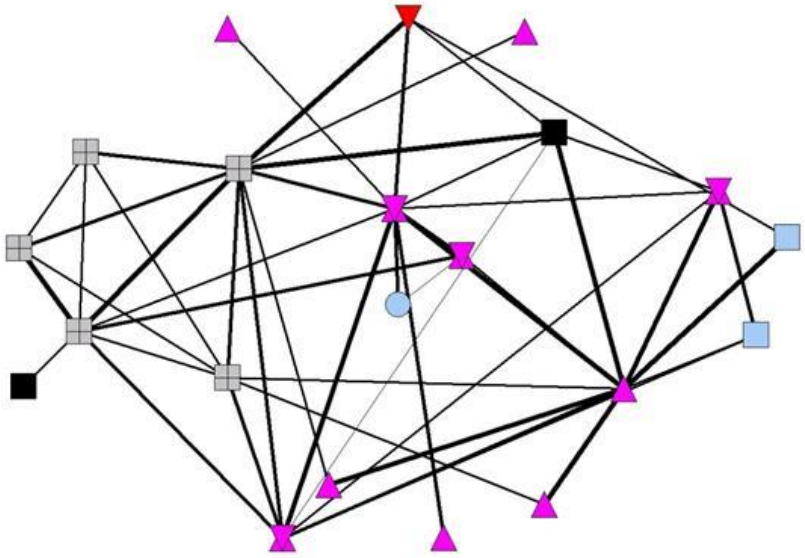
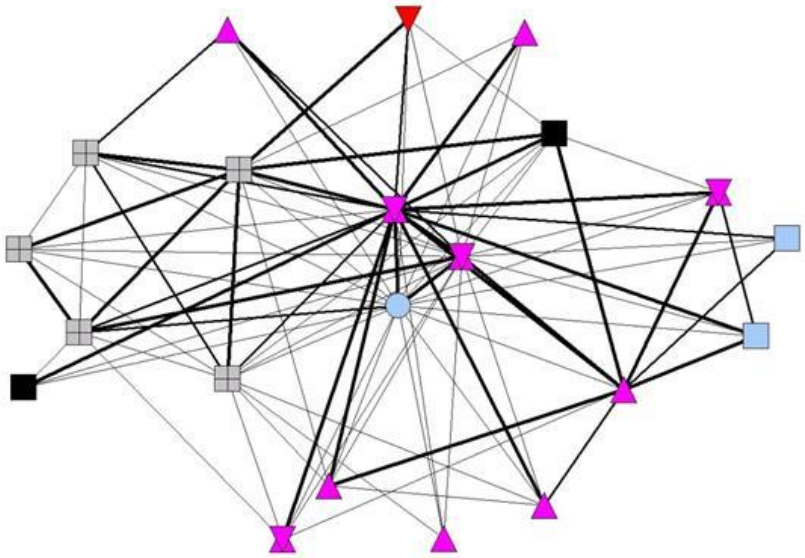
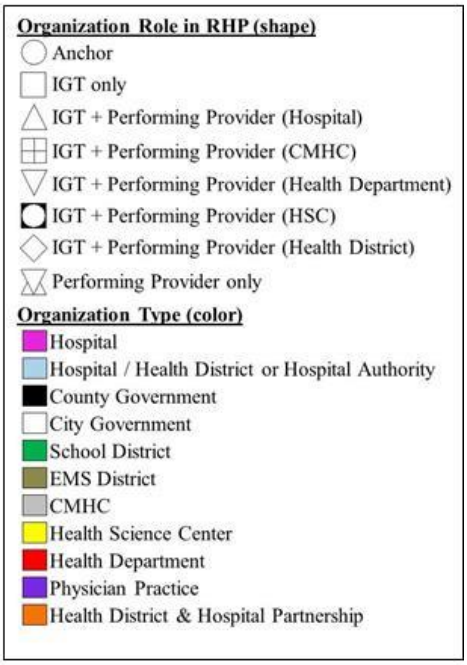
RHP 13: Network Diagram T_0, Mean Strengths of Ties Between Organizations



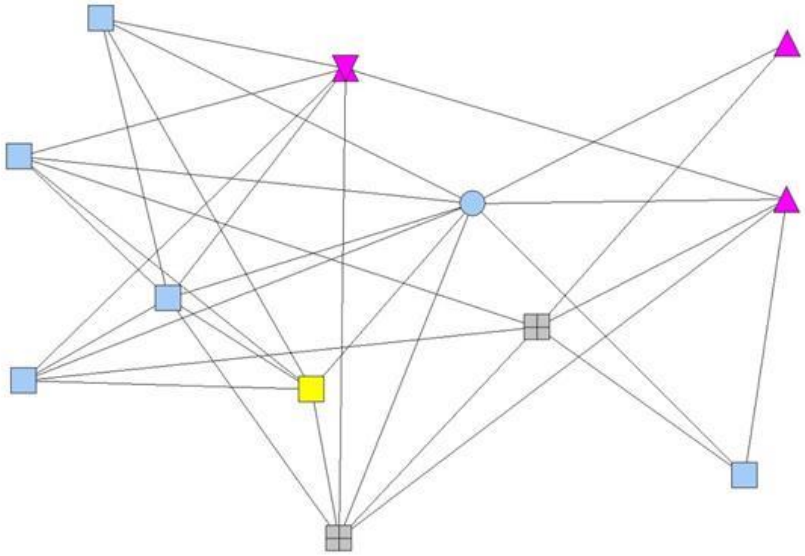
RHP 13: Network Diagram T_1, Mean Strengths of Ties Between Organizations



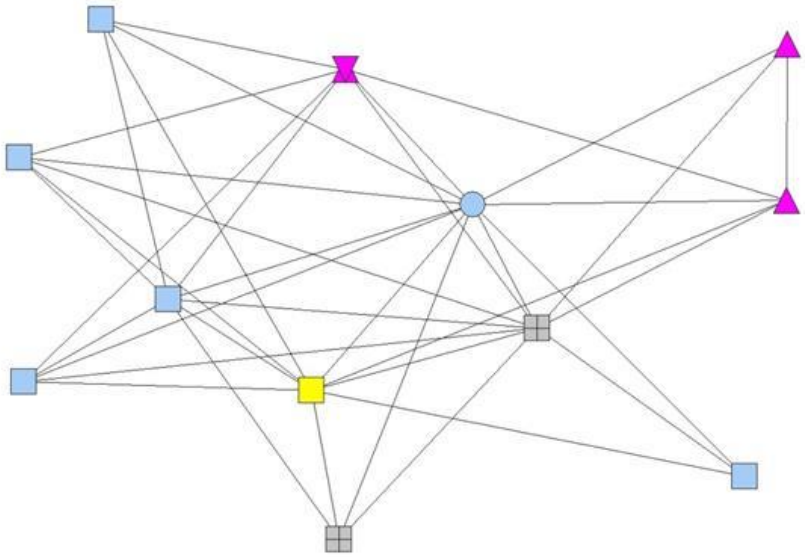


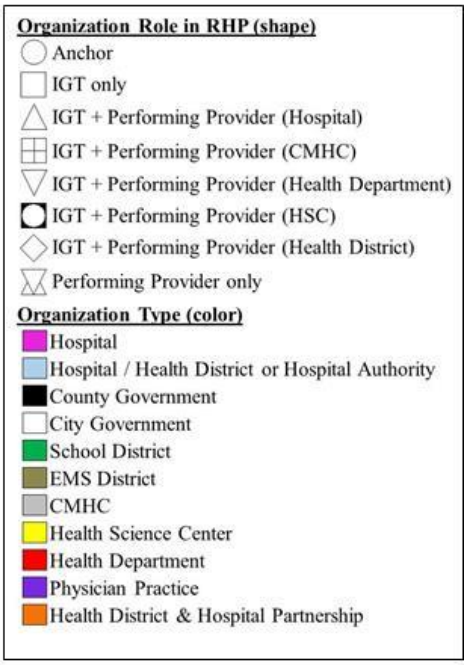
Diagrams are best viewed in color

RHP 14: Network Diagram T_0, All Collaboration



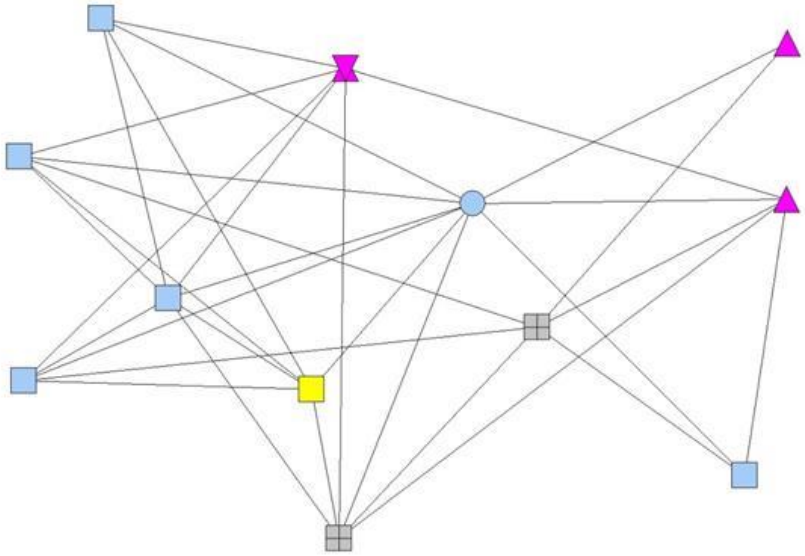
RHP 14: Network Diagram T_1, All Collaboration



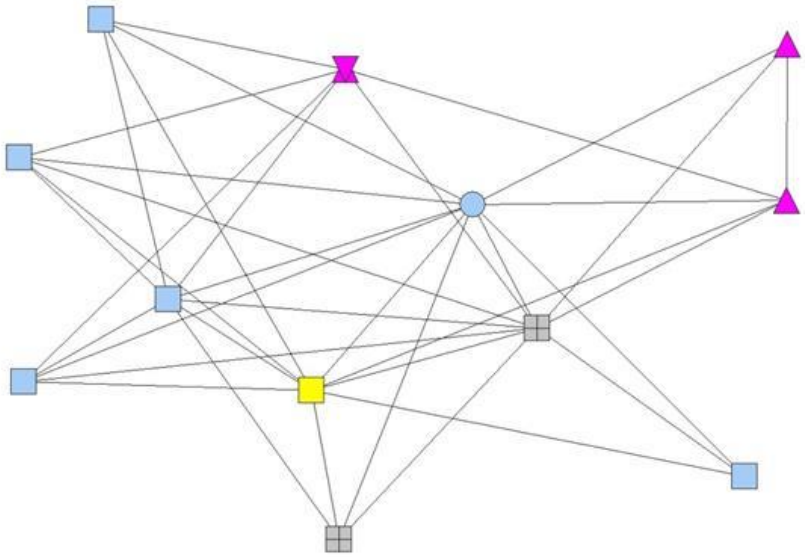


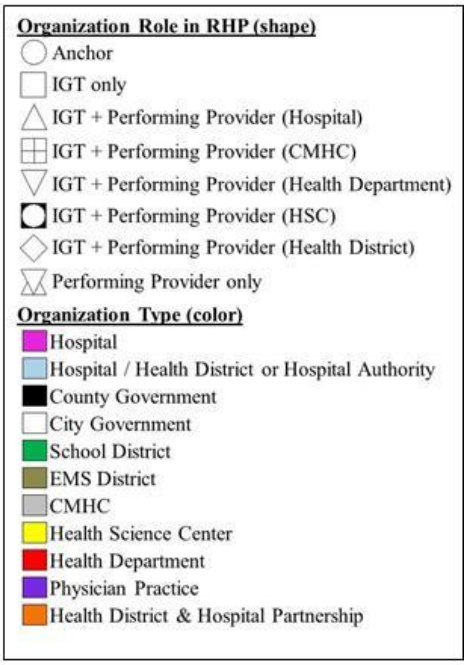
Diagrams are best viewed in color

RHP 14: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 14: Network Diagram T_1, Collaboration to Deliver Programs and Services





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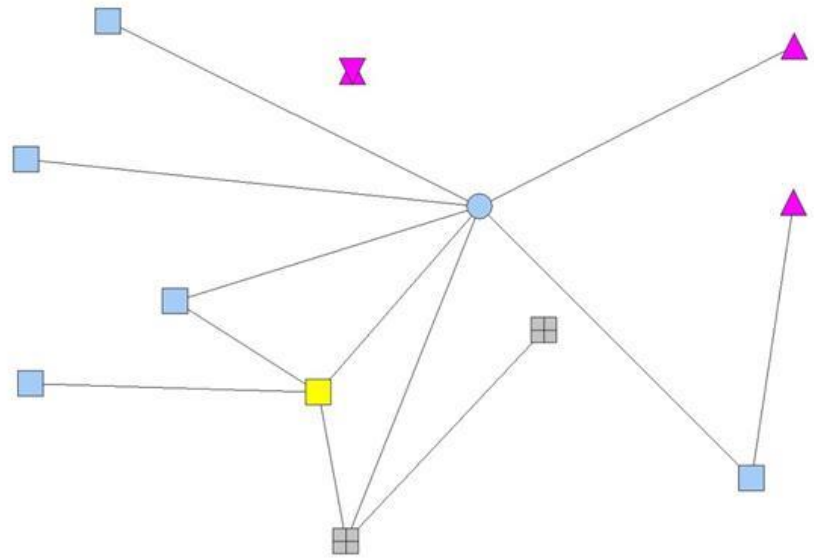
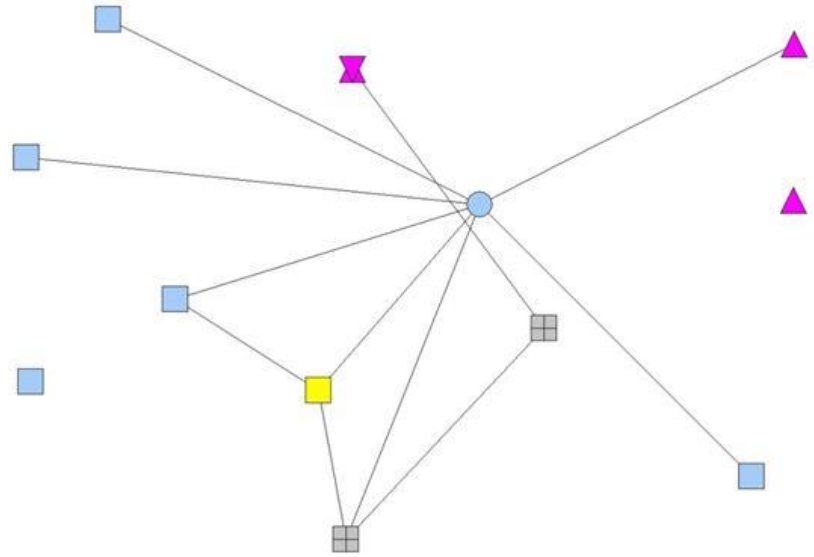
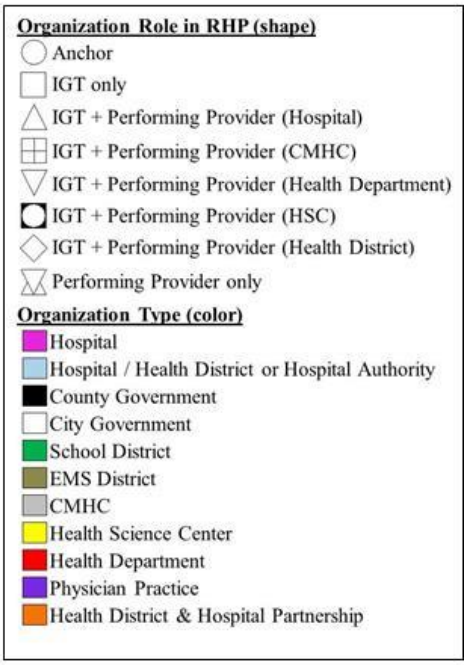
RHP 14: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 14: Network Diagram T_1, Collaboration to Share Tangible Resources





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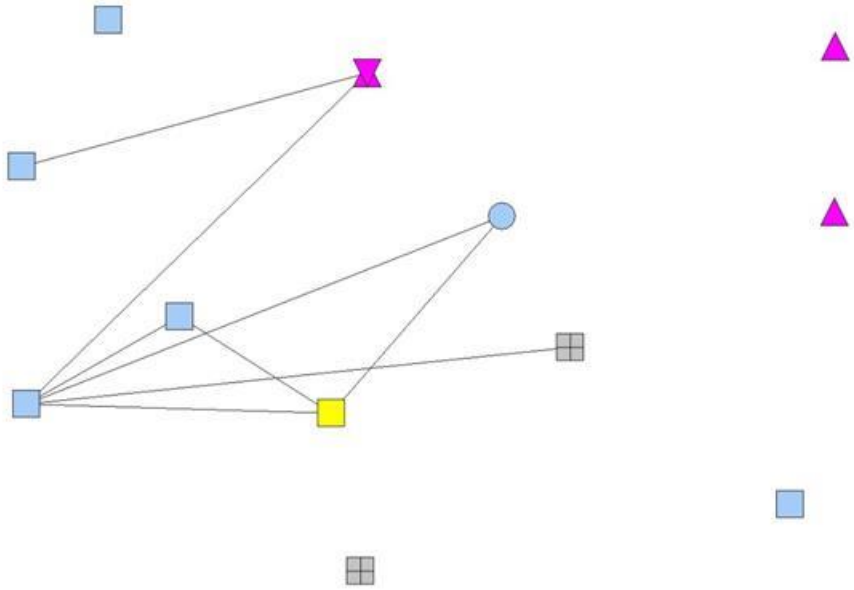
RHP 14: Network Diagram T_0, Formal Data Sharing Agreements



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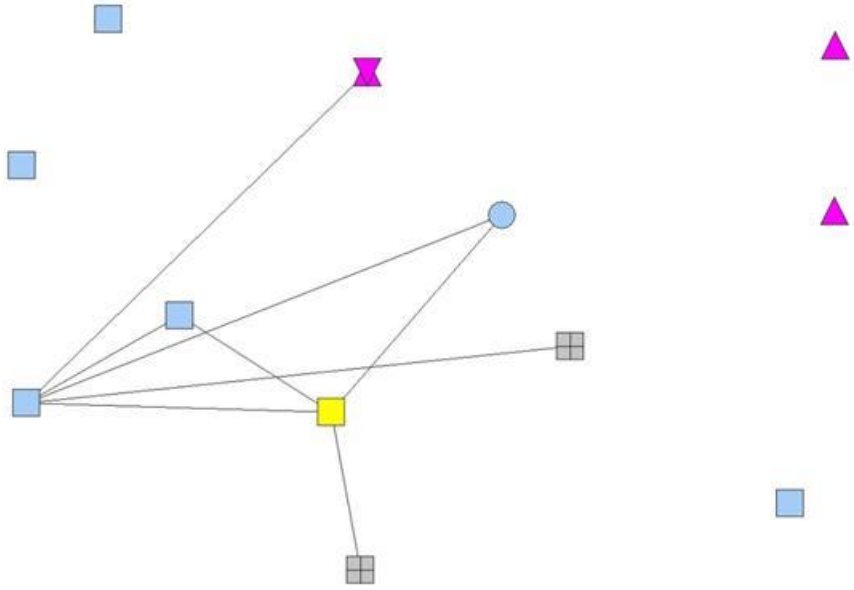

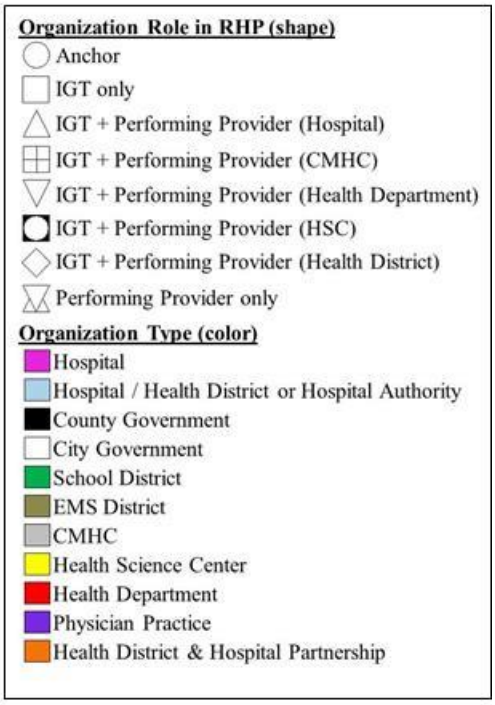

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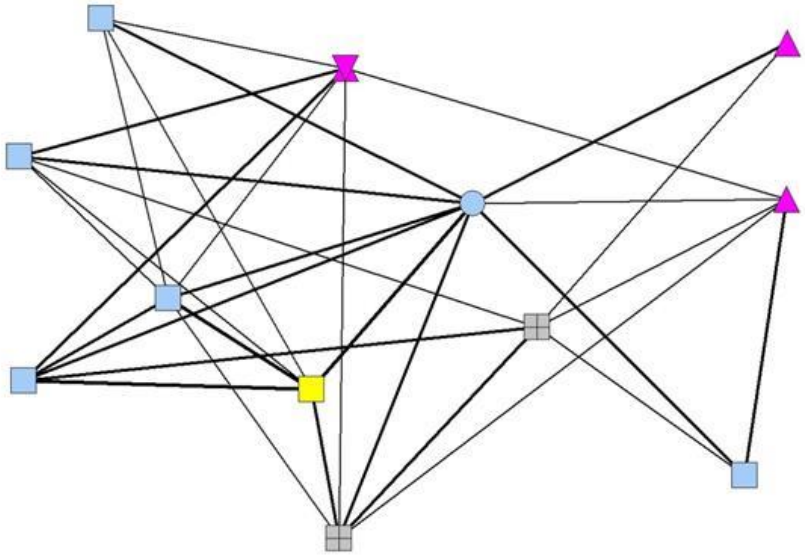
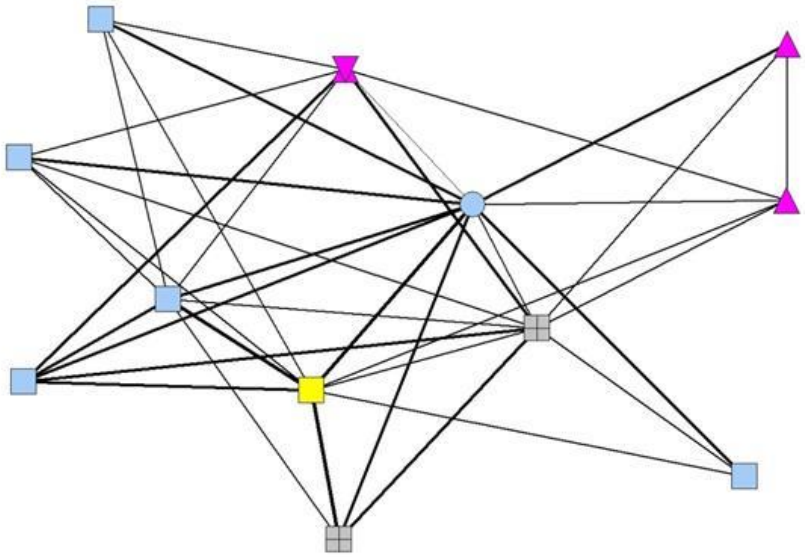
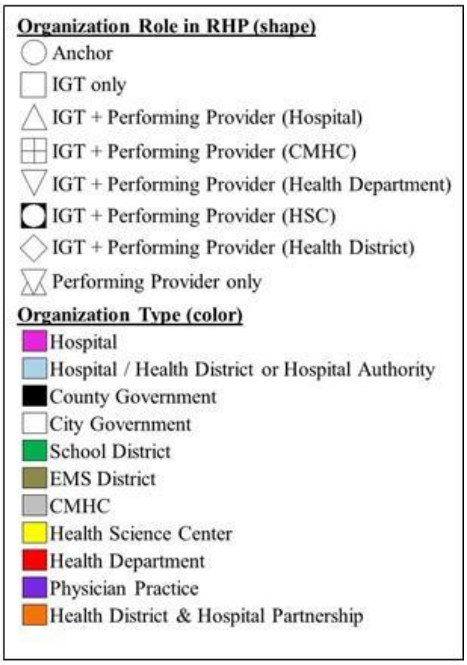
RHP 14: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 14: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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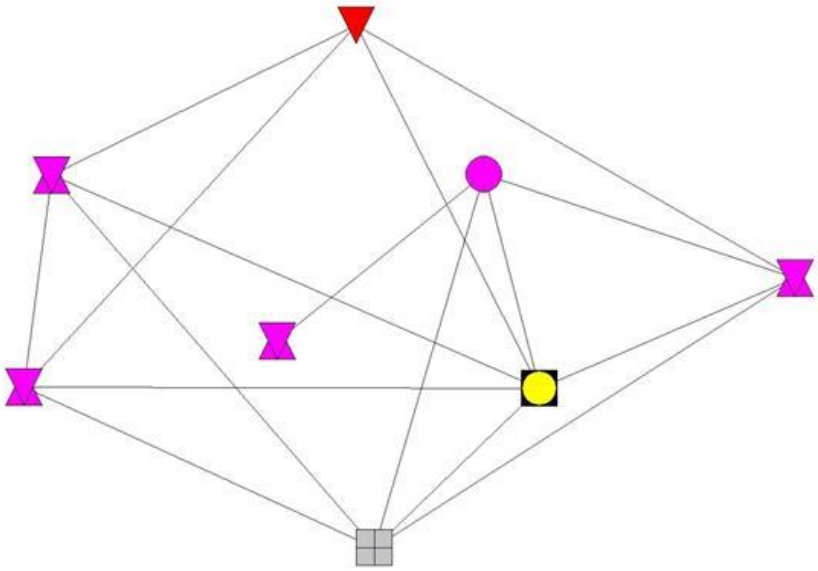
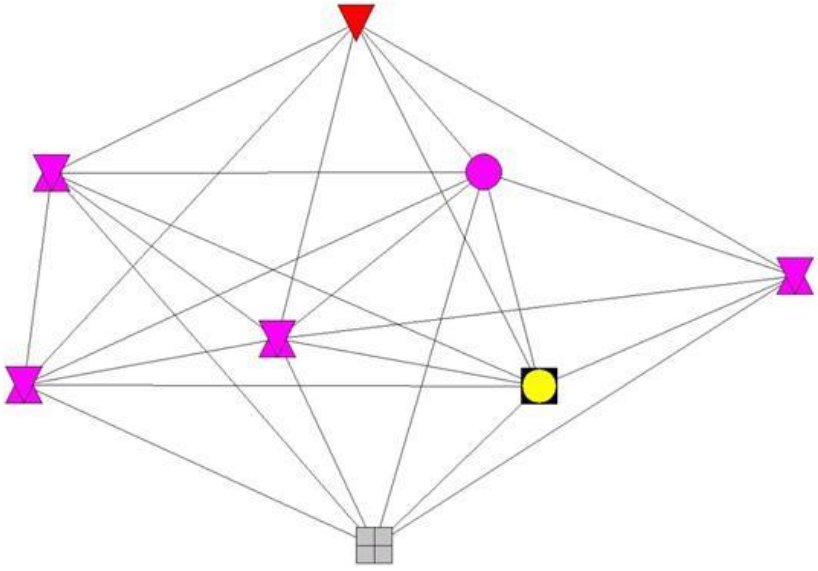
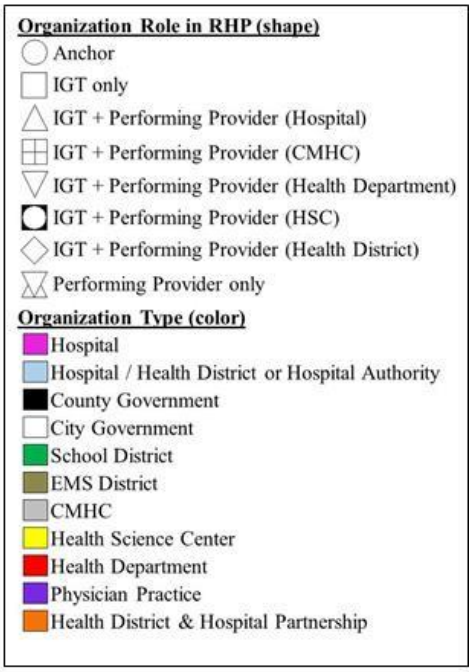
RHP 15: Network Diagram T_0, All Collaboration



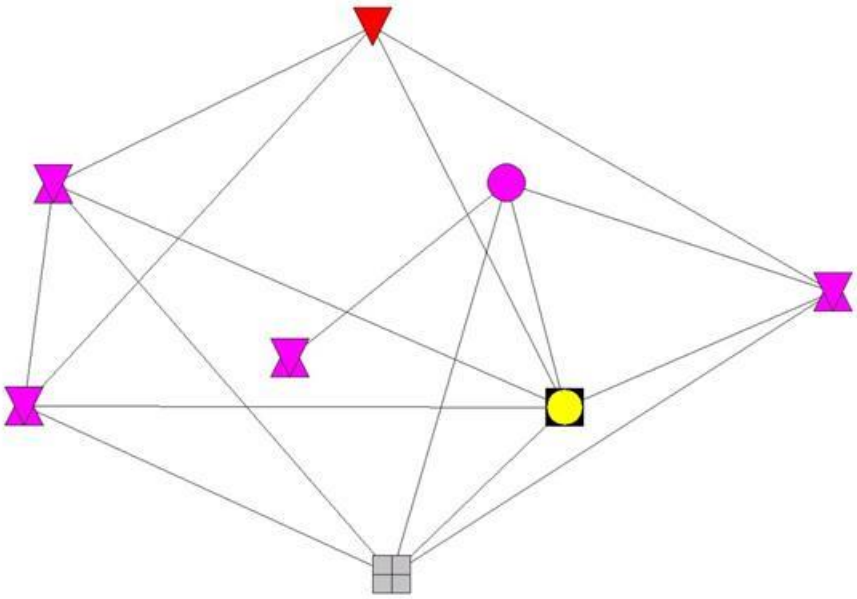
RHP 15: Network Diagram T_1, All Collaboration





Diagrams are best viewed in color

RHP 15: Network Diagram T_0, Collaboration to Deliver Programs and Services



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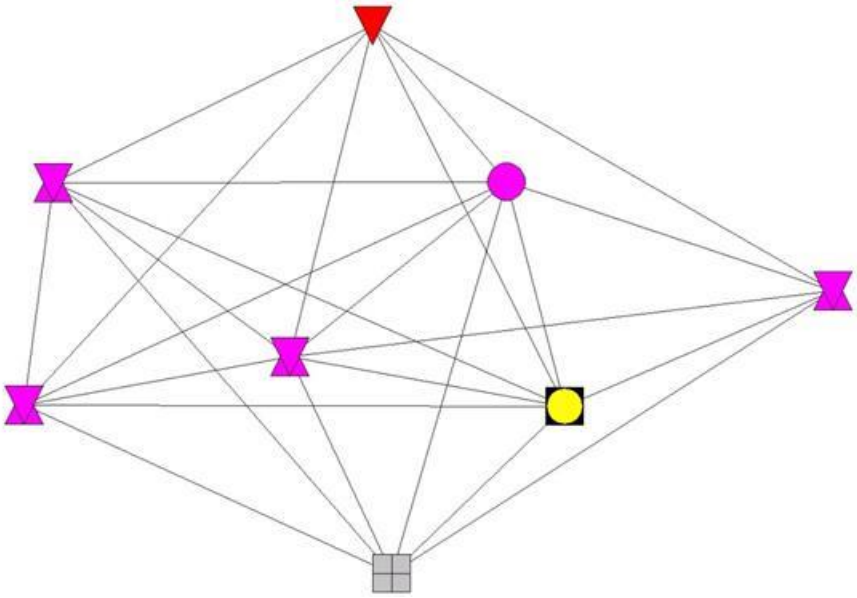

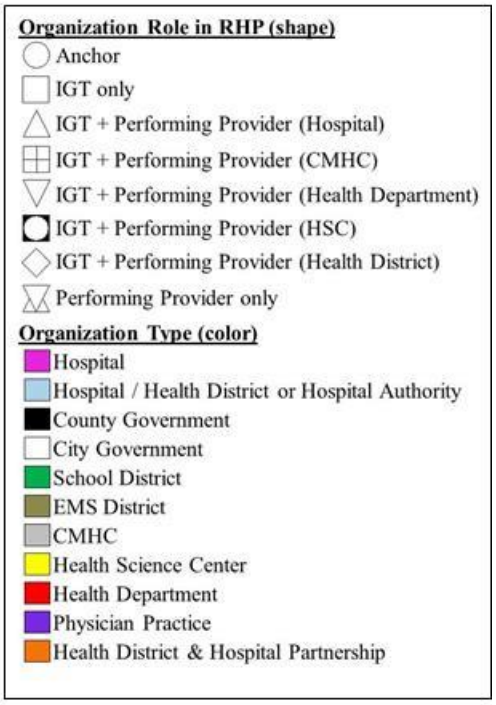

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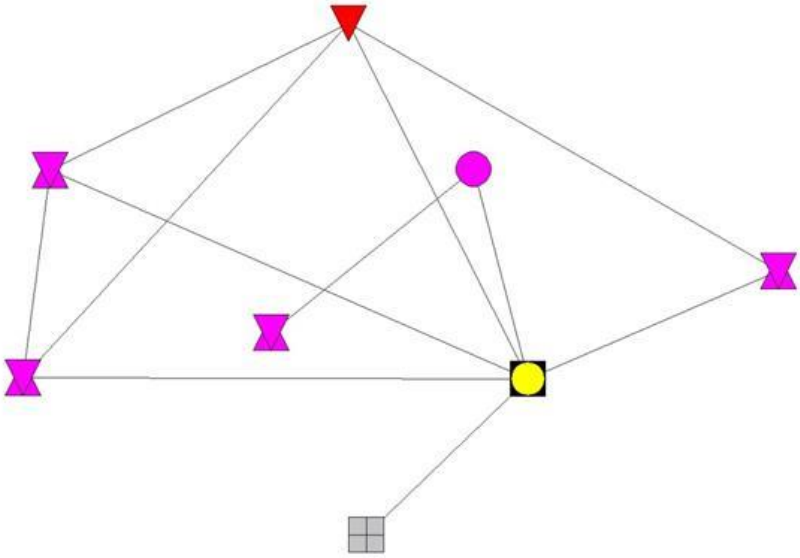
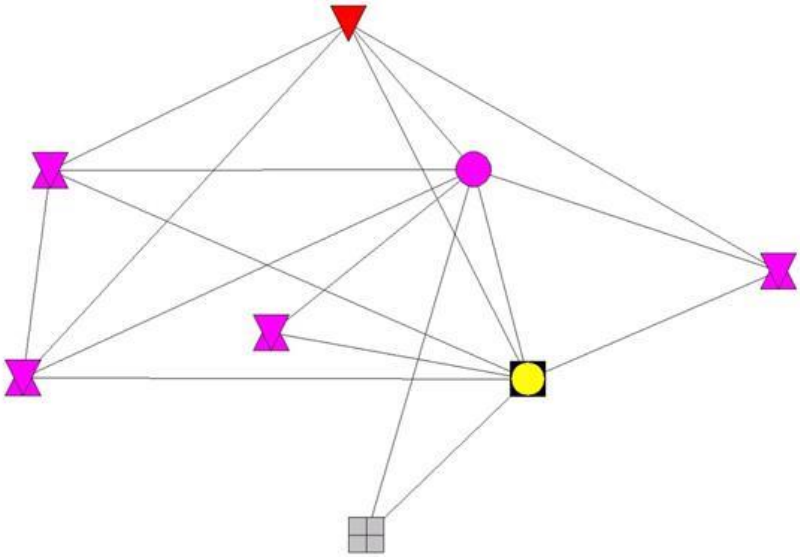
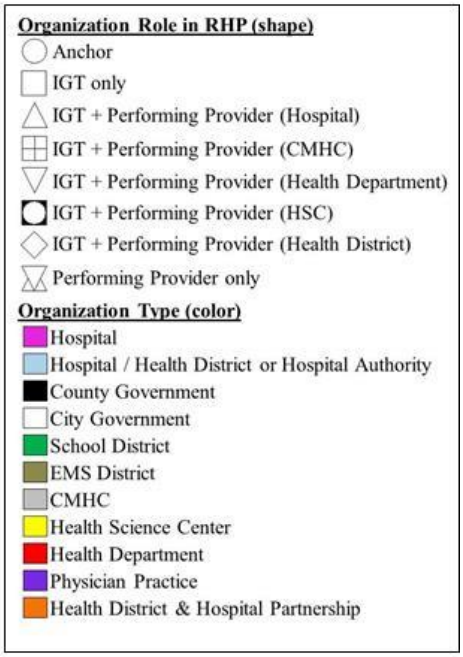
RHP 15: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 15: Network Diagram T_1, Collaboration to Share Tangible Resources





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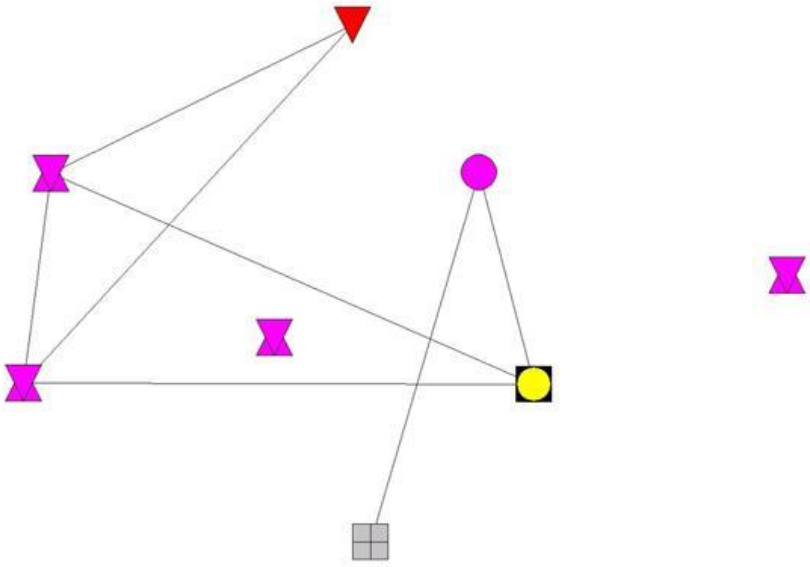
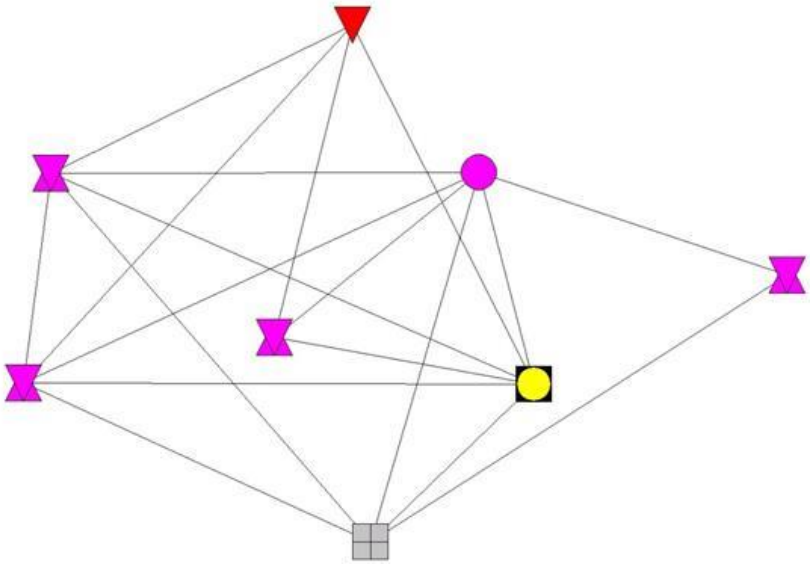
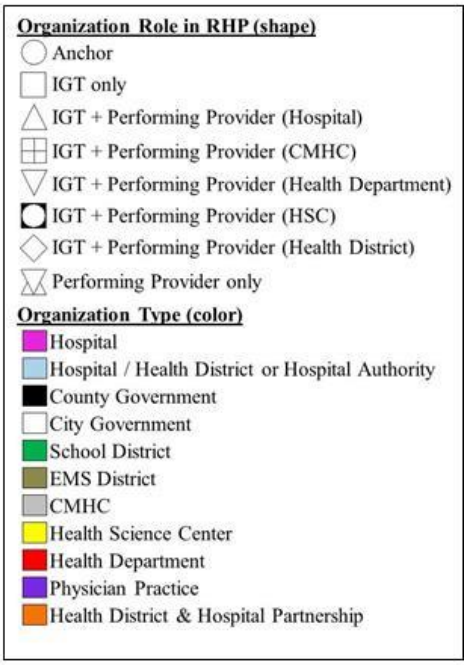
RHP 15: Network Diagram T_0, Formal Data Sharing Agreements



RHP 15: Network Diagram T_1, Formal Data Sharing Agreements





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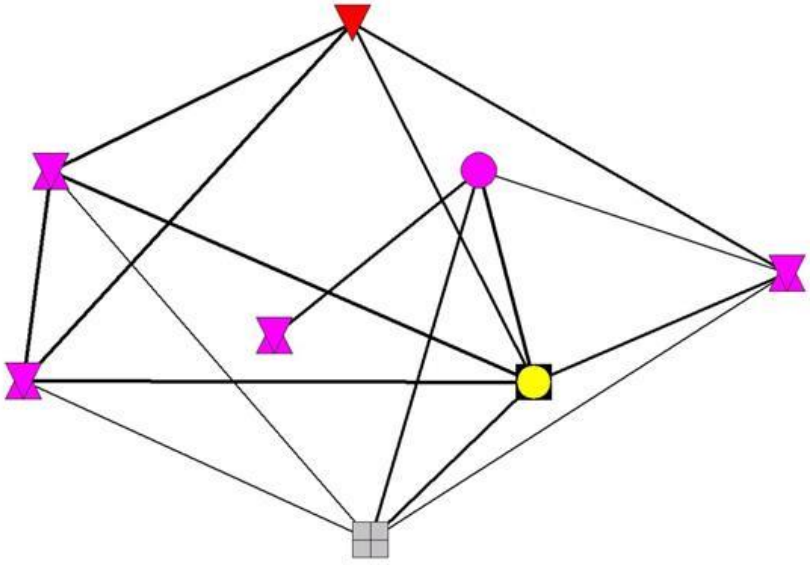
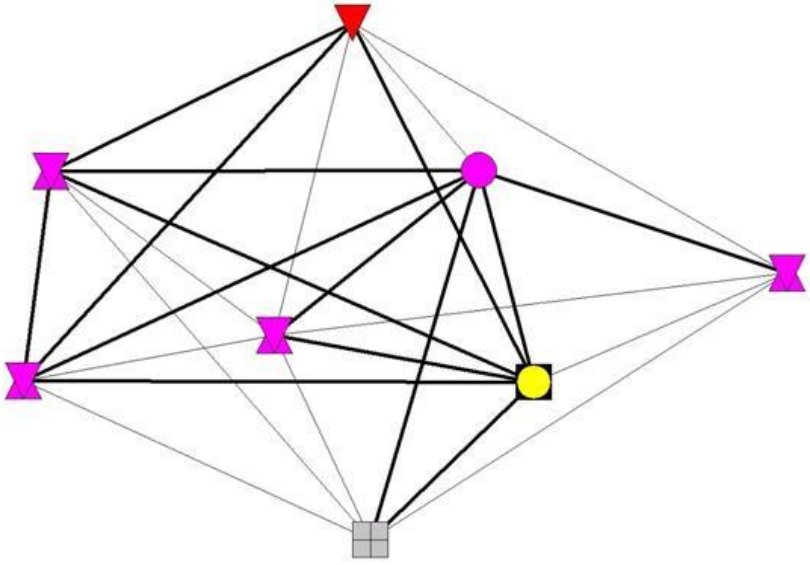
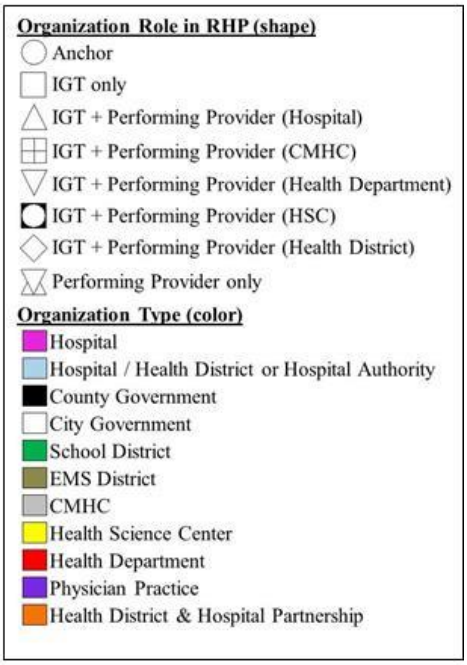
RHP 15: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 15: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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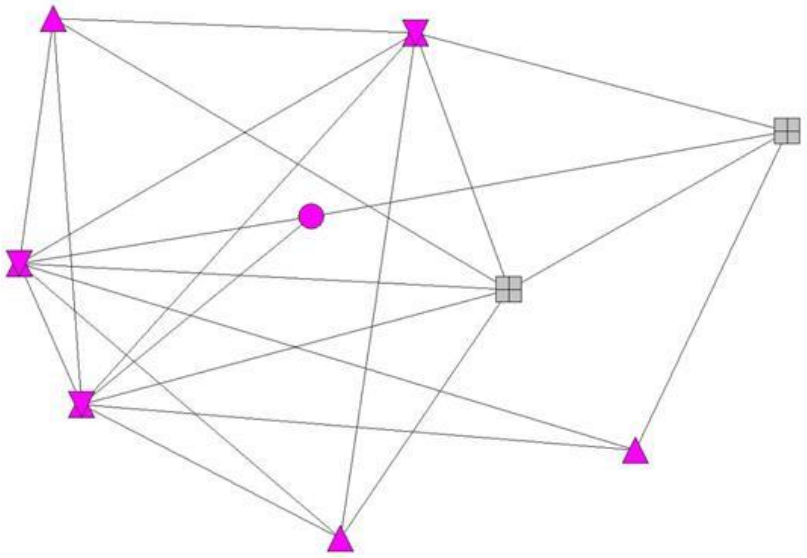
RHP 16: Network Diagram T_0, All Collaboration



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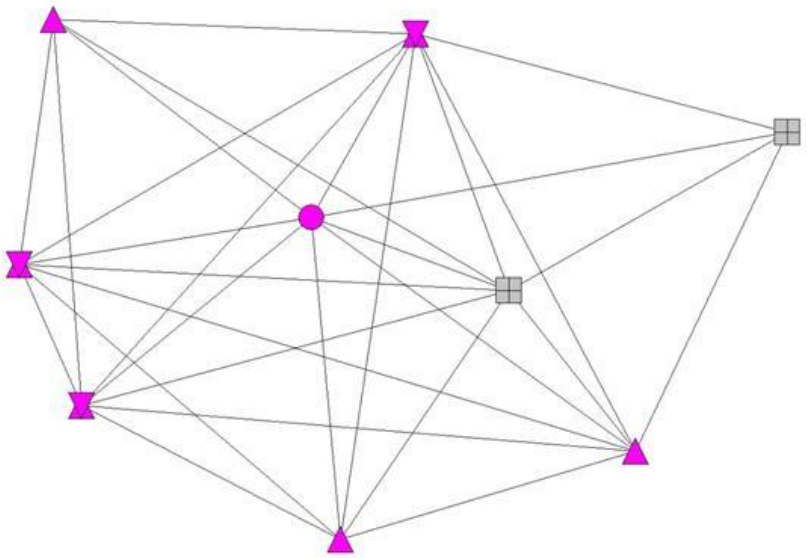

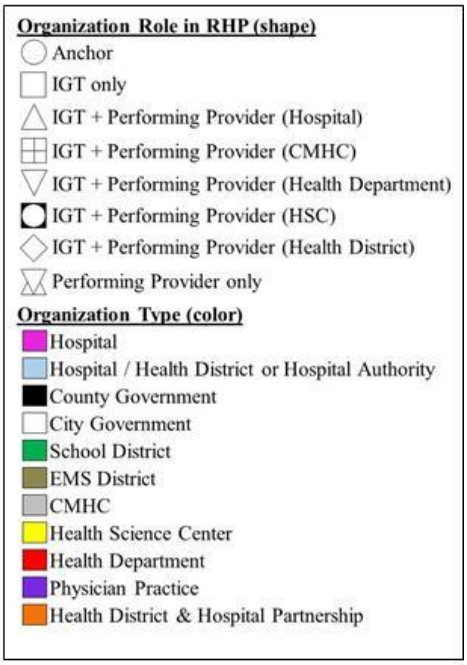

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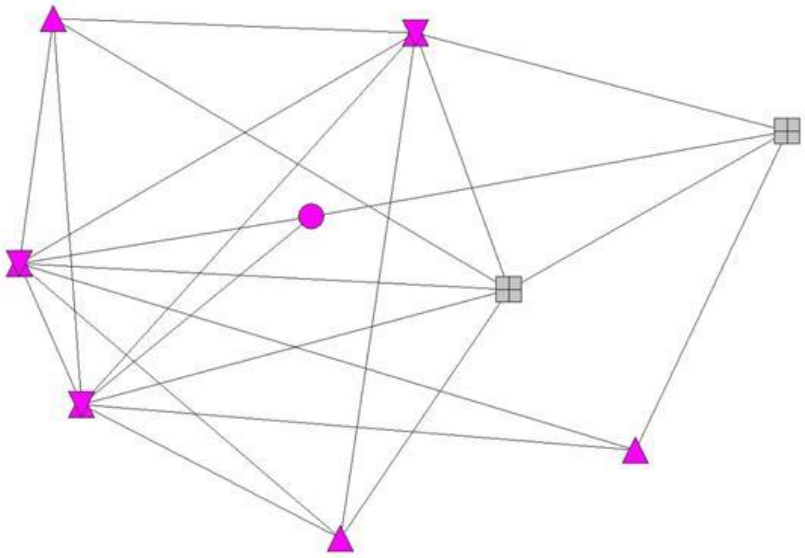
RHP 16: Network Diagram T_0, Collaboration to Deliver Programs and Services



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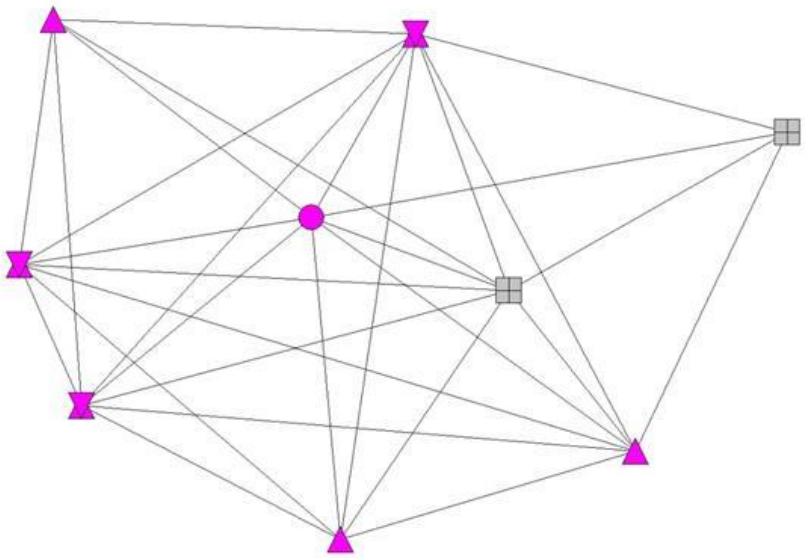

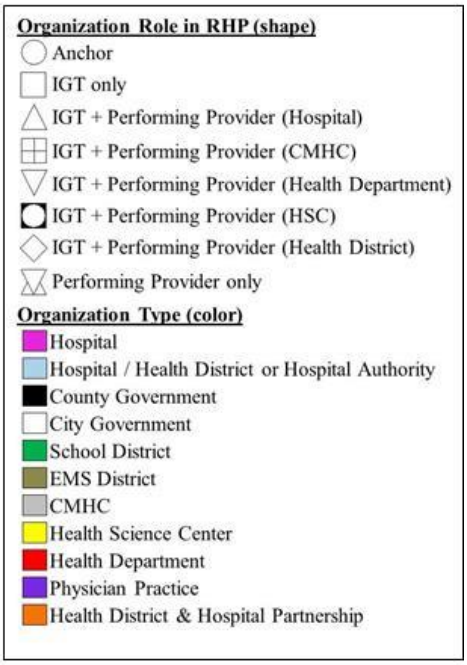

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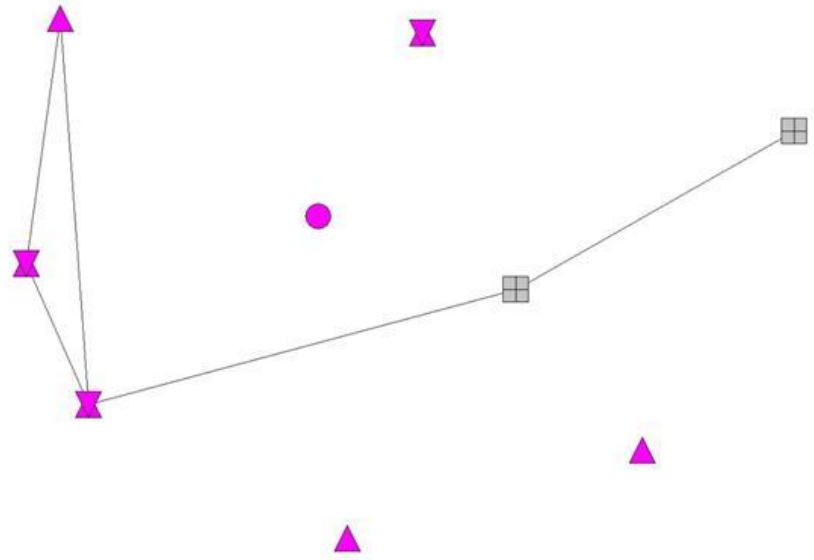
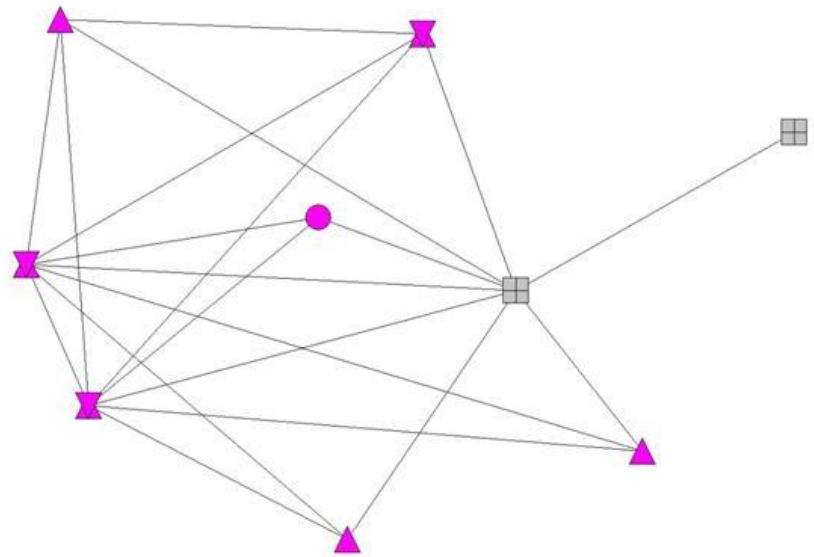
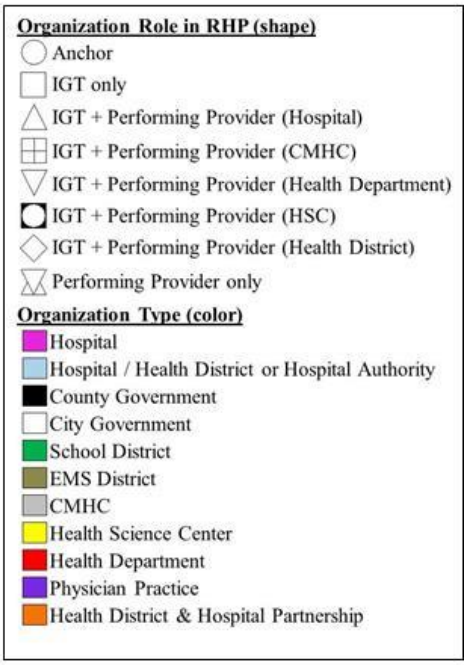
RHP 16: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 16: Network Diagram T_1, Collaboration to Share Tangible Resources





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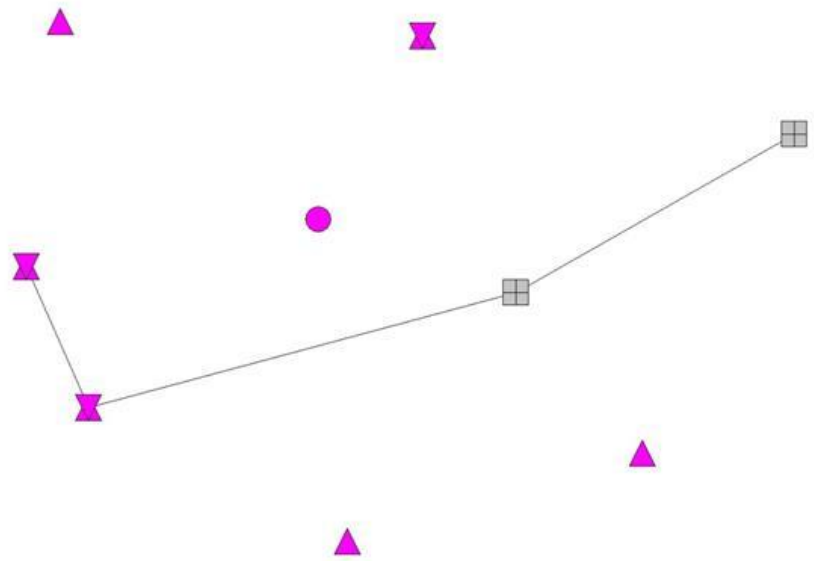
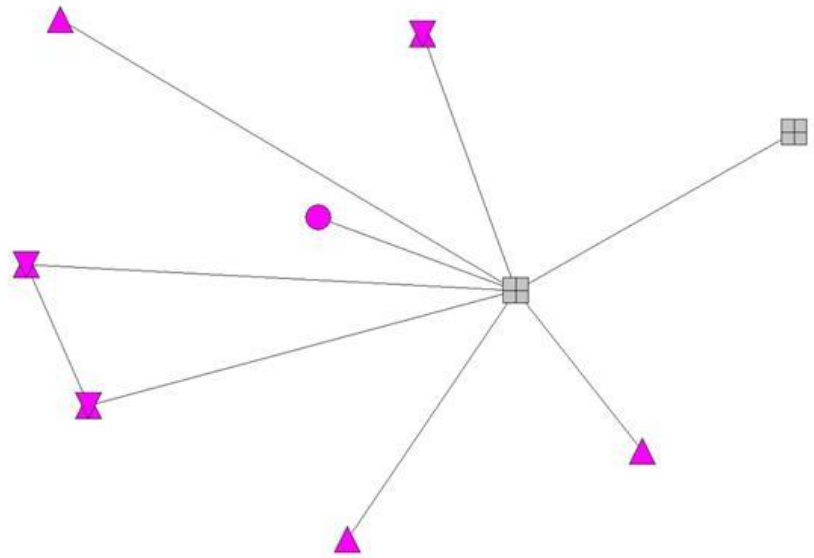
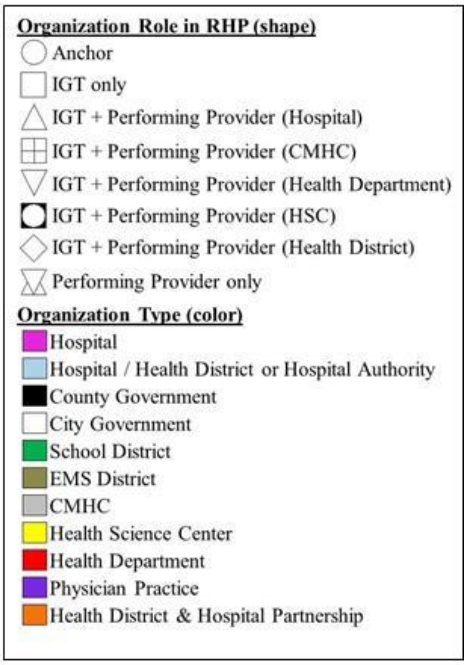
RHP 16: Network Diagram T_0, Formal Data Sharing Agreements



RHP 16: Network Diagram T_1, Formal Data Sharing Agreements





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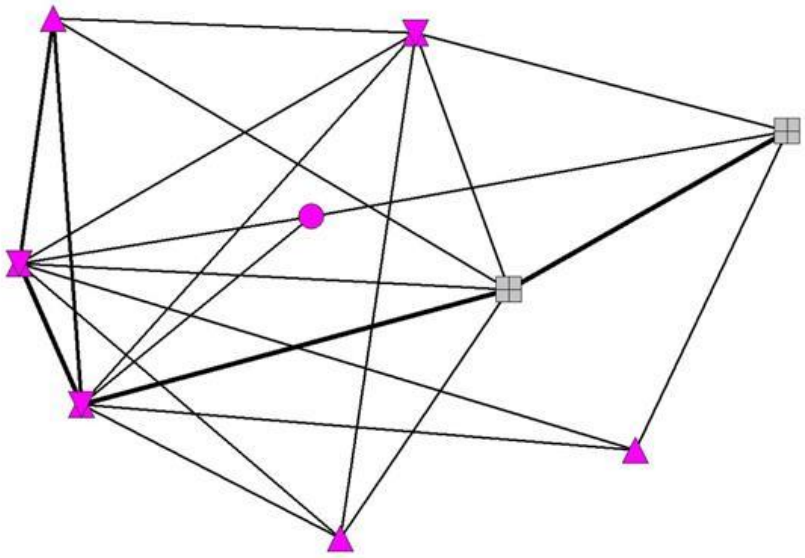
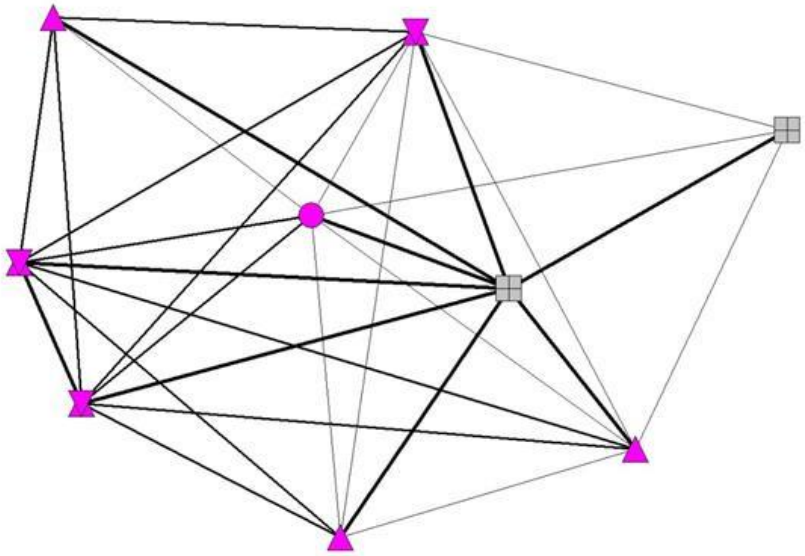
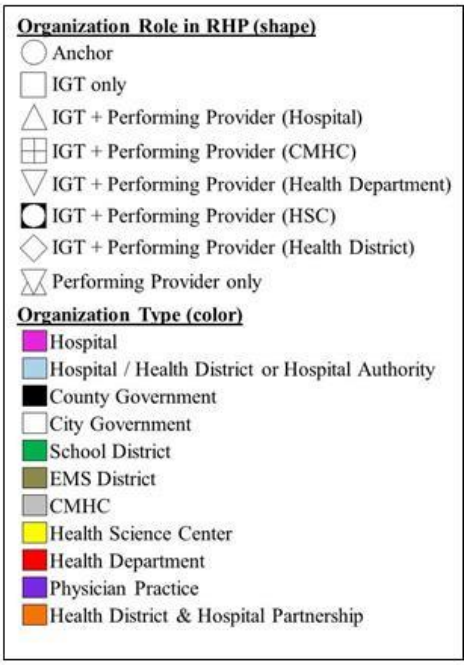
RHP 16: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 16: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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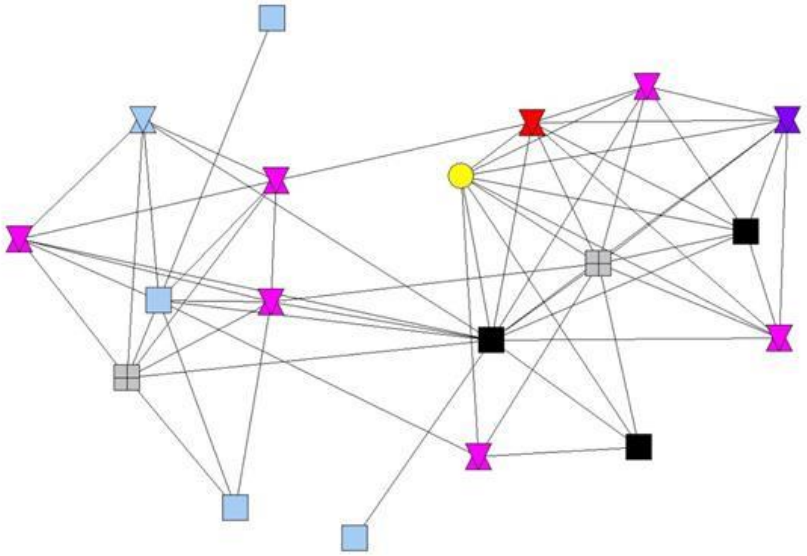
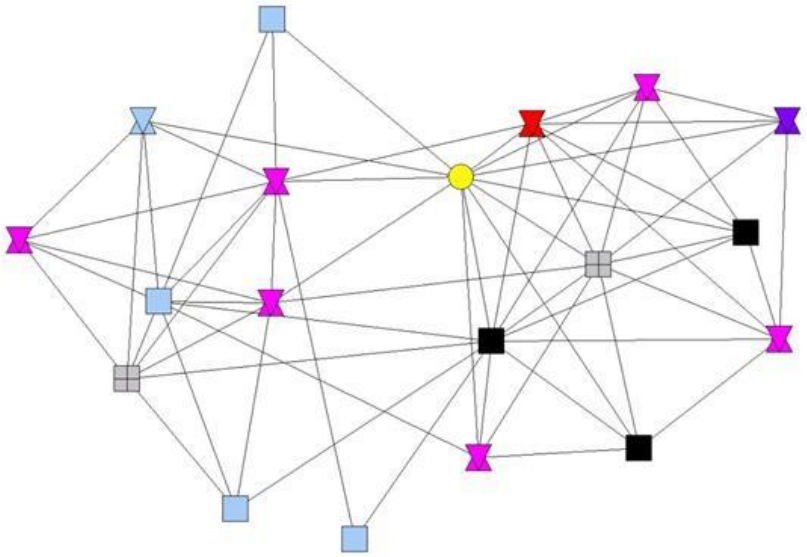
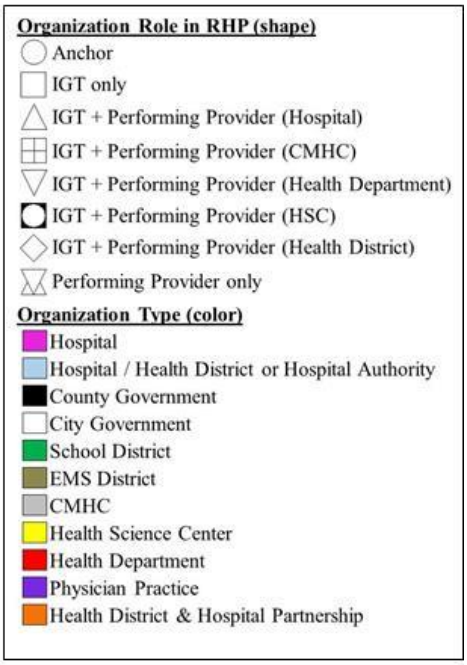
RHP 17: Network Diagram T_0, All Collaboration



RHP 17: Network Diagram T_1, All Collaboration





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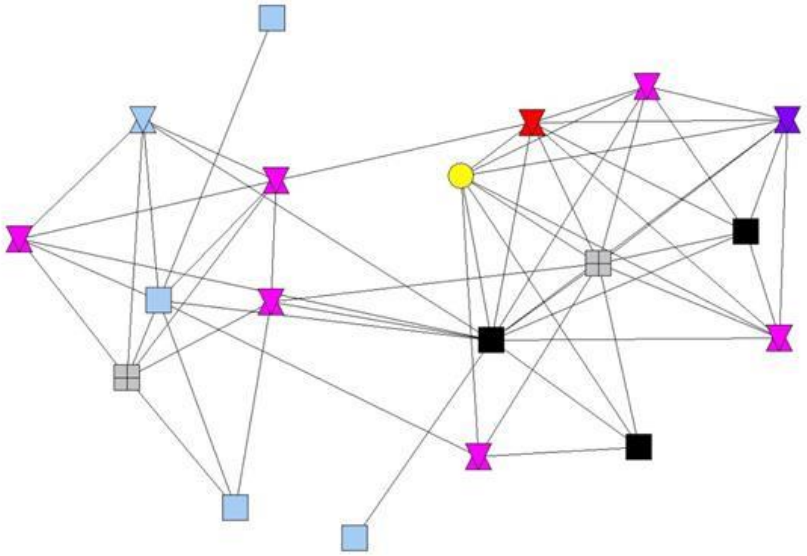
RHP 17: Network Diagram T_0, Collaboration to Deliver Programs and Services



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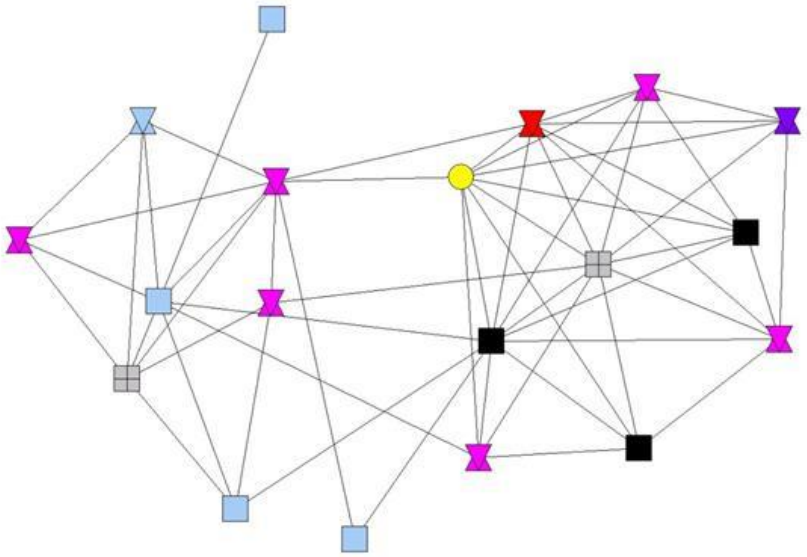

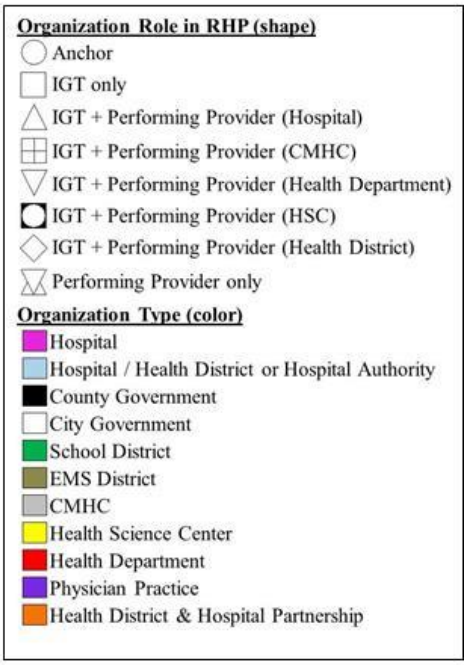

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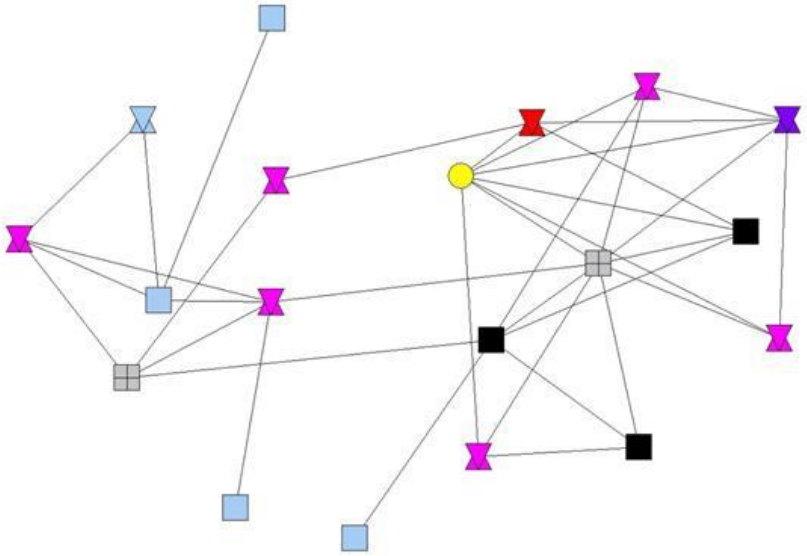
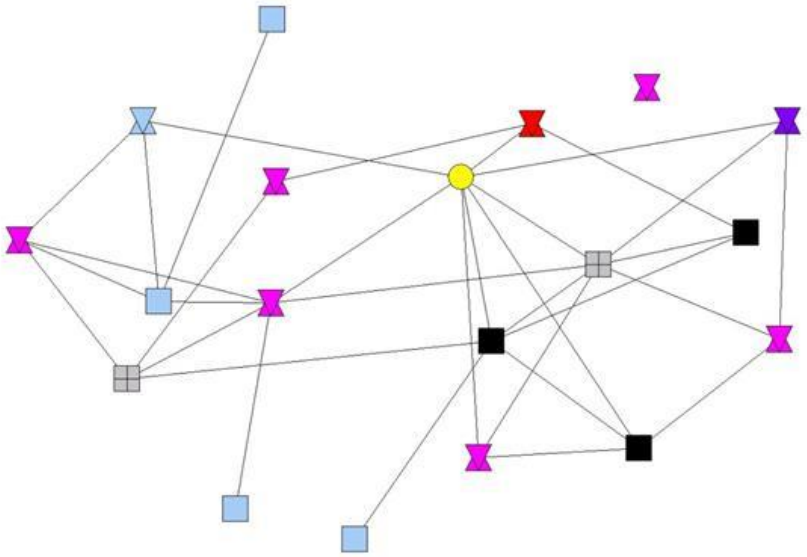
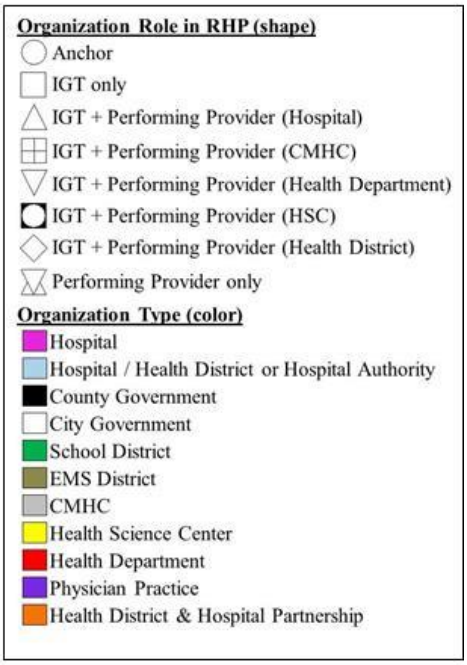
RHP 17: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 17: Network Diagram T_1, Collaboration to Share Tangible Resources





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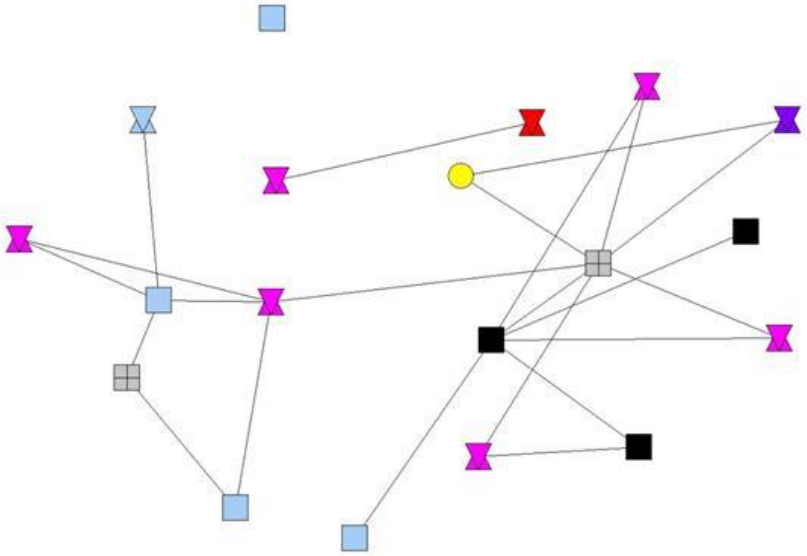
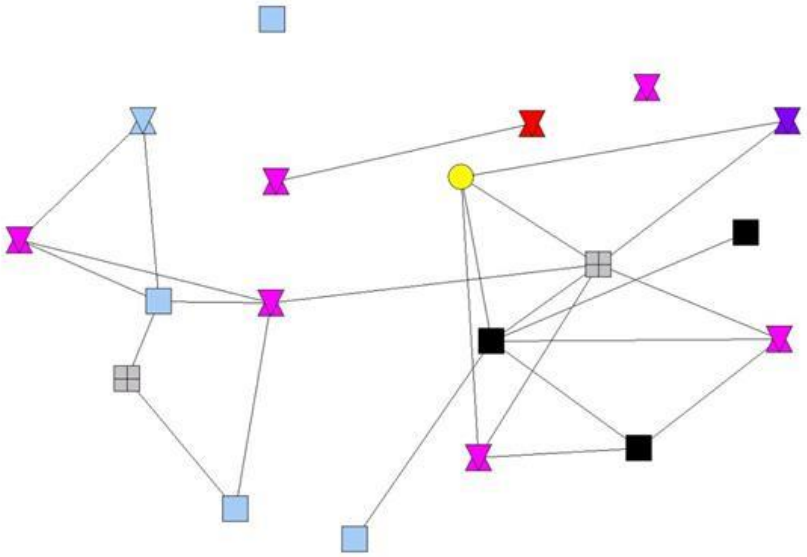
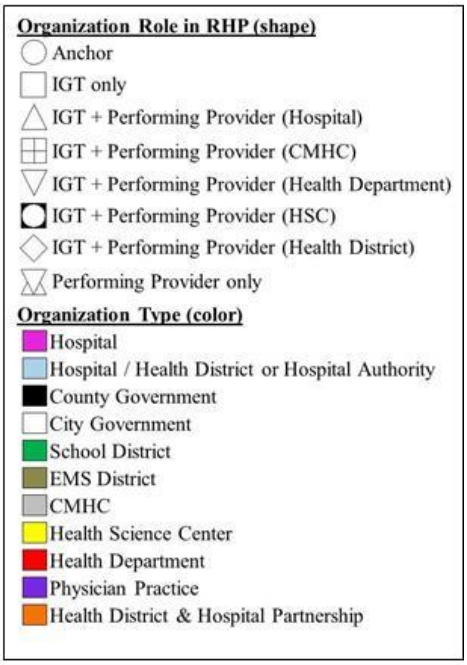
RHP 17: Network Diagram T_0, Formal Data Sharing Agreements



RHP 17: Network Diagram T_1, Formal Data Sharing Agreements





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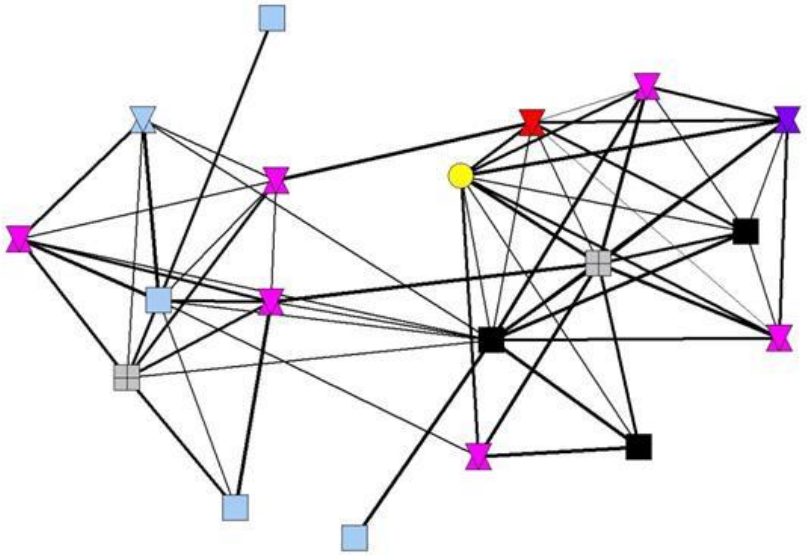
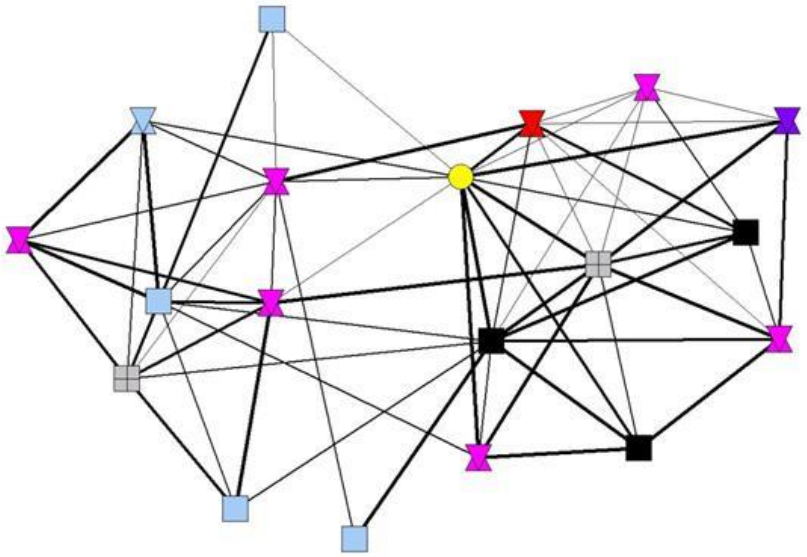
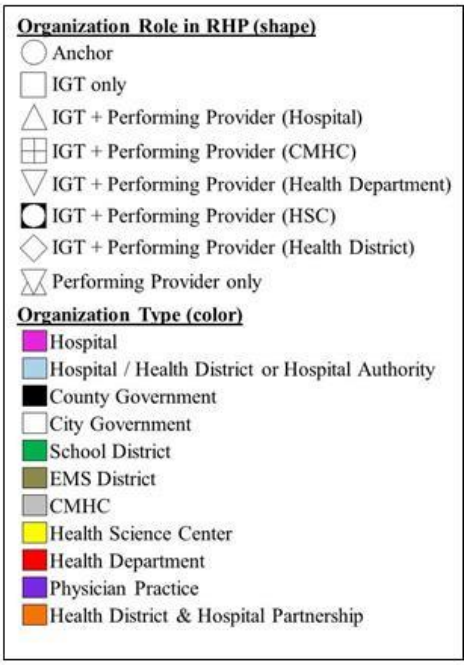


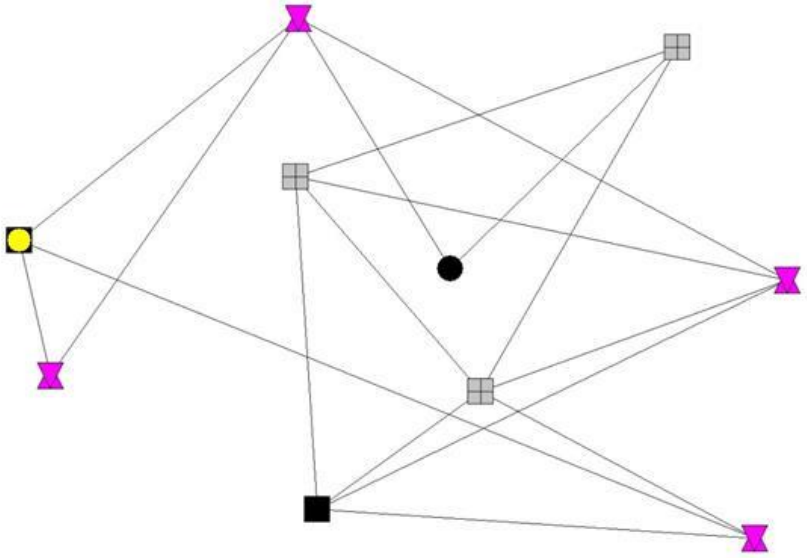
RHP 17: Network Diagram T_1, Mean Strengths of Ties Between Organizations



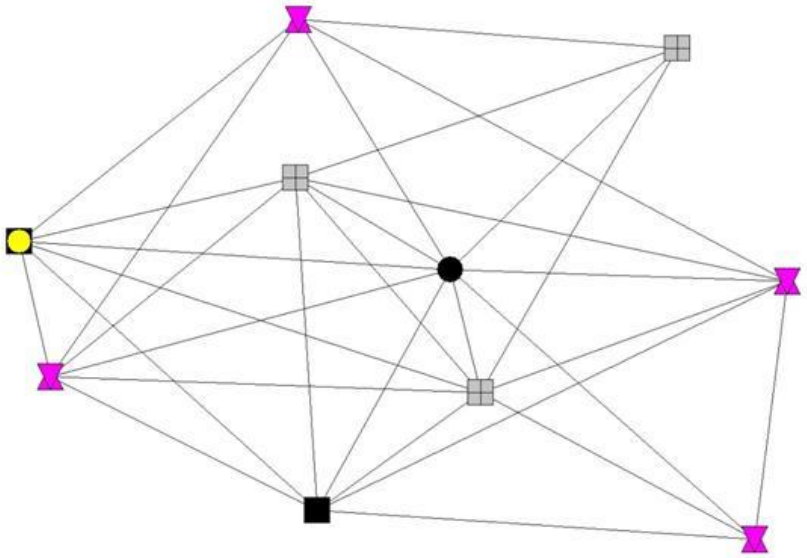


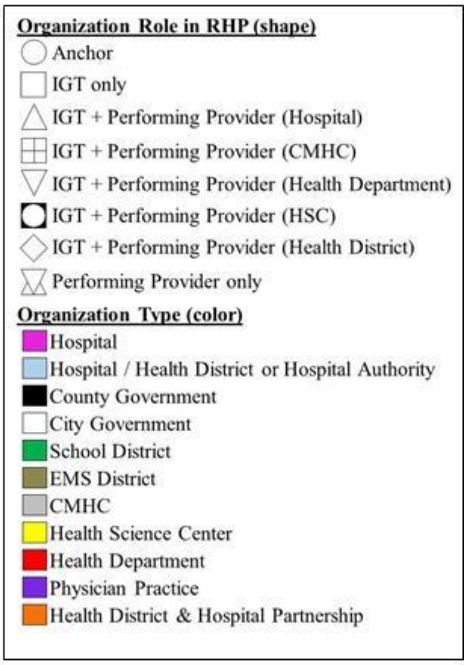
Diagrams are best viewed in color

RHP 18: Network Diagram T_0, All Collaboration



RHP 18: Network Diagram T_1, All Collaboration





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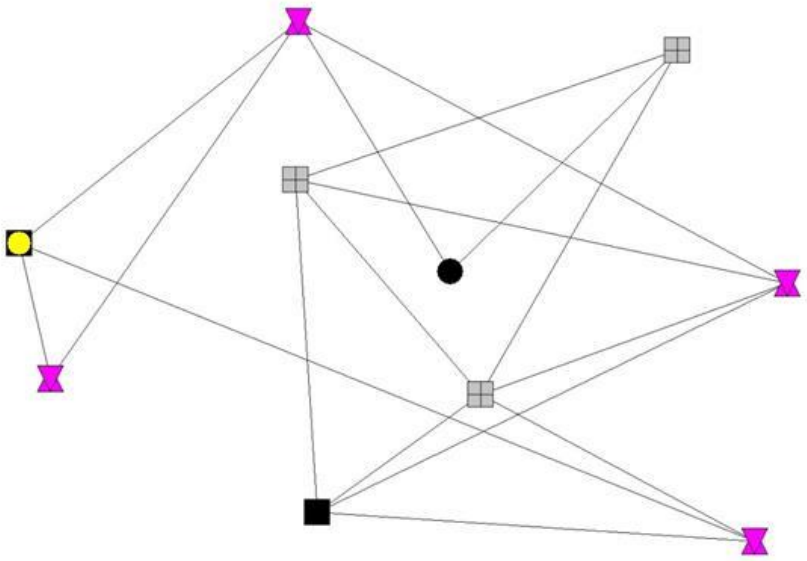
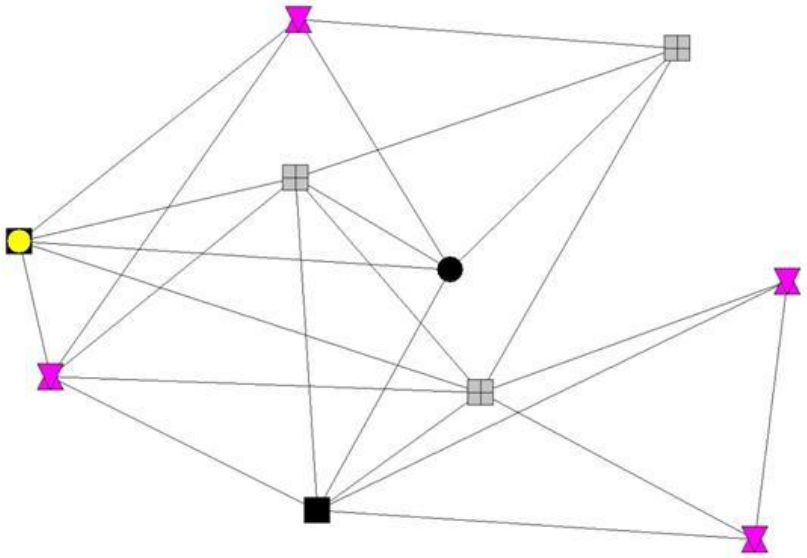
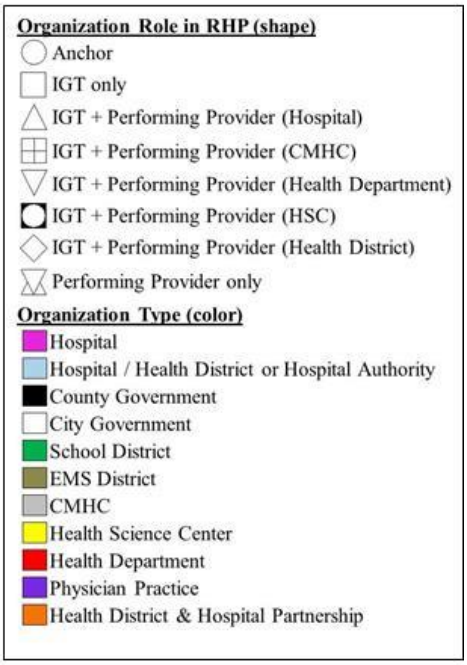
RHP 18: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 18: Network Diagram T_1, Collaboration to Deliver Programs and Services





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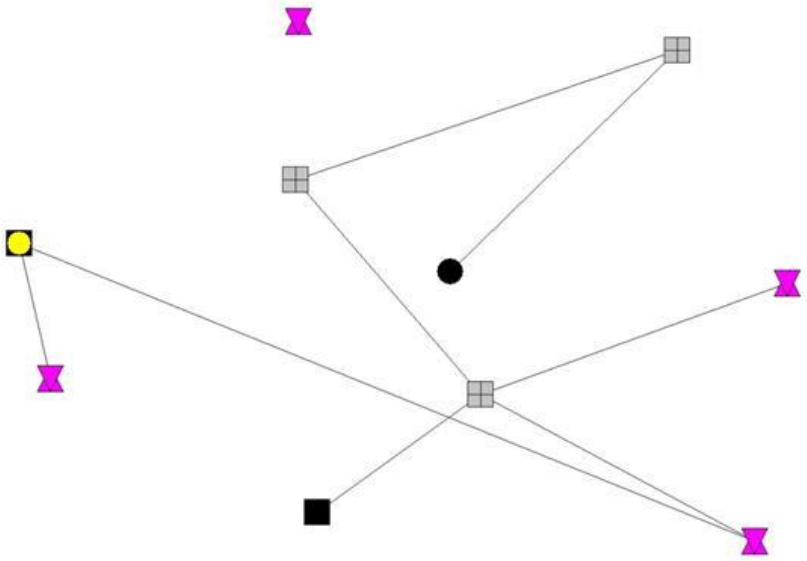
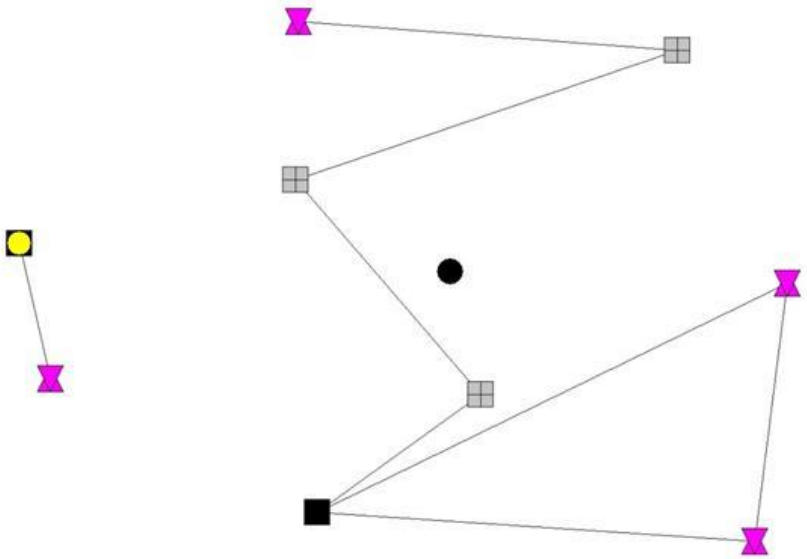
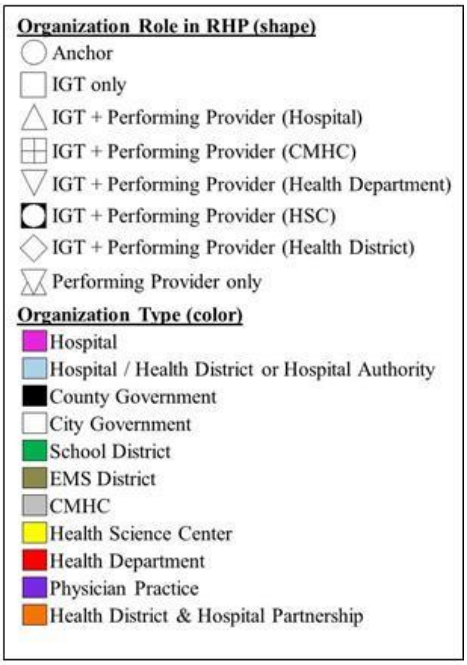
RHP 18: Network Diagram T_0, Collaboration to Share Tangible Resources



RHP 18: Network Diagram T_1, Collaboration to Share Tangible Resources





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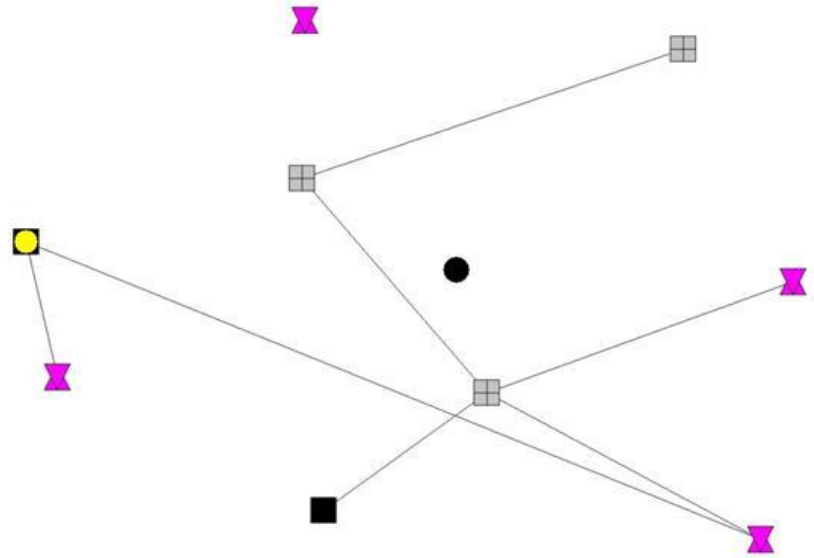
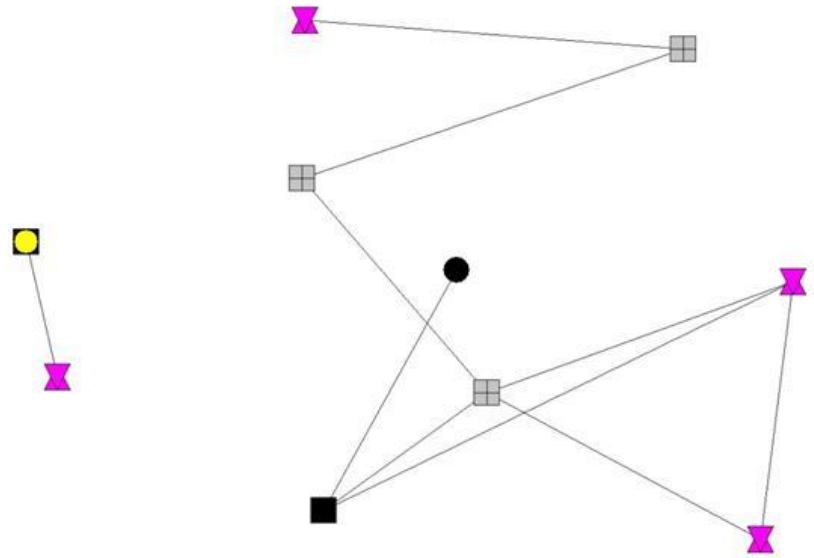
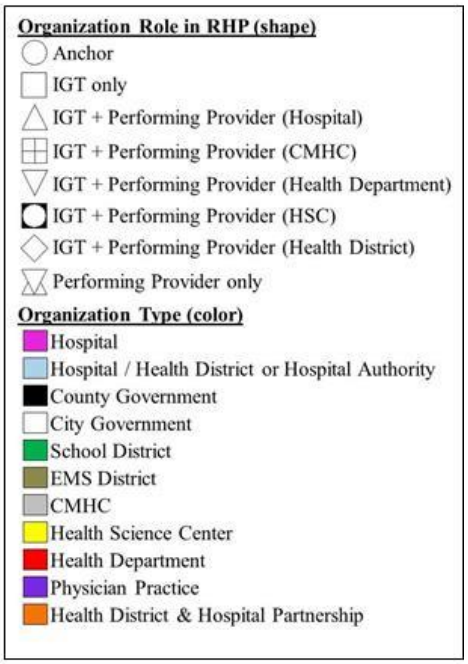
RHP 18: Network Diagram T_0, Formal Data Sharing Agreements



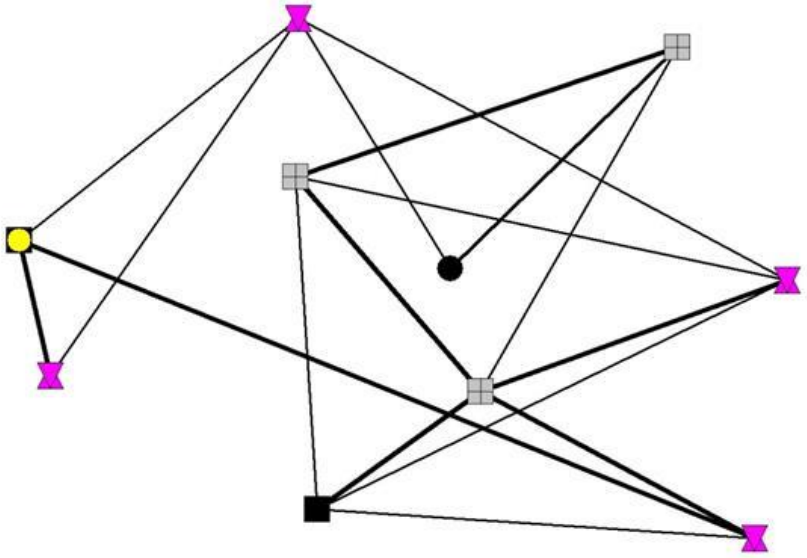
RHP 18: Network Diagram T_1, Formal Data Sharing Agreements



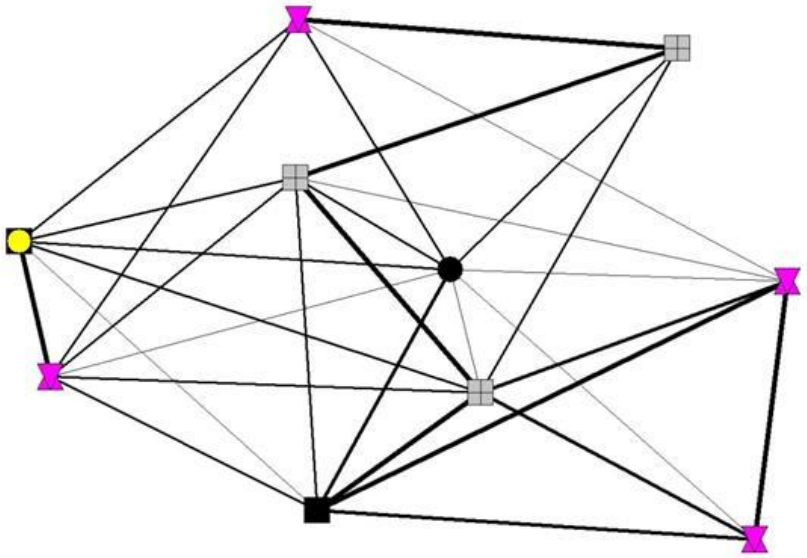


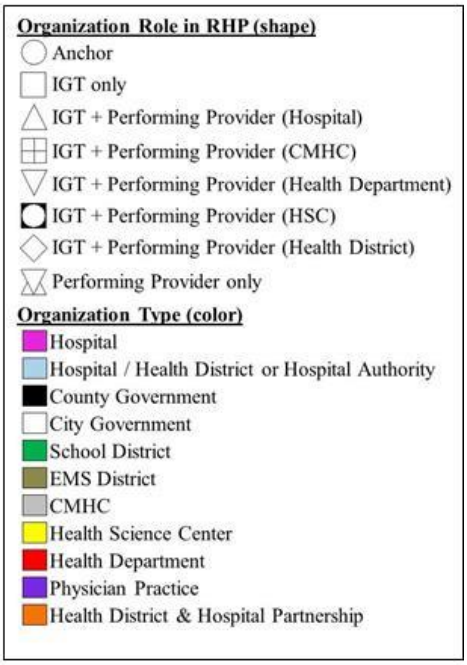
Diagrams are best viewed in color

RHP 18: Network Diagram T_0, Mean Strengths of Ties Between Organizations



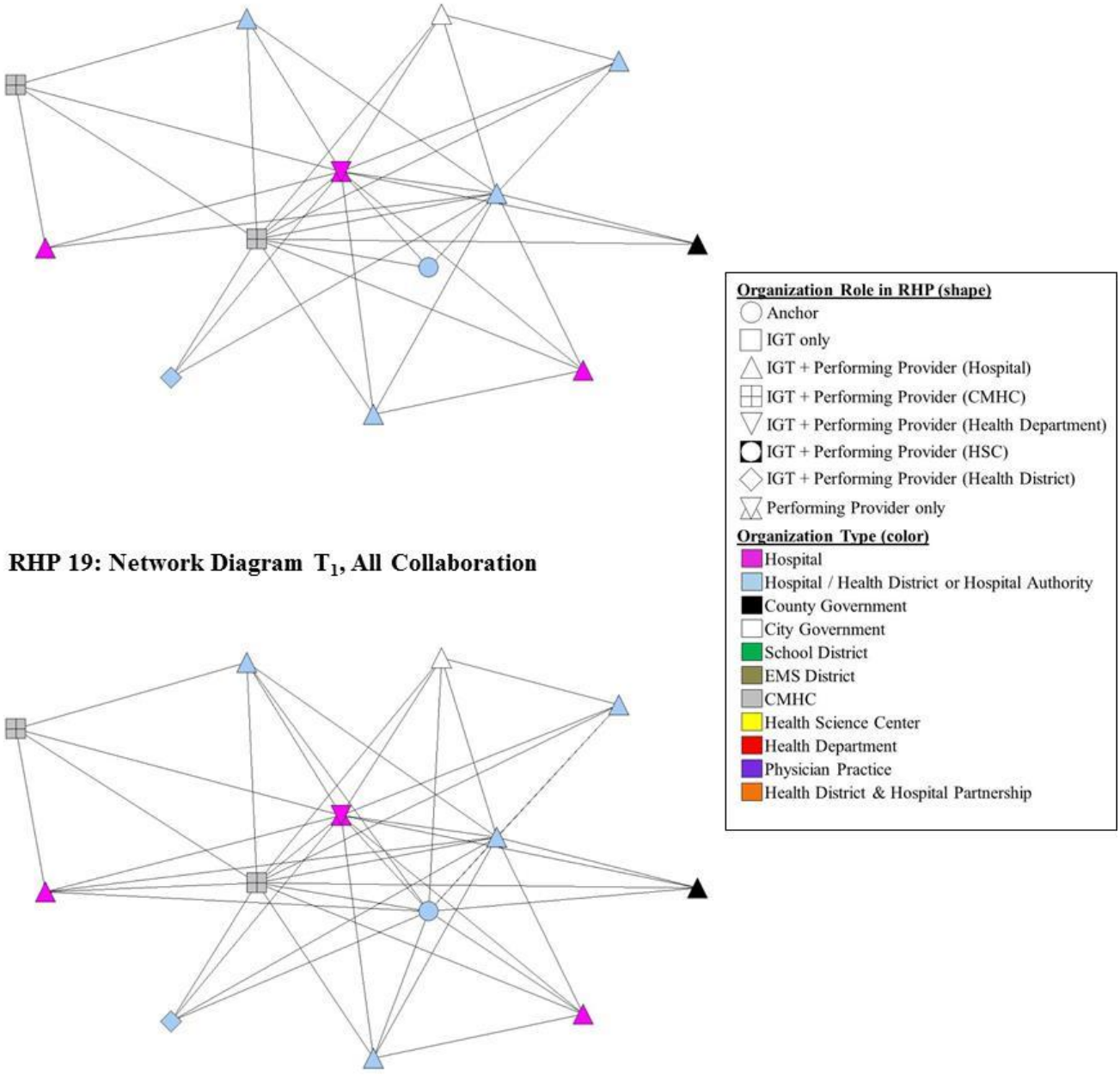
RHP 18: Network Diagram T_1, Mean Strengths of Ties Between Organizations





Diagrams are best viewed in color

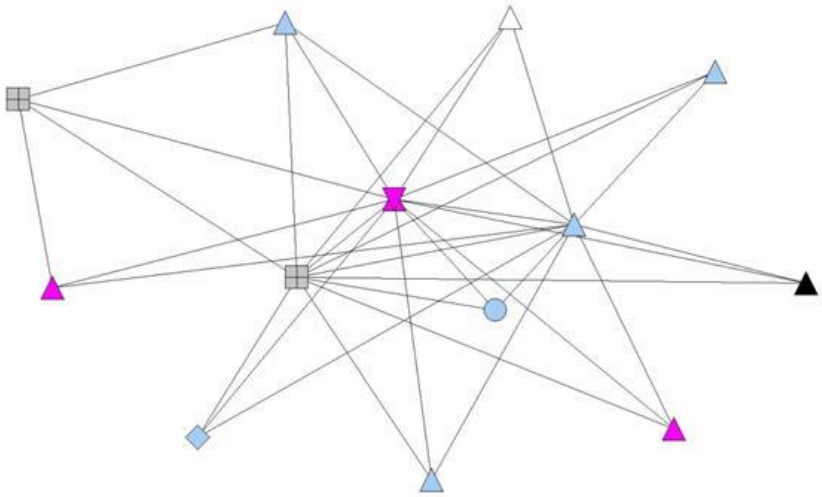
RHP 19: Network Diagram T_0, All Collaboration



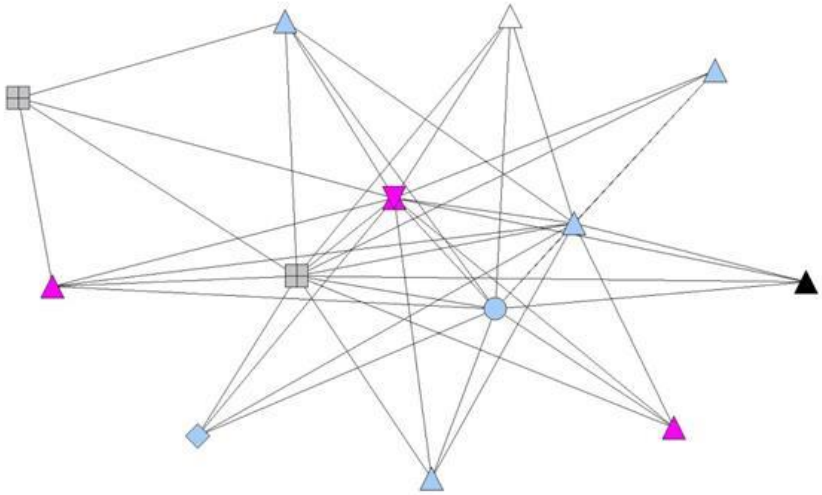
RHP 19: Network Diagram T_1, All Collaboration

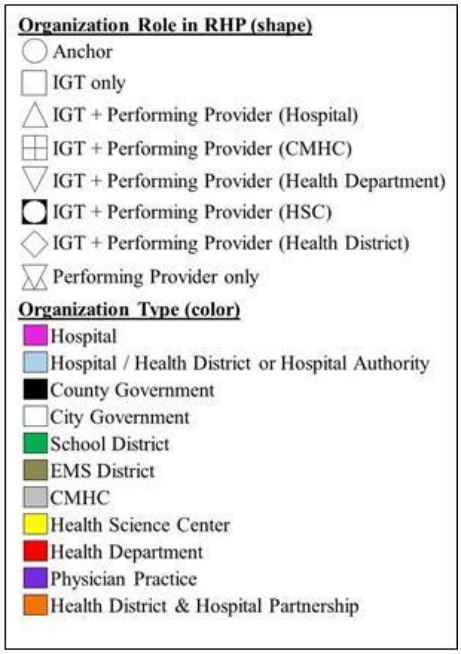
Diagrams are best viewed in color

RHP 19: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 19: Network Diagram T_1, Collaboration to Deliver Programs and Services





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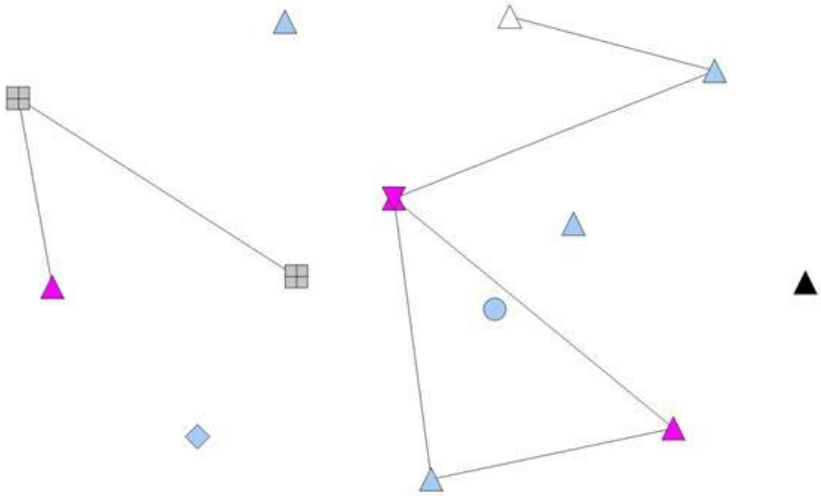
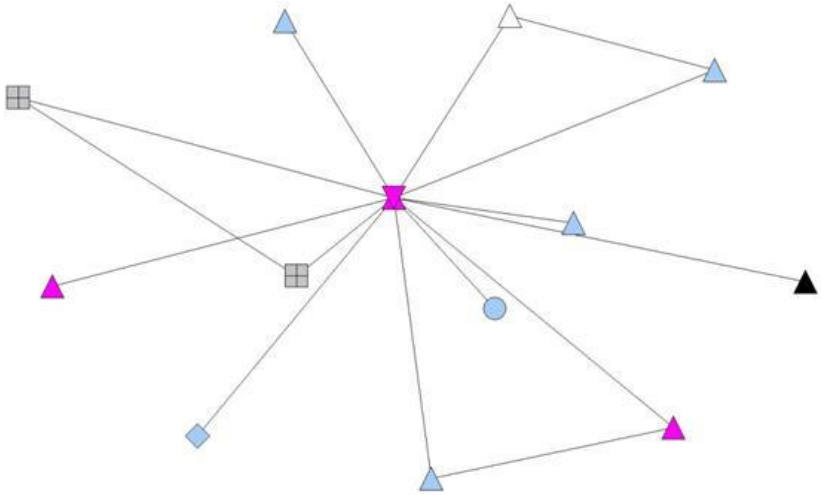
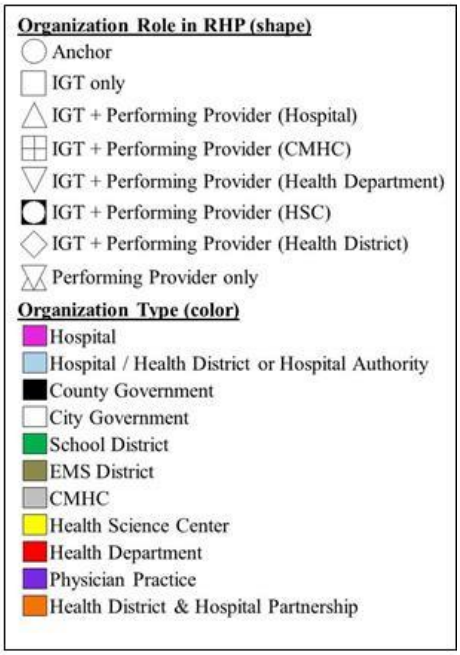
RHP 19: Network Diagram T_0, Collaboration to Share Tangible Resources



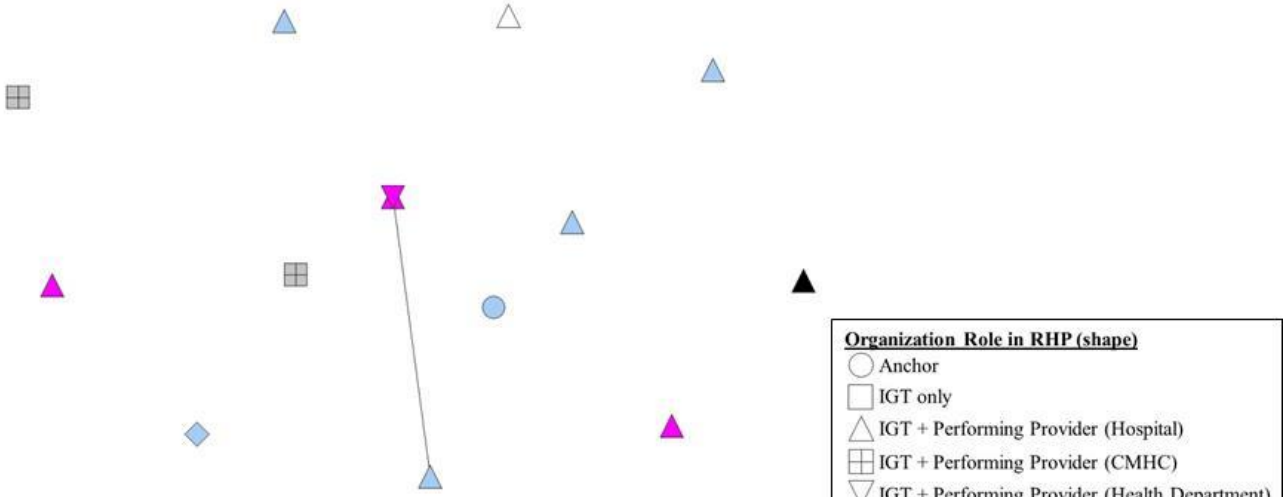
RHP 19: Network Diagram T_1, Collaboration to Share Tangible Resources



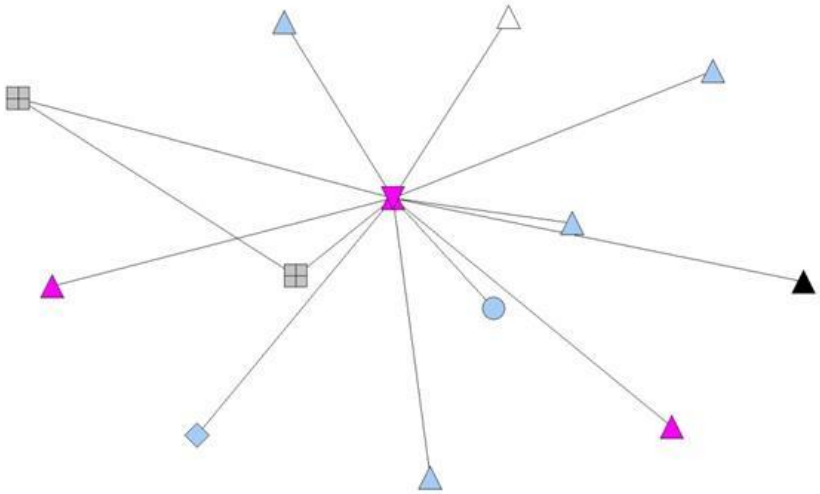


Diagrams are best viewed in color

RHP 19: Network Diagram T_0, Formal Data Sharing Agreements



RHP 19: Network Diagram T_1, Formal Data Sharing Agreements



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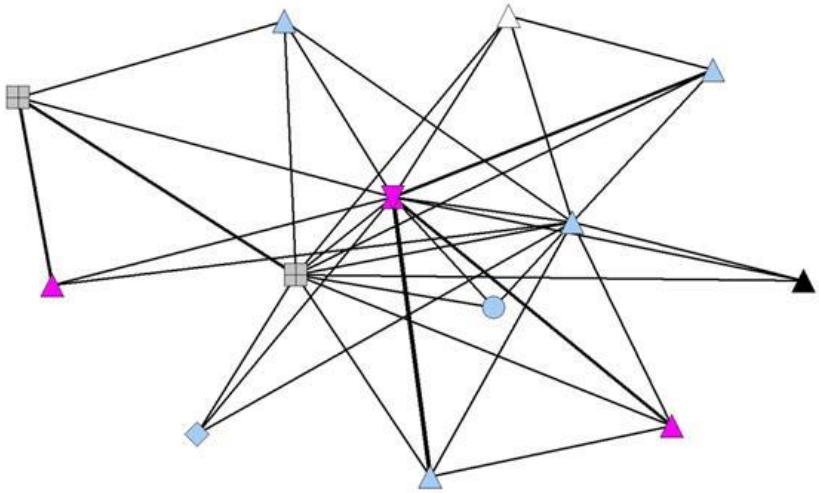
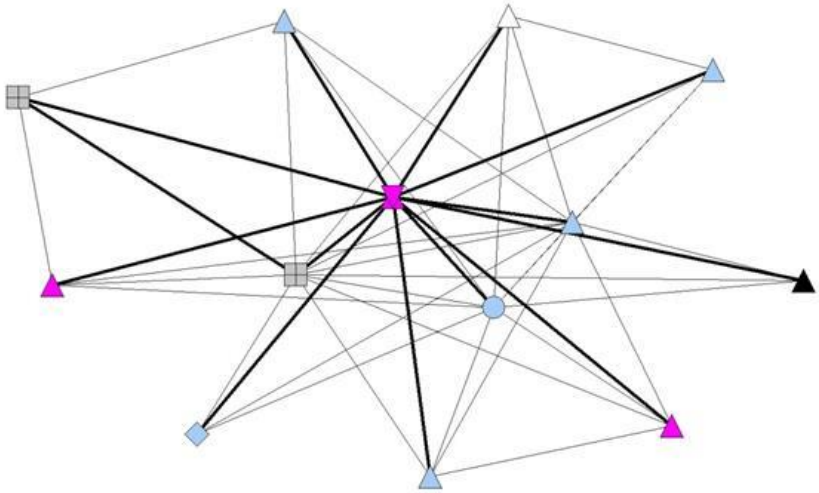
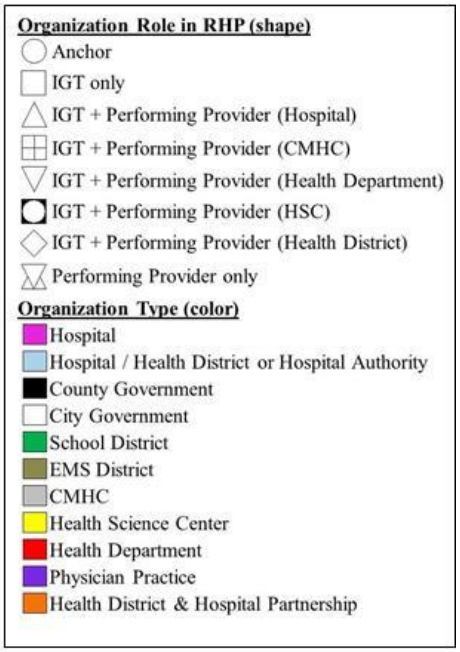
RHP 19: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 19: Network Diagram T_1, Mean Strengths of Ties Between Organizations





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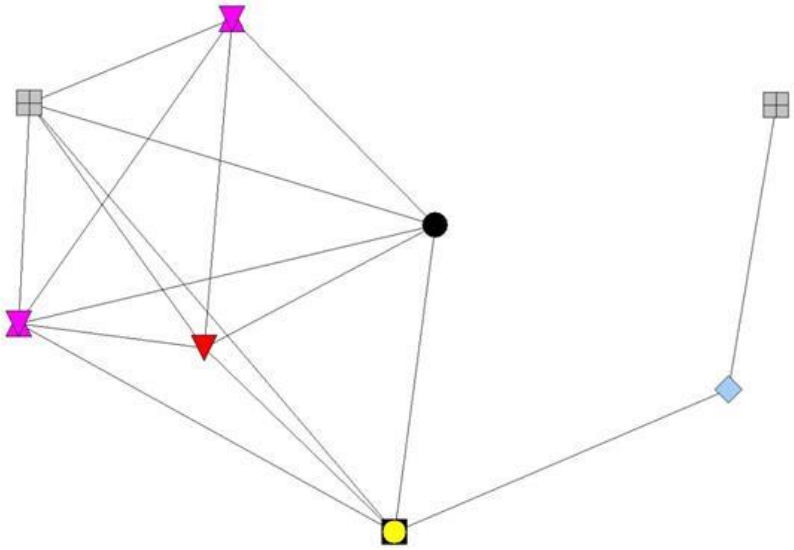
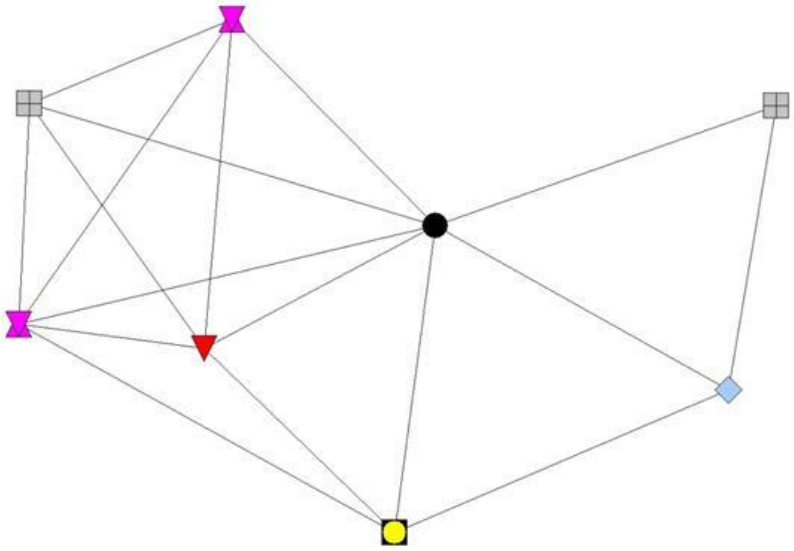
RHP 20: Network Diagram T_0, All Collaboration



RHP 20: Network Diagram T_1, All Collaboration



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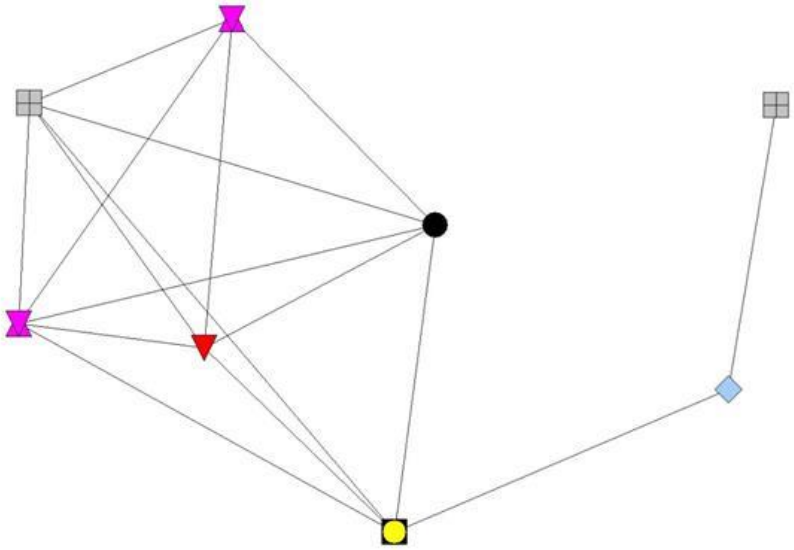
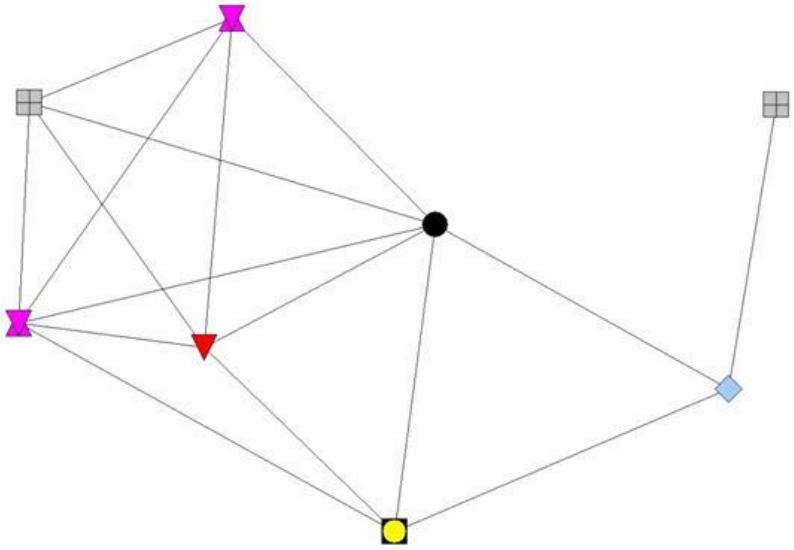
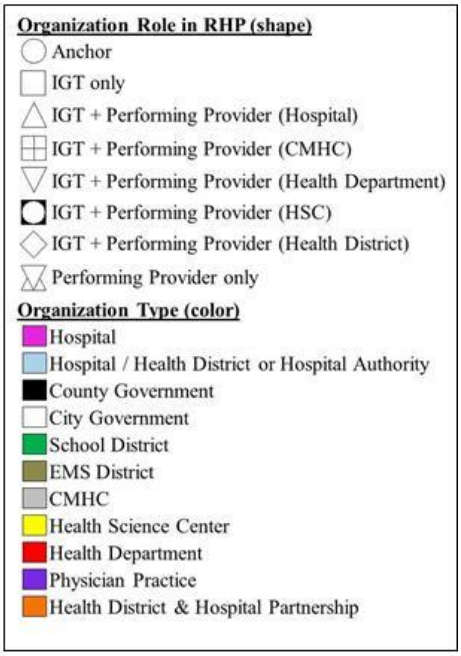
RHP 20: Network Diagram T_0, Collaboration to Deliver Programs and Services



RHP 20: Network Diagram T_1, Collaboration to Deliver Programs and Services





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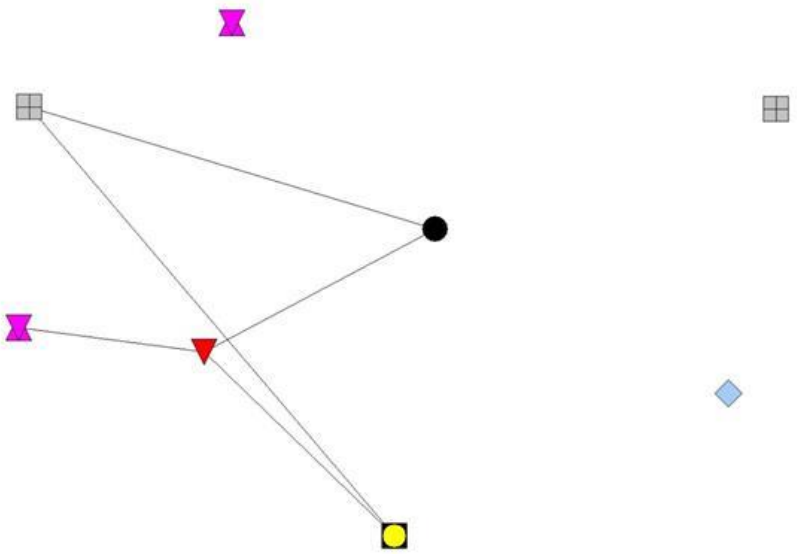
RHP 20: Network Diagram T_0, Collaboration to Share Tangible Resources



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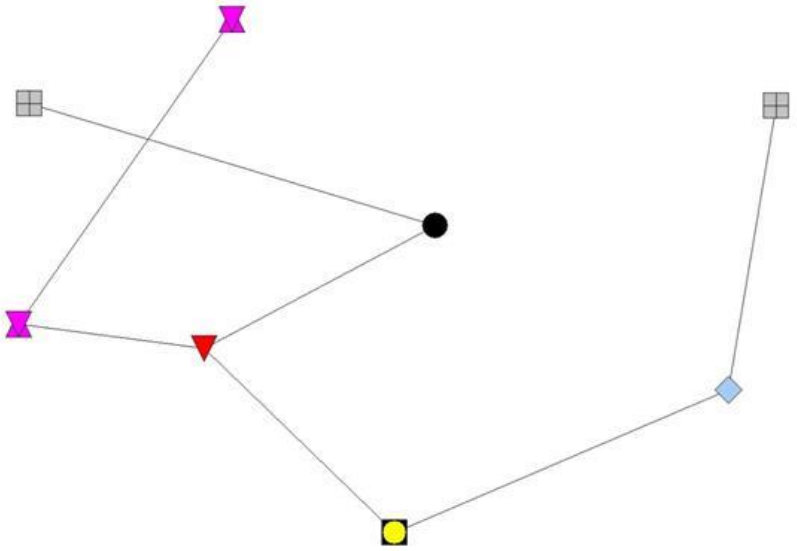

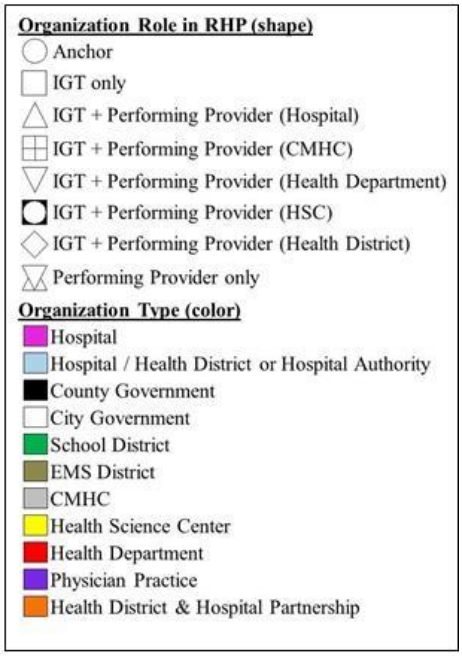

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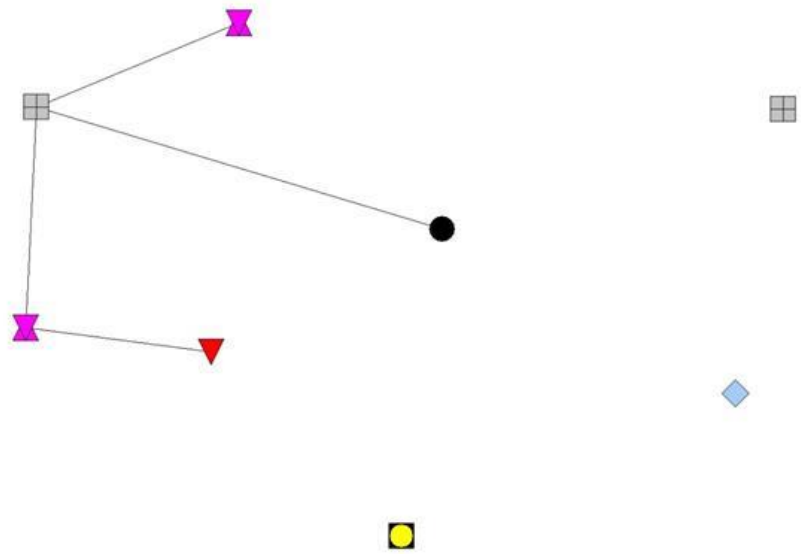
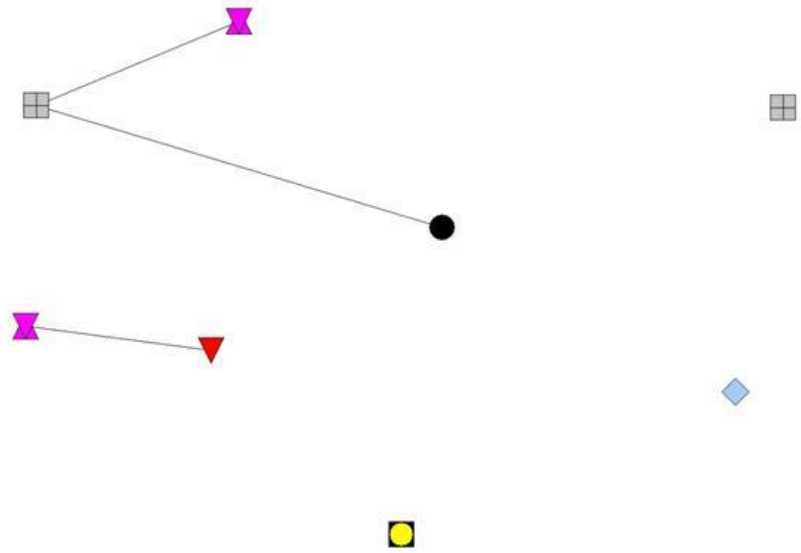
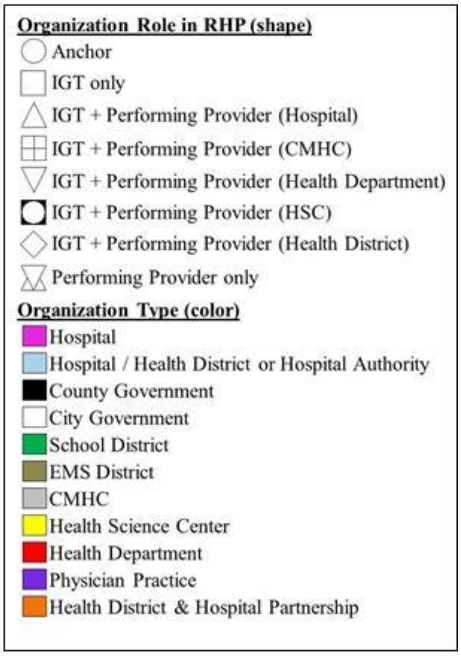
RHP 20: Network Diagram T_0, Formal Data Sharing Agreements



RHP 20: Network Diagram T_1, Formal Data Sharing Agreements





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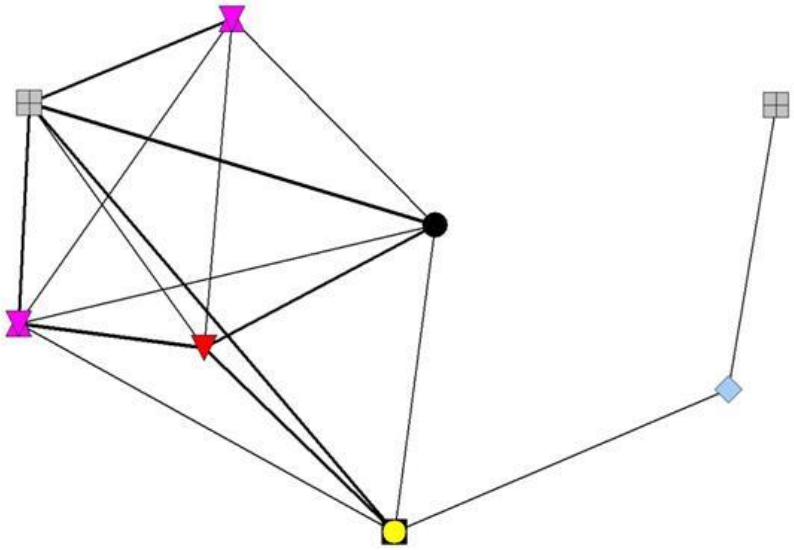
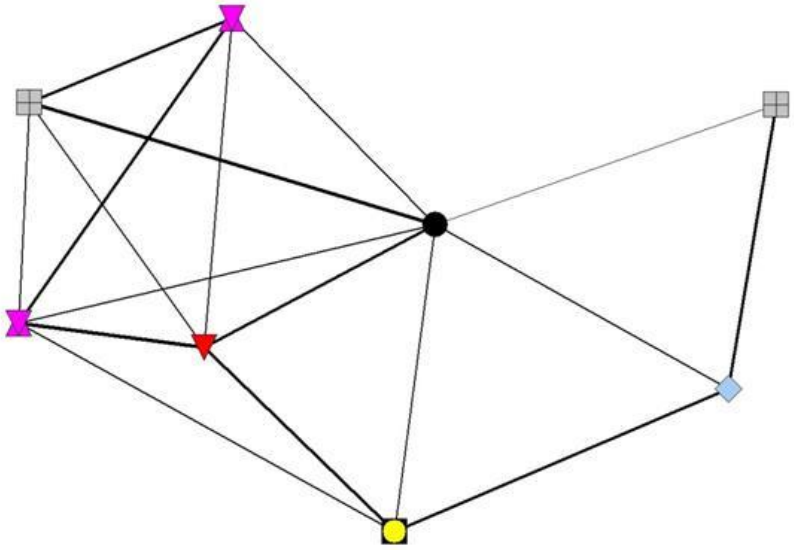
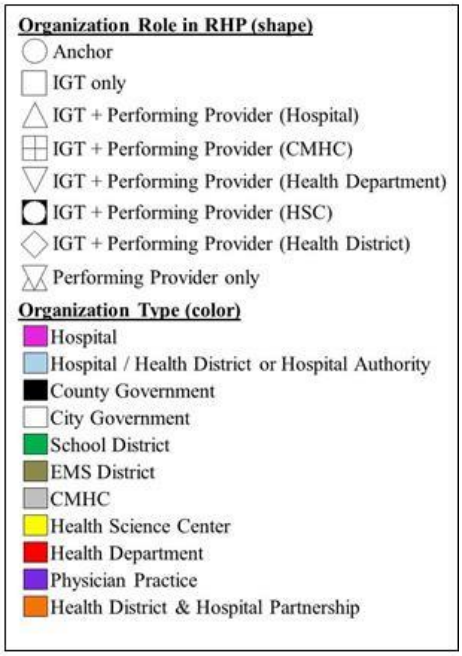
RHP 20: Network Diagram T_0, Mean Strengths of Ties Between Organizations



RHP 20: Network Diagram T_1, Mean Strengths of Ties Between Organizations





Diagrams are best viewed in color

APPENDIX L

Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8.

Construct	Measures	Method of Collection	Data Source	When	Estimated Sample Size
Innovation effectiveness [1]					
ED use					
All ED Use [IT-9.2] [p. 405 in 'RHP planning protocol' PDF file]	CPT codes 99281-99285, W0004, W0005, Y0011 or revenue codes 450-452, 456, 459, and 981	Through HHSC	Medicaid fee-for-service claims and managed care encounters data	2012 – 2015	Initial data for 2012 & 2013: 216,810
Potentially Preventable ED Visits	Developed based on HEDIS®*, Texas HHSC Frew Advisory Committee, and TX Department of State Health Services measures *The National Committee for Quality Assurance (NCQA) website defines HEDIS® as "a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service." This appears to be an acronym that no longer represents full words.	Through HHSC	Medicaid fee-for-service claims and managed care encounters data	2012 – 2015	Many thousand
Controlling for Potentially Confounding Patient Severity	Self-Administered Comorbidity Questionnaire (SCQ)[2]	Through HHSC	Medicaid fee-for-service claims and managed care encounters data	2012 - 2015	Many thousand

1. Klein, K. J., & Sorra, J. S. (1996). The challenge of innovation implementation. *Academy of Management Review, 21*(4), 1055-1080.
2. Sangha, O. "The self-administered comorbidity questionnaire: A new method to assess comorbidity for clinical and health services research." Arthritis & rheumatism 49.2 (2003):156-163.

Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8, continued.

Construct	Measures	Method of Collection	Data Source	When	Estimated Sample Size
Access to preventive care					
Primary care use	# primary care encounters	Through HHSC	Medicaid fee-for-service claims and managed care encounters data	2012 – 2015	Many thousand
Access to care	CAHPS® items about access to preventive health care	Phone interviews of patients	Rosters provided by participating facilities	2013- 2015	Estimated at 50 per site x (10 projects + 10 comparison sites) = ~ 1,000 attempted surveys & ~600 completed
Quality of Care					
Patient Experience of Care Navigation	Questions such as: 'When you are not feeling good, who can help you?' [noting if individual lists care navigator or other health professional] 'Can you tell me about what [care navigator] does for you?' 'Have you done anything different because of what s/he suggested?' 'Would you say s/he has made a difference to you?' ['How?'] [3].	Face-to-face interviews	Patients receiving care navigation	2013-14 and 20-14-15 (twice) Sampling with replace-ment	Est 5 patients per site x 10 sites x two waves (2013 and 2015) = ~ 100 individualss
	Items from:	Patient phone surveys	Patients receiving care navigation	2013 - 2015	Estimated at 50 per site x (10 projects + 10 comparison sites) = ~ 1,000 *attempted* surveys & ~600 complete

3. Issel, L. M. (2000). Women's perceptions of outcomes of prenatal case management. *Birth, 27*(2), 120-126.

Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8, continued.

Quality of Care Continued…

Construct	Measures	Method of Collection	Data Source	When	Estimated Sample Size
Patient Experience of Care Navigation	(1) The Consumer Assessment of Healthcare Providers and Systems (CAHPS®) Health Plan Survey (Medicaid module getting needed care and getting care quickly).	Patient Satisfaction [ODS-6] p. 398 in RHP planning protocol suggests CG-CAHPS survey, but does not require.			
	(2) Experience of Care and Health Outcomes (ECHO)		Care navigators and their key partners will also indicate quality of coordination		
	(3) Relational Coordination Scale (Gittel/Weinberg)[4]				
Provider Experience of Care Navigation	'What did this person need?' 'What have you done for this person?' 'How has that worked?' (adapted from prior study by PI); questions through exchanges with key partners (e.g., homeless shelters, EMS)	Face-to-face interviews	Care navigators	2013-14 and 2014-15 Seeking to interview same individuals in both years	Est. per site: 1 key informant + 2 care navigators + 7 exchange partners = 10 x 10 sites x 2 waves = ~ **200** interviews of 100+ people

4. Gittell, J. H., Weinberg, D., Pfefferle, S., & Bishop, C. (2008). Impact of relational coordination on job satisfaction and quality outcomes: a study of nursing homes. *Human Resource Management Journal*, *18*(2), 154-170.

Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8, continued.

Construct	Measures	Method of Collection	Data Source	When	Estimated Sample Size
Patient Health Outcomes					
Overall health and functioning	The RAND® 8-Item Health Survey [5]. 2013 and 2015	Included in phone survey about patient experience of care navigation	Individuals receiving (when available) or eligible for care navigation at a given site	2013 - 2015	[included in est. 600 patients identified above]
Cost of Care					
ED costs	For Medicaid enrollees: Paid amounts for ED care if known or ED charges converted to costs using cost-charge ratios[6]; paid claims for outpatient care for individuals in priority populations (with high baseline ED use) (DSHS CHS, 2012) 2012 (baseline) – 2015	Through HHSC	Medicaid fee-for-service claims and managed care encounters data	2012 - 2015	Initial data for 2012 & 2013 for all ED users (not just frequent): Inpatient-$531M Outpatient-$156M Total: $687M

5. Ware, J. E., Kosinski, M., Dewey, J. E., Gandek, B. (2001). How to score and interpret single-item health status measures: A manual for users of the SF-8™ health survey. Lincoln, RI: QualityMetric, Inc.
6. Billings, J., Parikh, N., & Mijanovich, T. (2000). Emergency department use in New York City: A substitute for primary care? *Issue brief (Commonwealth Fund), 433*, 1-5.

Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8, continued.

Construct	Measures	Method of Collection	Data Source	When	Estimated Sample Size
Factors Hypothesized to Affect Implementation Effectiveness [9]					
'Outer Setting' – i.e., the local context for each project	Geographic distances to services; transportation availability; health and human service availability [e.g., Identified through Community Needs Assessments]; general organizational and staffing stability at partner agencies; coordination with those agencies [e.g., Relational Coordination Scale]; fit between ED care navigation processes and partner agencies' staff values, routines, and rewards; patient population characteristics [P-1, p. 244 RHP Planning Protocol]	Through HHSC	Project reports to HHSC	2013 – 2016	[included in reports/ site visit interviews listed above]
			Area Resource Files		20 RHPs x estimated average of 20 members =400 surveyed
		Secondary data		2013	
			RHP members		
		Surveys conducted for evaluation goal 9		2014	
'Inner Setting' – i.e., the structure of the implementing facility	Hospital structure (e.g., size, complexity; staffing stability; space to meet with patients); access to information systems; linkage of care navigation to other hospital activities, e.g., discharge follow-up, disease management	Through HHSC	Project reports to HHSC	2013 – 2016	[included in reports and site visit interviews listed above]
			Project leader (key informant)/ care navigator(s) at each site		
		Site interviews		2013-14, 2015-16 (twice)	
Implementation Climate – i.e., the lived experience of staff in the implementing facility, related to implementation of the DSRIP-funded project	Work climate (e.g., time to do the work[7]; role clarity[7]; constructive culture[8]; training and technical assistance for care navigators [P-2.1]; leadership support within and beyond the organization for care navigation; facilitative/ constraining administrative systems (e.g., travel and flex time; evaluation and compensation practices)	Through HHSC	Project reports to HHSC	2013 – 2016	[included in reports and site visit interviews listed above]
		Site interviews	Project leader (key informant)/ care navigator(s) at each site	2013-14, 2015-16 (twice)	

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Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8, continued.

Factors Hypothesized to Affect Implementation Effectiveness Continued…

Construct	Measures	Method of Collection	Data Source	When
Individuals Involved	Skills and experience (education); knowledge and beliefs about care navigation	Through HHSC	Project reports to HHSC	2013 – 2016
		Site interviews	Project leader (key informant)/ care navigator(s) at each site; key exchange partners	2013-14, 2015-16 (twice)
Implementation Process	Feedback to care navigators on project performance [P-7, p. 247 in RHP Planning Protocol]; participation in learning collaboratives [P-6, P-8]	Through HHSC	Project reports to HHSC	2013 – 2016
	How accurate, relevant, and timely is feedback care navigators receive?	Site interviews	Project leader (key informant)/ care navigator(s) at each site	2013-14, 2015-16 (twice)

Table L.1. Planned Data Sources and Measures for Evaluation Goals 6, 7, and 8, continued.

Factors Hypothesized to Affect Implementation Effectiveness Continued…

Construct	Measures	Method of Collection	Data Source	When	Estimated Sample Size
Implementation Dosage	Caseload per care navigator FTE as a proxy for # hours per person [P-2.2]; Frequency of contact with care navigators for high risk patients [P-2.3]	Through HHSC	Project reports to HHSC	2013 – 2016	[included in reports and site visit interviews listed above]
		Site interviews	Project leader / care navigator(s) at each sit	2013-14, 2015-16 (twice)	
Adaptation	Care navigators' reports of changes made to fit local circumstances	Site interviews	Care navigator(s) at each site	2013-14, 2015-16 (twice) + 2014 key contact interview	[included in interviews cited above]
Implementation Reach	Number of patients enrolled in program at successive points in time [P-3 in RHP Planning Protocol, p. 245]; pilot-testing vs. full scale initial implementation[9]	Through HHSC	Project reports to HHSC	2013 – 2016	[included in reports and site visit interviews listed above]
		Site interviews	Project leader/ care navigator(s) at each site	2013-14, 2015-16 (twice)	
Participant Responsiveness	Patient accounts of engagement in care; patients enrolled in patient engagement programs [P-4]	Through HHSC	Project reports to HHSC	2013 – 2016	[included in reports and site visit interviews listed above]
		Site interviews	Project leader/ care navigator(s) at each site	2013-14, 2015-16 (twice)	

9. Damschroder, L. J., Aron, D. C., Keith, R. E., Kirsh, S. R., Alexander, J. A., & Lowery, J. C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science, 4*(1), 50.

Table L.2. CPT Codes.

Code Number	Description
99281	Emer Dept Self Limited/Minor
99282	Emer Dept Low to Moderate Severity
99283	Emer Dept Moderate Severity
99284	EmerDept Hi Severity and Urgent Eval
99285	Emer Dept High Severity and Threat Func
W0003	Anesthesia (fee for supplies)
W0004	Emergency room (charge for room)
Y0011	Treatment room in ER

Table L.3. Revenue Codes.

Code Number	Description
450	Emergency Room, General
451	EMTALA ER
452	ER beyond EMTALA screening
456	Urgent Care
459	Emergency Room, Other
981	Professional Fee/ER

Ambulatory Care Sensitive Condition(s):
Some hospitalizations and emergency room (ER) visits are called ambulatory care sensitive (ACS) admissions or visits because there is consensus that the condition usually can be managed successfully in the outpatient setting. Texas Contract Year 2009 Page 20 SFY 2008 Quality of Care Report: CHIP Version: V1.2 HHSC Approval Date: November 30, 2009

ICD-9-CM Codes Used:
Ambulatory Care Sensitive Conditions (ACSC) - Reference from the Agency for Healthcare Research and Quality (AHRQ) and the Institute for Child Health Policy. XX indicates null or a valid value between 0-9.