Appendix D

Texas Healthcare Transformation and Quality Improvement Program Demonstration Waiver Evaluation Design Plan

As Required by

Centers for Medicare and Medicaid Services

Texas Health and Human Services Commission

Office of Data, Analytics, and Performance

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TEXAS
Health and Human Services

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1. Background and Introduction

Medicaid in Texas

Texas has the second largest population in the United States and operates the third largest Medicaid program in the country (Centers for Medicare and Medicaid Services, 2020). In State Fiscal Year (SFY) 2019, the Texas Health and Human Services Commission (HHSC) provided Medicaid benefits to approximately 4.3 million people (Texas Health and Human Services Commission, 2020). That same year, the Texas Medicaid program cost the state and federal governments a combined total of approximately $65 billion, accounting for 27 percent of the state budget (Texas Health and Human Services Commission, 2020).

One of the most significant issues facing the Texas Medicaid program is coordination of the healthcare system—specifically, how to provide coordinated, high quality services while containing costs. A lack of care coordination can lead to less effective use of care, resulting in increased costs for a program that already represents over one-quarter of the state's annual budget. Given the scope and importance of the Medicaid program in providing care to Texans, it is vital to maximize efficiency and stabilize system funding while supporting cost-effective access, coordination, and quality of care.

History of the Texas 1115 Demonstration

The 82nd Texas Legislature, 2011, directed HHSC to expand Medicaid managed care (MMC) statewide and preserve supplemental payments for hospitals (Texas Health and Human Services Commission, 2020). In response to these directives, HHSC applied for an 1115 demonstration waiver titled the "Texas Healthcare Transformation and Quality Improvement Program" (Demonstration) and received approval from the Centers for Medicare and Medicaid Services (CMS) for a five-year Demonstration in December 2011. The goals of the initial Demonstration were to:

- Expand risk-based managed care to new populations and services.
- Support the development and maintenance of a coordinated care delivery system.
- Improve outcomes while containing cost growth.
- Transition to quality-based payment systems across managed care and providers.

The Demonstration has been renewed and extended several times since its original approval. Table 1 shows the key dates of the Demonstration.

Table 1. Texas 1115 Demonstration Key Dates

Description	Approval Date	Demonstration Authorized Through
Initial Approval	December 12, 2011	September 30, 2016
15-Month Extension	May 1, 2016	December 31, 2017
Renewal	December 21, 2017	September 30, 2022
Ten-Year Extension	January 15, 2021	September 30, 2030

Focus of the Demonstration Extension

From 2011 to 2021, the Demonstration included three components: MMC expansion, the Delivery System Reform Incentive Payment (DSRIP) pool, and the Uncompensated Care (UC) pool. Together, these components played a critical role in transforming the state healthcare system over the life of the Demonstration. The three components improved care delivery and the efficient use of Medicaid funds through MMC expansion, created a broad-scale effort to drive quality improvement and incentivize provider innovation under the DSRIP program, and established critical financial supports for Medicaid providers through the UC pool.

While the state has made significant progress towards the goals set forth in the initial Demonstration, the objectives of the Demonstration remain ongoing priorities that continue to guide state efforts in the Medicaid program. The Demonstration Extension (Extension) approved on January 15, 2021 allows Texas continued flexibility to pursue these goals. Specific aims of the Extension include transitioning additional services to MMC while improving the overall quality of the MMC service delivery model, promoting access to care and value-based incentives achieved under DSRIP, and sustaining the financial stability of Medicaid providers.

To meet these aims, the Extension will make significant changes to previous Demonstration components, including:

- The expiration of the DSRIP program on September 30, 2021 and the implementation of four new Directed Payment Programs (DPPs).
- The implementation of a new supplemental payment program (SPP), titled the Public Health Provider Charity Care Pool (PHP-CCP) program, on October 1, 2021.

The Extension will facilitate MMC expansion for additional services and populations and will continue the UC pool. Figure 1 below depicts the key demonstration components over time.

MMC, DPPs, and two SPPs comprise the three main components of the Extension:

- Medicaid Managed Care
- Directed Payment Programs
  - Comprehensive Hospital Increased Reimbursement Program (CHIRP)

    - Directed Payment Program for Behavioral Health Services (DPP BHS)
    - Rural Access to Primary and Preventative Services (RAPPS)
    - Texas Incentives for Physician and Professional Services (TIPPS)
    - Quality Incentive Payment Program (QIPP)
- Supplemental Payment Programs
    - Uncompensated Care Program[1]
    - Public Health Provider Charity Care Pool Program

Additional details on components included in the Extension, as well as evaluation implications, are provided in subsequent sections.

[1] The UC Pool transitioned to charity care only in DY9.

Figure 1. Demonstration Overview

Demonstration Component	Initial Demonstration Period 5 Years: December 2011-September 2016					15-Month Extension	Demonstration Renewal Period 3 Years: January 2018-January 2021[1]			Demonstration Extension Period 10 Years: January 2021-September 2030										
	DY1	**DY2**	**DY3**	**DY4**	**DY5**	**DY6**	**DY7**	**DY8**	**DY9**	**DY10**	**DY11**	**DY12**	**DY13**	**DY14**	**DY15**	**DY16**	**DY17**	**DY18**	**DY19**
	FFY 2012	FFY 2013	FFY 2014	FFY 2015	FFY 2016	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028	FFY 2029	FFY 2030
MMC[2]	PCCM ended STAR statewide expansion STAR+PLUS expansion to Hidalgo & Lubbock SDAs		STAR+PLUS statewide expansion STAR+PLUS HCBS program implemented			STAR Kids MMC program implemented													
	Additional populations and benefits carved into MMC from DY1 to DY10[3]																		
										NEMT carved into MMC, DRTS provided with less than 48-hours' notice for certain trips, and increased opportunities for TNCs									
	FFY 2012	FFY 2013	FFY 2014	FFY 2015	FFY 2016	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028	FFY 2029	FFY 2030
DSRIP	Project development and planning																		
			Projects implemented																
									Funding decrease										
										Funding decrease									
											DSRIP ends								
	SFY 2012	SFY 2013	SFY 2014	SFY 2015	SFY 2016	SFY 2017	SFY 2018	SFY 2019	SFY 2020	SFY 2021	SFY 2022	SFY 2023	SFY 2024	SFY 2025	SFY 2026	SFY 2027	SFY 2028	SFY 2029	SFY 2030
DPPs							QIPP implemented												
								UHRIP Implemented											
											CHIRP, DPP BHS, RAPPS, and TIPPS implemented								
	FFY 2012	FFY 2013	FFY 2014	FFY 2015	FFY 2016	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028	FFY 2029	FFY 2030
UC	UPL program ended New UC reporting tool implemented: Focus shifted *from* claims for UC charges *to* UC costs																		
									Shift to reimbursement of UC costs for charity care provided to uninsured individuals only									
											UC Pool Resizing Establish amount for 2022-2026								
																UC Pool Resizing Establish amount for 2027-2030				
	FFY 2012	FFY 2013	FFY 2014	FFY 2015	FFY 2016	FFY 2017	FFY 2018	FFY 2019	FFY 2020	FFY 2021	FFY 2022	FFY 2023	FFY 2024	FFY 2025	FFY 2026	FFY 2027	FFY 2028	FFY 2029	FFY 2030
PHP-CCP											PHP-CCP Implementation								
													PHP-CCP Resizing Establish amount for 2024-2028						
																		PHP-CCP Resizing Establish amount for 2029-2030	

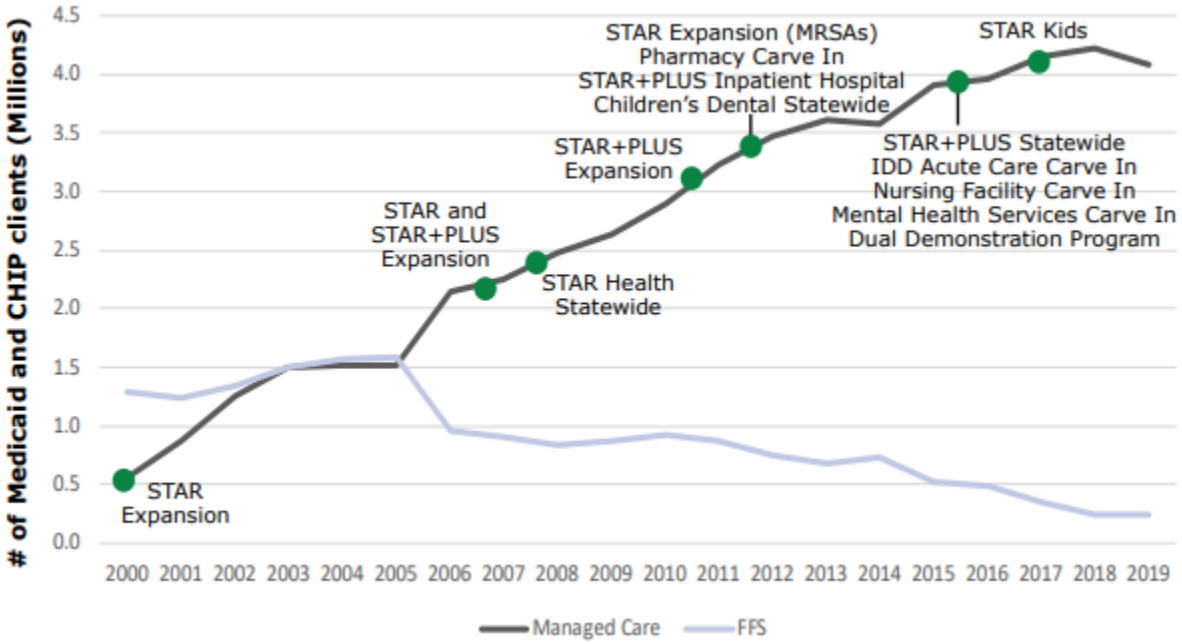
Notes. [1] The Demonstration Renewal Period was originally approved for five years through September 2022, however the Renewal Period ended upon approval of the Extension on January 15, 2021. [2] MMC section only includes expansion activities included in the evaluation at the time of writing. This figure will be updated, as necessary, to reflect future changes to MMC. [3] Additional populations and services Texas carved into MMC during the first 10 years of the Demonstration include pharmacy benefits, non-behavioral health inpatient hospital stays, children's dental services, nursing facility services, mental health targeted case management and rehabilitative services, acute care for individuals with intellectual and developmental disabilities, adoption assistance, permanency care assistance, and the Medicaid for Breast and Cervical Cancer program.

DY=Demonstration year, October 1-September 30; MMC=Medicaid managed care; FFY=Federal fiscal year, October 1-September 30; PCCM=Primary care case management; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; SDA=Service delivery area; HCBS= Home and community-based services; STAR Kids=MMC program serving disabled individuals 20 years and younger; NEMT=Nonemergency medical transportation; DRTS=Demand response transportation services; TNC=Transportation network company; LTSS=Long-term services and supports; IDD=Intellectual or developmental disability; CMS=Centers for Medicare and Medicaid; DSRIP=Delivery System Reform Incentive Payment; DPP=Directed payment program; SFY=State fiscal year, September 1-August 31; QIPP=Quality Incentive Payment Program; UHRIP=Uniform Hospital Rate Increase Program; CHIRP=Comprehensive Hospital Increased Reimbursement Program; DPP BHS=Directed Payment Program for Behavioral Health Services; RAPPS=Rural Access to Primary and Preventive Services; TIPPS=Texas Incentives for Physician and Professional Services; UC=Uncompensated Care; UPL=Upper payment limit; PHP-CCP=Public Health Provider Charity Care Pool.

Medicaid Managed Care

Texas has operated various MMC programs since 1993, beginning with the implementation of STAR in Travis, Chambers, Jefferson, and Galveston counties. Since that time, Texas has vastly expanded its managed care delivery system, with the majority of these changes occurring under the Demonstration. Beginning in federal fiscal year (FFY) 2012, three changes to Texas Medicaid programs were implemented as part of the Demonstration: (1) the primary care case management health care delivery model ended; (2) the STAR MMC program, which provides coverage primarily to children and pregnant women, expanded statewide; and (3) the STAR+PLUS MMC program, which provides services to older adults and people with disabilities, expanded to two new service areas. As the Demonstration evolved, Texas expanded STAR+PLUS statewide and incorporated new services and populations into STAR+PLUS. Texas also implemented a new MMC program, STAR Kids, to provide services to children and young adults with disabilities. Additionally, Texas carved in new populations and services from traditional fee-for-service (FFS) into MMC programs over the course of the Demonstration. For example, pharmacy benefits, non-behavioral health inpatient hospital stays, children's dental services, nursing facility services, mental health targeted case management and rehabilitative services, acute care for individuals with intellectual and developmental disabilities, individuals receiving adoption assistance, individuals receiving permanency care assistance, and the Medicaid for Breast and Cervical Cancer program have all been carved into MMC under the Demonstration. HHSC has also been granted a series of amendments to make the MMC service delivery model easier for beneficiaries to navigate, such as allowing certain individuals to choose between MMC programs (e.g., Former Foster Care Children ages 18 to 20 years who meet STAR Kids criteria are allowed to choose between STAR Health and STAR Kids). Figure 2 depicts Texas's transition from FFS to MMC over the past 20 years. Collectively, Texas's efforts to transition populations and services into MMC have been successful; as of December 2020, 94 percent of Medicaid clients were enrolled in MMC (Texas Health and Human Services Commission, 2020).

Figure 2. Texas MMC Growth Over Time[1]



Source. [1] Medicaid caseloads experienced declines beginning in 2018 due to sustained positive economic conditions and record low unemployment rates. Texas Health and Human Services Commission (2020). Texas Medicaid and CHIP in Perspective: 13th Edition. Austin, TX: Texas Health and Human Services Commission.
MMC=Medicaid managed care; CHIP=Children's Health Insurance Program; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Health=MMC program for individuals under or transferring out of conservatorship or foster care; STAR Kids=MMC program serving disabled individuals 20 years and younger; IDD=Intellectual or developmental disability; FFS=Fee-for-service.

Previous research has shown that MMC is designed to improve access to care, quality of care, and care coordination; increase Medicaid budget predictability; and reduce Medicaid spending (The Henry J. Kaiser Family Foundation, 2015). However, as Texas's MMC service delivery model matures, comparisons to historical FFS programs become less informative for driving ongoing program improvement processes. Since MMC is the primary service delivery model for Texas Medicaid beneficiaries, it is imperative to monitor and improve the MMC service delivery model. Throughout the Demonstration, HHSC has implemented new performance-based quality initiatives to help HHSC and MMC Managed Care Organizations (MCOs) identify areas for improvement in the MMC service delivery model. Taken together, these initiatives are designed to promote the expansion of quality-based payments and coordinated care delivery within the MMC delivery system. Appendix C summarizes MMC-related quality initiatives at the time of writing.

During the Extension, Texas will continue to transition additional services and populations into MMC and enhance the current MMC service delivery model to better meet the needs of beneficiaries. Texas will undergo five legislative sessions during the Extension,[2] which may significantly alter the MMC landscape. Some future legislative actions may substantially alter the service delivery model for MMC beneficiaries, warranting new evaluation questions and hypotheses, while others may not. This evaluation design is meant to span the entire Extension period; however, the MMC evaluation component presented here reflects MMC priorities at the time of writing. Should future MMC changes or initiatives necessitate adjustments to existing plans, or the development of new evaluation questions or hypotheses, this evaluation design will be revised accordingly.[3]

At the time of writing, there are three previously unevaluated changes to MMC which substantially altered, or would substantially alter, the service delivery model for MMC beneficiaries:[4]

- **STAR+PLUS Home and Community-Based Services (HCBS)**: On September 1, 2014, STAR+PLUS HCBS replaced a predecessor program operating under the Community Based Alternatives waiver.[5] STAR+PLUS HCBS provides LTSS in a community setting for individuals who meet a nursing facility level of care. LTSS provided through STAR+PLUS HCBS include but are not limited to nursing services, personal assistance services, adaptive aids, medical supplies, and minor home modifications.[6] Additionally, on November 16, 2023, CMS approved an amendment to the Demonstration allowing up to 150 medically fragile individuals enrolled in STAR+PLUS HCBS to receive services beyond the individual cost cap.
- **Nonemergency Medical Transportation (NEMT)**: On June 1, 2021, MCOs began providing all NEMT services for MMC beneficiaries. In addition, MCOs began providing demand response transportation services (DRTS) for certain

[2] At the time of writing, the 87th Texas Legislature, Regular Session, 2021, had recently concluded. Texas will also convene four additional regular legislative sessions during the Extension (88th session in 2023, 89th session in 2025, 90th session in 2027, and the 91st session in 2029); special sessions may also be convened at the direction of the governor.
[3] The 87th Texas Legislature passed multiple bills requiring changes to MMC. Some bills impacting MMC will require 1115 waiver amendments and state plan amendments. This evaluation design will be revised to include evaluation questions and hypotheses on pending bill implementations and forthcoming changes to MMC as a result of the 87th Texas Legislature, as necessary, at a later date.
[4] This is not a comprehensive list of Demonstration amendments requested by HHSC. A full list of Texas 1115 wavier amendments can be found at: https://www.medicaid.gov/medicaid/section-1115-demo/demonstration-and-waiver-list/83231
[5] STAR+PLUS HCBS began during the Initial Demonstration Approval Period, but is included in the current evaluation because it was not evaluated in previous Demonstration approval periods and reflects CMS research interests.
[6] The full list of services provided through STAR+PLUS HCBS are accessible via: https://www.hhs.texas.gov/handbooks/starplus-program-support-unit-operational-procedures-handbook/8100-home-community-based-services

trips with less than 48-hours' notice and HHSC increased opportunities for transportation network companies (TNCs) to provide DRTS.[7] HHSC anticipates the expanded participation of TNCs will increase NEMT utilization and the shift to MCO coordination will improve the overall NEMT service delivery model.

- **Case Management for Children and Pregnant Women (CPW)**: On September 1, 2022,[8] MCOs began contracting with and reimbursing CPW providers for billable case management services. The transition of the CPW benefit from FFS to managed care encourages the maintenance of a coordinated care delivery system through coordination of case management services that are available to a beneficiary (through MCOs and CPW providers). A stand-alone evaluation of CPW services is being conducted by HHSC's Office of Data, Analytics, & Performance. The evaluation design for the CPW-specific assessment is provided in Appendix I. Findings from the stand-alone evaluation of CPW services will be included as an appendix to all evaluation deliverables.

In summary, previous MMC evaluation components of the Demonstration focused primarily on service changes among Medicaid clients whose benefits transitioned from FFS to MMC. However, as MMC has become the service delivery model for most Medicaid beneficiaries, inquiries into individuals transitioning from FFS to MMC are less frequent, increasingly population-specific, and less generalizable to the entire MMC population. In order to ensure findings from the MMC evaluation component are relevant, useful, and well-tailored to the overall goals of the Demonstration, HHSC expanded the scope of the MMC evaluation component during the Extension to assess the quality of Texas MMC in its entirety. This macro-level approach to the MMC evaluation will provide insight into the performance of MMC programs for the Demonstration as a whole, a perspective not explored in previous Demonstration evaluation plans.

[7] A transportation network company means a corporation, partnership, sole proprietorship, or other entity that, for compensation, enables a passenger to prearrange with a driver, exclusively through the entity's digital network, a digitally prearranged ride (e.g., Uber or Lyft; Texas Occupations Code, 2402.001).

[8] MCOs began overseeing CPW services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. HHSC submitted an amendment to CMS to allow CPW services to be delivered via managed care under the THTQIP Demonstration on May 5, 2022, and CMS approved the amendment on November 16, 2023.

Directed Payment Programs

DSRIP provides incentive payments to providers who engage in innovations and reforms that improve access to care, quality of care, and population health outcomes. The DSRIP pool expired on September 30, 2021.[9] As a part of the DSRIP transition plan, Texas developed a series of DPPs to sustain key DSRIP initiative areas and support further delivery system reform after DSRIP expires.

Before the expiration of the DSRIP pool, Texas operated QIPP and the Uniform Hospital Rate Increase Program (UHRIP). QIPP will continue operating under the Extension; however, in accordance with the DSRIP transition plan, the state transitioned UHRIP to an expanded DPP called CHIRP, and developed three additional DPPs (DPP BHS, RAPPS, and TIPPS) to further support delivery system reform.

Supplemental Payment Programs

Uncompensated Care Pool

Uncompensated care refers to costs associated with hospital care for which no payment was received from the patient or insurer. These payment shortages fall into two categories: charity care and bad debt. Charity care is unreimbursed costs to hospitals for services provided to low-income individuals for free or at reduced prices; hospitals assume minimal payment on behalf of the patient. Bad debt refers to uncollectible inpatient and outpatient charges that result from the extension of credit to the patient after the facility expected payment for care. The possible fiscal impact of uncompensated care on hospitals that serve indigent persons and the entities who reimburse the facilities can be significant. Nationally, UC costs have more than doubled over the past two decades, from $17 billion in 1995 to $42 billion in 2019 (American Hospital Association, 2021).

On October 1, 2011, Texas replaced the previous Upper Payment Limit program with the UC program as part of an effort to facilitate the expansion of MMC while continuing to make supplemental payments to hospitals. Texas UC payments were used to reduce the actual uncompensated cost of medical services for both charity care and bad debt (Texas Health and Human Services Commission, 2021). The UC program payment methodology remained consistent from Demonstration Year (DY) 1 to DY8, but transitioned to a charity care only model at the beginning of DY9. The UC program now focuses exclusively on reimbursing costs associated with medical services provided under a provider's charity care policy; cost reimbursements associated with bad debt or Medicaid shortfall were retired. Prior to the transition to charity care only, HHSC implemented UHRIP, a directed payment program requiring MMC MCOs to pay increased reimbursement rates for certain hospital services

[9] The final DSRIP measurement period incorporates calendar year (CY) 2021. Final payments are scheduled for January 2023.

provided to STAR and STAR+PLUS members.[10] The expansion of UHRIP statewide roughly coincided with the termination of Medicaid shortfall, helping to offset potential financial losses for Texas hospitals.

To receive payments from the UC program, a Medicaid provider must complete an application listing its uncompensated costs for charity care services provided. A hospital may claim uncompensated costs for inpatient and outpatient services, as well as related costs for physician, and pharmacy services. This UC payment methodology based only on charity care will continue throughout the Extension. However, the UC program will undergo pool resizing for FFYs 2023-2027, and then again for FFYs 2028-2030, with the latter resizing based on the most recent charity care costs from eligible hospital providers.

Public Health Provider Charity Care Pool Program

In addition to the UC program, the Extension will provide new authority for the state to receive federal financial participation for payments made through the PHP-CCP program starting October 1, 2021. Texas developed the PHP-CCP program as part of the DSRIP transition plan to continue financial support for local public providers following the expiration of the DSRIP pool. The PHP-CCP program will provide supplemental payments to publicly-owned and operated community mental health clinics (CMHCs), local behavioral health authorities (LBHAs), local mental health authorities (LMHAs), local health departments (LHDs), and public health districts (PHDs). These payments are intended to help defray uncompensated care costs associated with furnishing medical services to Medicaid eligible or uninsured individuals incurred by qualifying providers following the expiration of the DSRIP pool on September 30, 2021.[11]

During the first year of the PHP-CCP program, payments may be used to defray actual uncompensated care costs, including Medicaid shortfall and bad debt. Starting October 1, 2022, PHP-CCP program payments may only be used to defray costs associated with services provided to patients under the provider's charity care policy. The PHP-CCP program will undergo pool resizing for FFYs 2024-2028, and then again for FFYs 2029-2030, based on a reassessment of providers' uncompensated charity care costs. Similar to the UC program, a provider must submit an annual application to the state containing cost and payment data on services eligible for reimbursement under the PHP-CCP program.

[10] UHRIP was piloted in two service areas on December 1, 2017 and implemented statewide beginning March 1, 2018 (DY7).

[11] PHP-CCP program providers may also participate in DPPs. However, since PHP-CCP eligible providers serve high rates of uninsured individuals, the payments available through DPPs may be lower than payments received under DSRIP. HHSC developed the PHP-CCP program to extend financial stability to PHP-CCP eligible providers following the expiration of DSRIP.

Focus of the Evaluation

The current evaluation, as outlined in this evaluation design plan, focuses primarily on the Extension period (FFY 2021 to FFY 2030). The evaluation builds on prior research conducted during the renewal period, where applicable, for policies and flexibilities carried forward from the previous demonstration approval period. The evaluation focuses on the MMC and SPP components of the extension; because the DPPs are independently evaluated as outlined in Special Terms and Conditions (STCs) 31 and 35, they will not be directly assessed as part of the current evaluation.[12]

The evaluation of MMC will focus on recent or ongoing changes to Medicaid service delivery (e.g., the carve-in of NEMT and LTSS for certain beneficiaries), as well as an assessment of the overall quality of the MMC service delivery model. The evaluation of SPPs will focus on the efficacy of these programs in delivering critical financial support to providers, as well as the impacts of key policy changes on cost and health outcomes (e.g., the transition to charity care only and the introduction of the PHP-CCP program). Finally, the Overall Demonstration evaluation component will investigate cost outcomes for the Demonstration as a whole.

Together, these lines of inquiry will provide insight into whether the state continued making progress towards the goals set forth in the initial Demonstration and met the specific aims of the Extension. Additionally, findings from the evaluation may guide future improvements to the state's healthcare system.

[12] Texas's evaluation of the DPPs will comply with requirements under 42 C.F.R §§ 438.6(c)(2)(ii)(D) and 438.340.

2. Evaluation Questions and Hypotheses

Texas developed a series of evaluation questions to assess state performance on the objectives of the Demonstration. The evaluation questions also promote the objectives of Title XIX by examining how quality-based payment systems and the expansion of MMC services support individuals in Texas Medicaid. Table 2 shows the alignment between Demonstration objectives, the main components of the Extension, and corresponding evaluation questions.

Table 2. Demonstration Alignment

Demonstration Objective	Demonstration Component	Evaluation Question(s)
Expand risk-based managed care to new populations and services.	MMC	Did programmatic changes associated with the carve-in of NEMT into MMC improve health care outcomes for MMC clients? Does STAR+PLUS HCBS improve health care outcomes for MMC clients?
Support the development and maintenance of a coordinated care delivery system.	MMC	Did the MMC service delivery model improve access to and quality of care over time?
Improve outcomes while containing cost growth.	MMC SPP	Do the SPPs financially support providers serving the Medicaid and charity care populations? Did the implementation of UHRIP support the hospital delivery system during the transition of the UC program to charity care only? What are the costs of providing health care services to Medicaid beneficiaries served under the Demonstration? What are the administrative costs of implementing and operating the Demonstration? How do directed and supplemental payment programs support providers and overall Medicaid program sustainability?

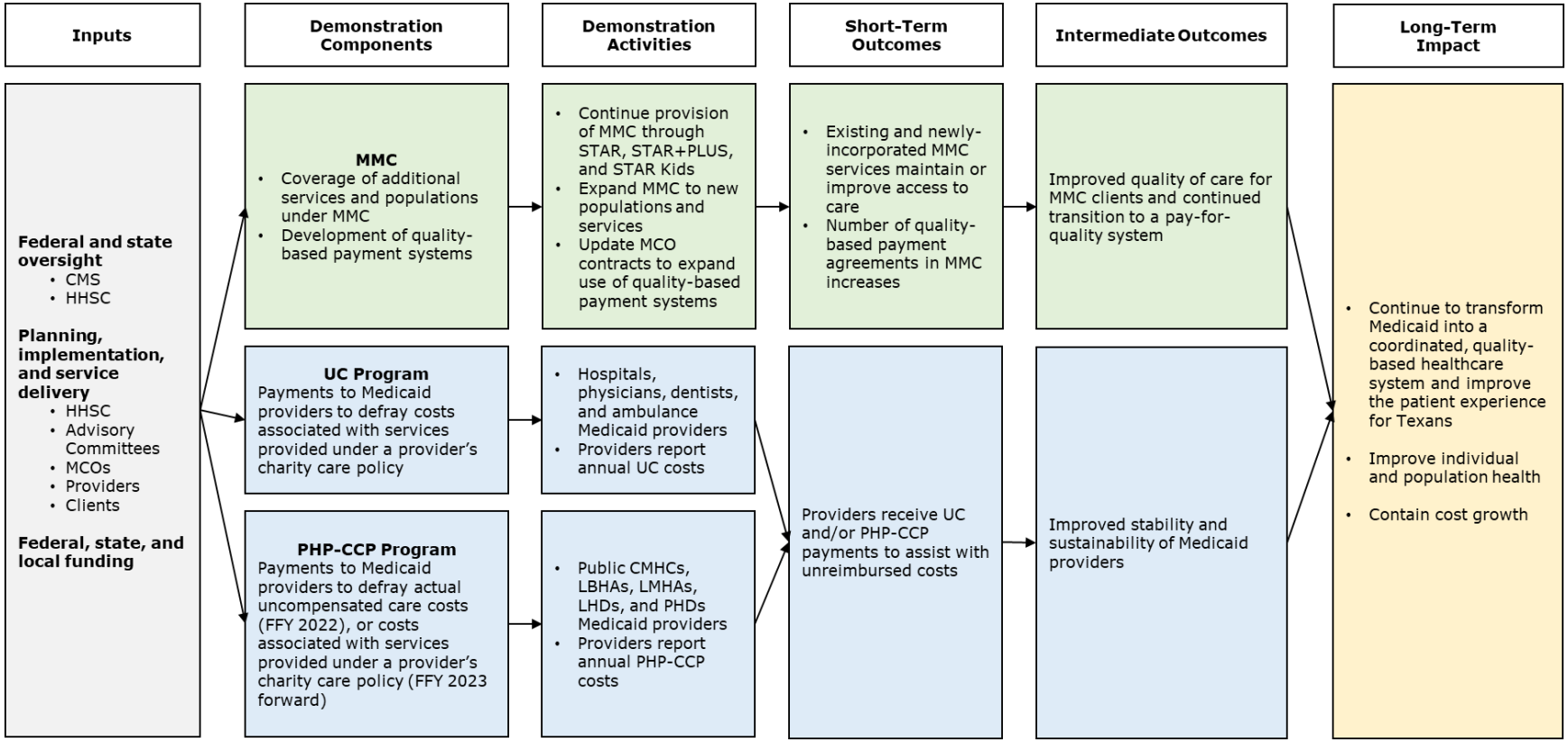
Demonstration Objective	Demonstration Component	Evaluation Question(s)
Transition to quality-based payment systems across managed care and providers.	MMC	Did Texas's quality initiatives impact the development and implementation of quality-based payment systems?

Notes. MMC=Medicaid managed care; DSRIP=Delivery System Reform Incentive Payment; SPP=Supplemental Payment Program; UHRIP=Uniform Hospital Rate Increase Program; UC=Uncompensated Care.

Logic Model

The logic model (Figure 3) illustrates the theory of change, or the pathways through which the Demonstration will work to achieve short-term, intermediate, and long-term outcomes during the Extension.

Figure 3. Demonstration Logic Model



Notes. CMS=Centers for Medicare and Medicaid Services; HHSC=Health and Human Services Commission; MCO=Managed care organization; MMC=Medicaid managed care; STAR=MMC program for children, newborns, and pregnant women; STAR+PLUS=MMC program for individuals age 21 and older with disabilities and individuals age 65 or older; STAR Kids=MMC program for children and adults age 20 and younger with a disability; UC=Uncompensated Care; PHP-CCP=Public Health Provider Charity Care Pool; FFY=Federal fiscal year, October 1-September 30; CMHC=Community Mental Health Clinic; LBHA=Local Behavioral Health Authority; LMHA=Local Mental Health Authority; LHD=Local Health Departments; PHD=Public Health District.

Evaluation Questions

The evaluation design plan for the Extension includes 9 evaluation questions and 23 hypotheses. The evaluation questions and hypotheses are grouped by the main components of the Extension. Each evaluation question is addressed through a minimum of one corresponding hypothesis and measure. Targets for improvement (e.g., improvement over baseline or pre-period) vary across evaluation measures. Additional details on measure-specific targets for improvement are provided in the Methodology section of this evaluation design plan, as well as Appendix E.

MMC Component

Evaluation Question 1. Did the programmatic changes associated with the carve-in of NEMT into MMC improve health care outcomes for MMC clients?

H1.1. Utilization of NEMT services will increase as a result of the programmatic changes associated with the carve-in of NEMT into MMC.

H1.2. Access to health care services will maintain or improve as a result of the programmatic changes associated with the carve-in of NEMT into MMC.

H1.3 Treatment of chronic, complex, and serious conditions will maintain or improve as a result of the programmatic changes associated with the carve-in of NEMT into MMC

H1.4. Preventable emergency department use will maintain or decrease as a result of the programmatic changes associated with the carve-in of NEMT into MMC.

H1.5. Experiences with transportation services will improve as a result of the programmatic changes associated with the carve-in of NEMT into MMC.

Evaluation Question 2: Does STAR+PLUS HCBS improve health care outcomes for MMC clients?

H2.1. STAR+PLUS HCBS serves a distinct population of MMC members.

H2.2. STAR+PLUS HCBS supports MMC members' treatment of chronic, complex, and serious conditions.

H2.3. STAR+PLUS HCBS supports MMC members' ability to make decisions about their everyday lives.

H2.4. STAR+PLUS HCBS supports MMC members' ability to self-direct their services.

H2.5. STAR+PLUS HCBS supports MMC members' satisfaction with their everyday lives.

Evaluation Question 3. Did the MMC service delivery model improve access to and quality of care over time?

H3.1. Access to preventive care will maintain or improve over time.

H3.2. Effective treatment of chronic, complex, and serious conditions will maintain or improve over time.

H3.3. Appropriate use of health care will maintain or improve over time.

H3.4. Poor care or care coordination which may result in unnecessary patient harm will maintain or reduce over time.

H3.5. MMC member experience will maintain or improve over time.

SPP Component

Evaluation Question 4. Do the SPPs financially support providers serving the Medicaid and charity care populations?

H4.1. The UC and PHP-CCP programs financially support Medicaid providers by reimbursing Medicaid or charity care costs in Texas.

H4.2. The UC and PHP-CCP programs support greater network adequacy and community health.

Evaluation Question 5. Did the implementation of UHRIP support the hospital delivery system during the transition of the UC program to charity care only?

H5.1. Hospital-based performance measures will maintain or improve following the transition to charity care only in DY9.

Overall Demonstration Component

Evaluation Question 6. What are the costs of providing health care services to Medicaid beneficiaries served under the Demonstration?

H6.1. The Demonstration results in overall savings in health care service expenditures.

Evaluation Question 7. What are the administrative costs of implementing and operating the Demonstration?

H7.1. Administrative costs required to implement and operate the Demonstration are relatively stable and reasonable over time.

Evaluation Question 8. How do directed and supplemental payment programs support providers and overall Medicaid program sustainability?

H8.1 The Demonstration leverages savings in health care service expenditures to administer directed and supplemental payment programs.

H8.2 The directed and supplemental payment programs support Medicaid provider operations and sustainability.

Evaluation Question 9. Did Texas's quality initiatives impact the development and implementation of quality-based payment systems?

H9.1. The implementation of alternative payment models (APMs) in Texas Medicaid will increase over time.

3. Methodology

Given the scope and breadth of the Demonstration, the evaluation design plan methodology is divided into three sections: one for each of the two main components of the Extension included in the evaluation (MMC and SPPs), as well as one Overall Demonstration component which investigates cost outcomes for the Demonstration as a whole. Each section includes information on the evaluation design, evaluation measures, study population(s), study period(s), data sources, analytic methods, and methodological limitations. Data, analytic methods, and reporting will meet traditional standards of scientific and academic rigor, as appropriate and feasible for each evaluation component.

Technical specifications for each evaluation measure are described in Appendix E. These specifications include the measure definition; study population; measure steward or source; technical specifications; exclusion criteria; data source or collection method; comparison group or subgroups, where applicable; analytic methods; interpretation; and benchmarks, where applicable.

The methodology described in this evaluation design plan may require changes to align with future innovations or modifications to the Medicaid landscape; in addition, changes may be required to execute the evaluation design plan after key data sources are assessed for completeness and proposed analytic methods are tested. Changes to the evaluation design plan will be documented in Appendix A.

MMC Evaluation Methods

The MMC evaluation component will utilize a mixed-method approach to address evaluation questions focused on specific changes to the MMC service delivery model and Texas MMC in its entirety. This evaluation will span the entire Extension.[13] At the time of writing, the MMC evaluation component was guided by three evaluation questions: two assessing expansion of the MMC service delivery model to specific populations or services, and a third assessing the MMC program in its entirety.

[13] This evaluation design will be revised, as necessary, in incorporate future changes to the MMC service delivery system.

MMC Evaluation Design

The MMC evaluation component will rely on two quasi-experimental designs: a one-group posttest only design and a one-group pretest-posttest design.

- **One-Group Posttest Only Design:** Measures assessing STAR+PLUS HCBS and Texas's entire MMC program will be evaluated with a one-group posttest only design. This design will use consecutive population-based observations to describe changes among STAR+PLUS HCBS members, as well as MMC operation and performance over time. Measures evaluated through a one-group posttest only design will use descriptive statistics and descriptive trend analysis (DTA).
- **One-Group Pretest-Posttest Design:** Measures assessing NEMT will be evaluated with a one-group pretest-posttest design. This design will use repeated observations of outcome measures to monitor changes before and after the MMC change. Measures evaluated through a one-group pretest-posttest design will use descriptive statistics, DTA, and interrupted time series (ITS).

Table 3, Table 4, and Table 5 provide an overview of all MMC-specific evaluation questions and hypotheses aligned with their respective measures. The measures selected to assess the entire MMC program reflect the most commonly incentivized performance measures across the state's various MMC quality initiatives. These measures reflect the state's priorities in ongoing MMC performance improvement.[14] Subsequent sections provide additional information on the study populations, study periods, data sources, and analytic methods. Additional details for each of the proposed measures can be found in Appendix E.

[14] Evaluation measures selected for assessing Texas's MMC program are dependent on continuity of measure stewards and EQRO reporting. Changes in measure specifications or the EQRO contract may disrupt availability of measures over the entire Extension. This evaluation design may be revised, where applicable, if evaluation measures identified in the MMC evaluation component are discontinued.

Table 3. Evaluation Design Overview, Evaluation Question 1: Did the programmatic changes associated with the carve-in of NEMT into MMC improve health care outcomes for MMC clients?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H1.1. Utilization of NEMT services will increase as a result of the programmatic changes associated with the carve-in of NEMT into MMC.	1.1.1 MMC members utilizing NEMT services per month/quarter 1.1.2 NEMT services per month/quarter 1.1.3 Average NEMT services per member per month/ quarter	• MMC members utilizing NEMT services	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data	• Descriptive statistics • ITS • Subgroup analysis[1]
H1.2. Access to health care services will maintain or improve as a result of the programmatic changes associated with the carve-in of NEMT into MMC.	1.2.1 Adults' access to preventive/ ambulatory health services (HEDIS®-like) 1.2.2 Child and adolescent well-care visits (HEDIS®) 1.2.3 Utilization of pharmacy benefits	• MMC members utilizing NEMT services	• FFS claims and MMC encounter data • Member-level enrollment files • Member-level pharmacy data • Provider-level enrollment data	• Descriptive statistics • DTA • ITS • Subgroup analysis[1]

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H1.3. Treatment of chronic, complex, and serious conditions will maintain or improve as a result of the programmatic changes associated with the carve-in of NEMT into MMC.	1.3.1 Diabetes medication adherence 1.3.2 Testing HbA1c levels 1.3.3 Asthma Medication Ratio (HEDIS®)	• MMC members utilizing NEMT services	• FFS claims and MMC encounter data • Member-level enrollment files • Member-level pharmacy data	• Descriptive statistics • DTA • ITS, if feasible • Subgroup analysis[1]
H1.4. Preventable emergency department use will maintain or decrease as a result of the programmatic changes associated with the carve-in of NEMT into MMC.	1.4.1 Prevention quality overall composite (PQI #90) 1.4.2 Pediatric quality overall composite (PDI #90) 1.4.3 Rate of potentially preventable emergency department use	• MMC members utilizing NEMT services	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data	• Descriptive statistics • DTA • ITS, if feasible • Subgroup analysis[1]

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H1.5. Experiences with transportation services will improve as a result of the programmatic changes associated with the carve-in of NEMT into MMC.	1.5.1. Familiarity with transportation services 1.5.2. Transportation-related barriers to care 1.5.3. Satisfaction with transportation services	• MMC members utilizing NEMT services	• EQRO's Medical Transportation Program Client Satisfaction Survey	• Descriptive statistics • DTA

Notes. [1] Subgroup analysis will only be performed where applicable. NEMT=Nonemergency medical transportation; MMC=Medicaid managed care; FFS=Fee-for-service; ITS=Interrupted time series; HEDIS®=Healthcare Effectiveness Data and Information Set; DTA=Descriptive trend analysis; PQI=Prevention quality indicators; PDI=Pediatric quality indicators; EQRO=Texas's External Quality Review Organization.

Table 4. Evaluation Design Overview, Evaluation Question 2: Does STAR+PLUS HCBS improve health care outcomes for MMC clients?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H2.1. STAR+PLUS HCBS serves a distinct population of MMC members.	2.1.1 MMC members enrolled in STAR+PLUS HCBS 2.1.2 Medically fragile individuals enrolled in STAR+PLUS HCBS	• STAR+PLUS HCBS members	• Member-level enrollment files • STAR+PLUS HCBS administrative data	• Descriptive statistics • DTA • Subgroup analysis[1]
H2.2. STAR+PLUS HCBS supports MMC members' treatment of chronic, complex, and serious conditions.	2.2.1 Diabetes care measures (HEDIS®) 2.2.2 Statin therapy for patients with cardiovascular disease (HEDIS®) 2.2.3 Antidepressant medication management (HEDIS®) 2.2.4 Follow-up after hospitalization for mental illness (HEDIS®) 2.2.5 Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)	• STAR+PLUS HCBS members	• EQRO-calculated MMC performance measures	• Descriptive statistics • DTA
H2.3. STAR+PLUS HCBS supports MMC members' ability to make decisions about their everyday lives.	2.3.1 Percentage of people who are able to get up and go to bed when they want to 2.3.2 Percentage of people who are able to eat their meals when they want to 2.3.3 Percentage of people who never feel in control of their lives	• STAR+PLUS HCBS members	• NCI-AD™	• Descriptive statistics • DTA

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H2.4. STAR+PLUS HCBS supports MMC members' ability to self-direct their services.	2.4.1 Percentage of people who can choose when they get services 2.4.2 Percentage of people who can choose their paid support staff	• STAR+PLUS HCBS members	• NCI-AD™	• Descriptive statistics • DTA
H2.5. STAR+PLUS HCBS supports MMC members' satisfaction with their everyday lives.	2.5.1 Percentage of people who like where they live 2.5.2 Percentage of people who like how they spend their time during the day 2.5.3 Percentage of people whose services help them live a better life	• STAR+PLUS HCBS members	• NCI-AD™	• Descriptive statistics • DTA

Notes. [1] Subgroup analysis will only be performed where applicable. STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; MMC=Medicaid managed care; DTA=Descriptive trend analysis; HEDIS®=Healthcare Effectiveness Data and Information Set; EQRO=Texas's External Quality Review Organization; NCI-AD™=National Core Indicators – Aging and Disabilities.

Table 5. Evaluation Design Overview, Evaluation Question 3: Did the MMC service delivery model improve access to and quality of care over time?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H3.1. Access to preventive care will maintain or improve over time.	3.1.1 Childhood immunization status (HEDIS®) 3.1.2 Immunizations for adolescents (HEDIS®) 3.1.3 Prenatal and postpartum care (HEDIS®) 3.1.4 Cervical cancer screening (HEDIS®) 3.1.5 Breast cancer screening (HEDIS®)	• STAR • STAR+PLUS • STAR Kids	• EQRO-calculated MMC performance measures	• Descriptive statistics • DTA • Subgroup analysis[1]
H3.2. Effective treatment of chronic, complex, and serious conditions will maintain or improve over time.	3.2.1 Comprehensive diabetes care (HEDIS®) 3.2.2 Controlling high blood pressure (HEDIS®) 3.2.3 Follow-up care for children prescribed ADHD medication (HEDIS®) 3.2.4 Antidepressant medication management (HEDIS®) 3.2.5 Follow-up after hospitalization for mental illness (HEDIS®) 3.2.6 Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)	• STAR • STAR+PLUS • STAR Kids	• EQRO-calculated MMC performance measures	• Descriptive statistics • DTA • Subgroup analysis[1]
H3.3. Appropriate use of health care will maintain or improve over time.	3.3.1 Potentially preventable admissions (3M) 3.3.2 Potentially preventable emergency department visits (3M)	• STAR • STAR+PLUS • STAR Kids	• EQRO-calculated MMC performance measures	• Descriptive statistics • DTA • Subgroup analysis[1]

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H3.4. Poor care or care coordination which may result in unnecessary patient harm will maintain or reduce over time.	3.4.1 Potentially preventable complications (3M) 3.4.2 Potentially preventable readmissions (3M)	• STAR • STAR+PLUS • STAR Kids	• EQRO-calculated MMC performance measures	• Descriptive statistics • DTA • Subgroup analysis[1]
H3.5. MMC member experience will maintain or improve over time.	3.5.1 Getting care quickly composite (CAHPS®) 3.5.2 Getting needed care composite (CAHPS®) 3.5.3 Rating of personal doctor (CAHPS®) 3.5.4 Rating of health plan (CAHPS®)	• STAR • STAR+PLUS • STAR Kids	• EQRO-calculated MMC performance measures	• Descriptive statistics • DTA • Subgroup analysis[1]

Notes. [1] Subgroup analysis will only be performed where applicable. MMC=Medicaid managed care; HEDIS®=Healthcare Effectiveness Data and Information Set; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; DTA=Descriptive trend analysis; CAHPS®=Consumer Assessment of Healthcare Providers and Systems.

MMC Study Populations

The MMC study population collectively refers to providers and members participating in the MMC delivery model. Evaluation questions focused on MMC service delivery changes will use eligibility and managed care enrollment criteria to identify study populations. Evaluation questions focused on the entire MMC program will center primarily on MMC program populations, but will also include a sample of MCOs and providers as part of primary data collection efforts. The units of analysis for the MMC evaluation component are MMC members, providers, and MCOs.

At the time of writing, the study population for MMC service delivery changes is:

- **MMC members utilizing NEMT services:** Prior to June 1, 2021, most MMC members received NEMT services through managed transportation organizations (MTOs) operating under the Medical Transportation Program.[15] On June 1, 2021, MCOs began providing all NEMT services for MMC beneficiaries. On this date, MCOs also began providing DRTS for certain trips with less than 48-hours' notice and increased opportunities for TNCs to provide DRTS. Evaluation measures assessing the impact of implementing NEMT through MMC will include all NEMT services (DRTS; non-DRTS rides, such as public transit; and non-ride services, such as meals, lodging, and air travel). If feasible, the external evaluator will create subgroups of members utilizing NEMT services to understand differing impacts of the NEMT carve-in on MMC members. Potential subgroups include:
  - *Pre- and Post-NEMT utilizers*: Members who utilized NEMT services prior to and after MMC implementation. This subgroup will provide insight into changes associated with the transition from FFS to MMC.
  - *Post-Only NEMT utilizers*: Members who began utilizing NEMT services only after MMC implementation. This subgroup will provide insight into impacts associated with receiving NEMT services through MMC.
- **STAR+PLUS HCBS members**: Starting September 1, 2014, STAR+PLUS HCBS fully replaced the Community Based Alternatives program. STAR+PLUS HCBS provides LTSS for qualifying members under the STAR+PLUS MMC program. To be eligible for STAR+PLUS HCBS, individuals must be 21 years or older, reside in Texas, be eligible for Medicaid, meet a nursing facility level of care, choose STAR+PLUS HCBS as an alternative to nursing facility services, and cannot be simultaneously enrolled in another HCBS waiver (e.g., Community Living Assistance and Support Services, Deaf-Blind with Multiple Disabilities, Home and Community-based Service, or Texas Home Living).
  - *Medically fragile individuals*: Medically fragile individuals are those ages 21 and older who qualify for nursing facility care, who are determined by a state assessment to have complex medical needs, and who have health

[15] MMC members in the Dallas/Fort Worth and Houston/Beaumont services areas received NEMT services through Full Risk Brokers. All other MMC members received NEMT services through MTOs.

care costs that exceed the individual cost limit of the STAR+PLUS HCBS program. HHSC submitted an amendment to allow services for medically fragile individuals to be delivered via managed care under on February 22, 2021. CMS approved the amendment on November 16, 2023.

The MMC study populations for the entire MMC program include members served through the following three MMC programs, as well as samples of MMC providers participating in a DPP and MCOs engaging in APMs:[16]

- **STAR:** STAR began in 1993 and is the primary managed care program providing acute care services to children, pregnant women, and some families. Sixty eight percent of Medicaid members are enrolled in STAR (Texas Health and Human Services Commission, 2020).
- **STAR+PLUS:** STAR+PLUS began in 1998 and provides acute care and LTSS to older adults, adults with disabilities, and women with breast or cervical cancer. Thirteen percent of Medicaid members are enrolled in STAR+PLUS (Texas Health and Human Services Commission, 2020).
- **STAR Kids:** STAR Kids began in 2016 and provides acute care and LTSS to children and adults age 20 and younger with disabilities. Four percent of Medicaid members are enrolled in STAR Kids (Texas Health and Human Services Commission, 2020).

Potential Comparison Groups

Although MMC eligibility has changed with the expansion of MMC into new service areas or populations, each point-in-time estimate in the evaluation includes all Medicaid members enrolled in MMC. Individuals not enrolled in MMC at a given point in time are systematically different from those enrolled in MMC; this form of selection bias is inherent to the eligibility criteria and presents significant problems for comparative analysis. As a result, no viable comparison group exists for the MMC program as a whole.

Analyses focused on MMC service delivery changes may allow for the use of a comparison group depending on the context of the change. At the time of writing, the MMC service delivery changes included in the MMC evaluation component (NEMT and STAR+PLUS HCBS) have been implemented statewide or among all eligible members, so equivalent comparison groups do not exist.[17] The evaluation of NEMT will use a historical cohort, however, to assess the transition from FFS to

[16] HHSC also administers MMC through STAR Health but this program is not included in the evaluation because it is outside the authority of the Extension.
[17] The state explored a comparison group of MMC members who did not utilize NEMT services, but individuals utilizing NEMT services differ from non-utilizers in observable demographic characteristics and, plausibly, non-observable non-medical drivers of health. This selection bias limits the utility of this potential comparison group in understanding the impacts of the carve-in of NEMT services.

MMC.[18] Potential comparison groups for future changes to the MMC landscape will be assessed as necessary. Should a future MMC service delivery change allow the use of a comparison group, this evaluation design will be updated accordingly.

State and national benchmarks will be leveraged, where feasible, to support interpretation of findings and to support understanding of changes in outcomes before and after service delivery changes to MMC amid key environmental confounds (e.g., the transition of NEMT services to MMC during the COVID-19 pandemic). Importantly, benchmarks at the state or national level may not be representative of MMC members and may not be available at the subgroup level (e.g. by race/ethnicity or age). As a result, direct comparisons between MMC members and state or national benchmarks should be interpreted with caution.

MMC Study Periods

Pre- and post-study periods for MMC service delivery changes will be anchored to the date when the change occurred. Pre- and post-study periods for the entire Texas MMC program reflect data points available for MMC programs prior to or after implementation of the Demonstration (2011). STAR Kids began in November 2016 so STAR Kids data are not available in the pre-Demonstration period (prior to 2011). Table 6 reflects the study periods for the MMC components at the time of writing.

Table 6. Study Periods for the MMC Evaluation Component

MMC Component	Study Population	Pre-Period[1]	Post-Period[1]
MMC Service Delivery Changes	MMC members utilizing NEMT services	September 1, 2017 – May 31, 2021	June 1, 2021 – May 31, 2026
	STAR+PLUS HCBS members	N/A	September 1, 2014 – December 31, 2029[2]
Texas MMC Program	STAR	September 1, 2006 – December 31, 2011[3]	January 1, 2012 - December 31, 2029[2]
	STAR+PLUS	September 1, 2006 – December 31, 2011[3]	January 1, 2012 - December 31, 2029[2]
	STAR Kids	N/A	January 1, 2017 – December 31, 2029[2]

Notes. [1] Measures may not all be available for the entire the pre- and post-periods. The external evaluator will use all data available for each measure. [2] The post-period ends on December 31, 2029, the last full calendar year before the Extension approval period ends. The external

[18] STAR+PLUS HCBS began September 1, 2014. Due to changes in medical coding, data reporting systems, and organizational oversight during the past eight years, it is not feasible to use a pre-2014 historical cohort for STAR+PLUS HCBS component of the evaluation.

evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each Calendar Year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. MMC=Medicaid managed care; NEMT=Nonemergency transportation; STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; STAR=MMC program primarily serving children and pregnant women; STAR Kids=MMC program serving disabled individuals 20 years or younger.

MMC Data Sources

The MMC evaluation component relies on a series of secondary data sources, including administrative data, survey data, and benchmark data, as outlined below.

- **Benchmark data:** The evaluation will leverage ongoing reporting of state and national benchmarks, where applicable, for contextual reference and to support understanding of MMC service delivery charges. The Texas Healthcare Learning Collaborative (THLC) online portal, aggregate HEDIS® results published by the National Committee for Quality Assurance and the Agency for Healthcare Research and Quality, and NCI-AD™ results published by ADvancing States and the Human Services Research Institute will be used to develop evaluation-specific benchmarks, where applicable.
- **EQRO-calculated MMC performance measures:** Texas's External Quality Review Organization (EQRO; The Institute for Child Health Policy (ICHP)) designed and operates the THLC Portal. The THLC portal is an online learning collaborative that includes a graphical user interface that allows the public, MCOs, and HHSC to visualize healthcare metrics. The THLC portal reports on MCO and Dental Maintenance Organization (DMO) performance across a variety of measures, including Healthcare Effectiveness Data and Information Set (HEDIS®), Consumer Assessment of Healthcare Providers and Systems (CAHPS®), and PPEs. The THLC Portal will be used to obtain MMC program-level outcome measures over time and subgroup estimates. ICHP will also calculate STAR+PLUS HCBS measures and additional subgroup estimates not already available on the THLC portal for the purpose of this evaluation.[19]
- **EQRO's Medical Transportation Program Client Satisfaction Survey:** Starting in SFY 2019, Texas's EQRO, in consultation with HHSC, developed and began administering a telephone survey to MMC members (children and adults) receiving NEMT services. The purpose of the survey is to evaluate MMC member experiences and satisfaction with transportation services. Survey results will include respondent demographic characteristics and item frequencies (both weighted and unweighted) by region and survey type (child and adult members).

[19] Additional information on MMC program-level outcome measures is presented in HHSC's Rider 61 Final Comprehensive Report: Evaluation of Medicaid and CHIP Managed Care, August 2018. This evaluation was conducted in partnership with Deloitte LLP and is accessible via: https://www.hhs.texas.gov/reports/2018/08/rider-61-evaluation-medicaid-chip-managed-care.

- **FFS claims and MMC encounter Data:** FFS claims and MMC encounter data have been processed by the Texas Medicaid and Healthcare Partnership (TMHP) since January 1, 2004. TMHP performs internal edits for data quality and completeness. The member-level claims/encounter data contain the Current Procedural Terminology (CPT) codes; the International Classification of Diseases, 10th Revision, Clinical Modification (ICD-10-CM) codes; place of service codes; and other information necessary to calculate outcome measures related to MMC service delivery changes. Claims and encounter data are adjudicated on an approximate eight-month time lag. Prior analyses with Texas data showed that, on average, over 96 percent of the claims and encounters are complete by that timeframe.
- **MCO APM reporting tool:** Starting September 1, 2018, HHSC required MCOs to report on their APM activities, both implemented and planned. Information from this tool will be used to learn about the types of APMs implemented throughout the Texas Medicaid program.
- **Member-level enrollment files:** The enrollment files contain information about the person's age, gender, race/ethnicity, county, health care service delivery model (i.e., FFS or MMC), MCO enrollment, and length of enrollment. The member-level enrollment files will be used to identify members and member-level subgroups for measures related to MMC service delivery changes. Member-level enrollment files are subject to an approximate eight-month time lag.
- **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. The member-level pharmacy will be used to calculate outcome measures related to MMC service delivery changes. Member-level pharmacy data are subject to an approximate one-month time lag.
- **National Core Indicators – Aging and Disabilities (NCI-AD™):** The NCI-AD™ is a survey that collects information about experiences with LTSS among individuals who are aging or who have a disability. The NCI-AD™ is a joint effort between ADvancing States (formerly the National Association of States United for Aging and Disabilities) and the Human Services Research Institute to provide states with reliable information on quality of life outcomes among LTSS recipients. Texas's EQRO began administering the NCI-AD™ biannually in 2015. The NCI-AD™ will be used to obtain STAR+PLUS HCBS measures over time.
- **Provider-level enrollment files:** Provider-level enrollment files contain information on National Provider Identifier (NPI), Texas Provider Identifier (TPI), provider location, provider type, and provider specialty. Provider data will be sourced from TMHP and an HHSC Structured Query Language (SQL) database, and are subject to a one-month lag. The provider-level enrollment files will be used to identify provider samples for the APM survey, and to develop provider-level subgroups for measures related to MMC service delivery changes.

- **STAR+PLUS HCBS administrative data:** HHSC will track the number of medically fragile individuals in STAR+PLUS HCBS, interest lists, if applicable, and Medicaid-paid services beyond the STAR+PLUS HCBS cost cap provided to medically fragile individuals. These data will be used to summarize medically fragile individuals enrolled in STAR+PLUS HCBS.

MMC Proposed Analytic Methods

Quantitative methods will be used for the MMC evaluation component. This section describes the proposed analytic strategies for examining the measures presented in Table 3, Table 4, and Table 5. Analytic methods will incorporate subgroup analyses (e.g., by age, race/ethnicity, region), and benchmarks where feasible, to strengthen the validity of observed outcomes. Additionally, the external evaluator should attempt to account for or provide context for historical programmatic factors such as amendments to the Demonstration (see Appendix H), the implementation or expiration of funding pools or payment programs which support the Medicaid system, and environmental and historical confounds (e.g., the Great Recession and the COVID pandemic), as applicable. Lastly, where feasible, the external evaluator should incorporate findings from previous evaluations of the Demonstration when there is overlap in measures to support an increased understanding of changes to the MMC program over time.

Descriptive Statistics

All MMC evaluation measures—except open-ended primary data collection questions—may be examined through a variety of descriptive and inferential statistics. Descriptive statistics include estimates of central tendency and dispersion. Potential inferential analyses include bivariate statistics, parametric tests (e.g., paired or unpaired t-tests), and non-parametric tests (e.g., McNemar's test, Wilcoxon signed-rank test). Importantly, some measures may not be suited to inferential statistics, such as those that rely on population-level data rather than a sample. The external evaluator will ensure the correct application of statistical testing depending on whether the data is population- or sample-based, whether the measure is categorical or continuous, and whether the data meet the assumptions of parametric tests (e.g., normality, independence).

Descriptive Trend Analysis

Texas has operated MMC in some capacity for over 25 years. Previous evaluation designs have conducted pre-post studies on the implementation of specific MMC programs or populations. Given the long-standing nature of MMC in the state of Texas, there is not a pre-period under the Demonstration that is free of MMC implementation, rendering preferred time-series designs such as ITS infeasible. DTA is an alternative approach to time-series analysis which plots and analyzes time-series data calculated at equally spaced intervals to explain patterns in selected measures over time. DTA typically focuses on identification and quantification of a trend through the use of correlation coefficients and ordinary

least squares regression. For outcome measures using DTA, the basic regression model is:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 MMC\ transition + \beta_3 controls + \varepsilon_t$$

Where, $\beta_0$reflects the baseline level of the outcome at the beginning of the study period; $\beta_1 time$ estimates the trends in the outcome variable; when pre-period data is available, the external evaluator should add $\beta_2 MMC\ transition$, which reflects the impact of the MMC transition; and $\beta_3 controls$ reflects a vector of control variables the external evaluator may add to the DTA model. Potential control variables include client- or provider-level characteristics, or programmatic and historical factors, where feasible and necessary.

DTA will be used for all measures under Evaluation Questions 2 and 3, and measures under Evaluation Question 1 if the recommended minimum number of observations for ITS are not available (i.e., a minimum of eight pre- and eight post-MMC transition time points).

Interrupted Time Series

ITS analysis uses aggregate data collected over equally spaced intervals before and after a policy change to measure changes in outcomes over time. A key assumption of ITS is that data trends before the policy change can be extrapolated to predict trends had the policy change not occurred. If an MMC service delivery change has an impact on an outcome of interest, the post-transition trend will have a slope that is statistically different from the pre-transition trend. When properly executed, ITS is a valuable method to evaluate the success, failure, or unintended consequences of health care policy on outcomes (Lagarde, 2012). However, given the serial nature of ITS data, autocorrelation, nonstationarity, and seasonality need to be considered. Failing to assess and correct for these factors can lead to biased results (Wagner, Soumerai, Zhang, & Ross-Degnan, 2002). A key strength of ITS methodology is that a control site is not required, providing an alternate method of measuring the effect of an intervention "when randomization or identification of a comparison group are impractical" (Grimshaw, et al., 2003). The ITS method allows the target population to serve as its own comparison group in the pre-post analysis.

For outcome measures using ITS, the basic segmented regression model with one intervention or change point examines the outcome of interest (Y_t) over time, before and after the policy change:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 MMC\ transition + \beta_3 postslope + \varepsilon_t$$

From the basic statistical model, β_0 reflects the baseline level of the outcome at the beginning of the pre-period; β_1 estimates the trend before the MMC transition; β_2 estimates the immediate impact of the MMC transition; and β_3 reflects the change in trend after the MMC transition. To ease interpretation, ITS results are presented as: baseline level, trend before MMC service delivery change, level change after MMC service delivery change, and trend after MMC service delivery change.

The external evaluator may add covariates to the ITS model to determine the effects of client- or provider-level characteristics, or programmatic and historical factors, where feasible and necessary. ITS will be attempted for all measures under Evaluation Question 1, but measures calculated annually may not have the required number of observations necessary for ITS (i.e., a minimum of eight pre- and eight post-MMC transition time points).

MMC Methodological Limitations

Most measures in the MMC evaluation component include the entire MMC population. As a result, observed changes in the evaluation measures reflect the population parameter rather than a sampling estimate. Parametric tests of hypotheses rely on sampling theory to produce estimates of sampling error, which make statistical testing, coefficient estimators, and standard errors meaningful. With population-level data, the application of sampling theory that undergirds inferential statistics (e.g., t-tests) is not meaningful in the traditional sense because there is no sample from which to make inferences about the population. Nevertheless, the external evaluator may apply statistical testing to observed population differences to better understand the magnitude of observed changes.

Measures using the entire MMC population are limited by the lack of a comparison group. Analyses focused on MMC service delivery changes will explore and develop comparison groups, if feasible. Analyses focused on MMC service delivery changes will also use pre-period data, rigorous quasi-experimental designs, subgroup analyses, and state and national benchmarks, where applicable. However, for MMC service delivery changes without a true comparison group, differences in outcomes may not imply causality.

Another limitation associated with the MMC evaluation component is the use of administrative data. These data have been designed and collected for billing purposes but are used in the evaluation to determine changes in access to and quality of care. Nevertheless, most measures derived from administrative sources in this section are validated and widely used for evaluation purposes. In addition, TMHP performs internal edits for data quality and completeness to help ensure data reliability.

Use of administrative data is also limited by data lags, which pose a challenge to measuring and reporting changes in a timely manner (Schoenberg, Heider, Rosenthal, Schwartz, & Kaye, 2015). Measures using FFS claims or MMC encounters require an approximate eight-month data lag for claims adjudication.

Lastly, study periods for the MMC evaluation component span the COVID-19 pandemic. Because the COVID-19 pandemic will impact all components of the evaluation, additional details regarding the implications of the pandemic are presented in the larger Methodological Limitations section on page 61.

Despite these limitations, the MMC evaluation component will provide insight into MMC service delivery changes, as well as the long-term performance of the MMC

program in its entirety. This evaluation component will inform whether Texas has continued making progress towards expanding risk-based managed care to new populations and services, and transforming Medicaid to a coordinated, quality-based healthcare system.

SPP Evaluation Methods

A quantitative approach will be used to evaluate two evaluation questions and three hypotheses specific to the UC and PHP-CCP programs. The evaluation questions and hypotheses examine whether SPPs financially support Medicaid providers and the impacts of key policy changes on cost and health outcomes. Two specific lines of inquiry will be pursued under this component:

- Do the UC and the PHP-CCP programs financially support Medicaid providers?
- Did the implementation of UHRIP prior to the transition of the UC program to charity care only mitigate possible hospital financial burden from the transition, resulting in maintenance or improvement in hospital-level performance measures?

SPP Evaluation Design

The SPP evaluation component will rely on two quasi-experimental designs: a one-group posttest only design and a one-group pretest-posttest design.

- **One-Group Posttest Only Design:** Most measures in the SPP evaluation component will rely on a one-group posttest only design. Measures assessing participating providers or uncompensated care costs (measures under Hypotheses 4.1 and 4.2) rely on application data, and therefore no pretest UC or PHP-CCP program data or comparison group data exist. This design will use consecutive population-based observations of SPP measures to describe changes in costs and payments over time. Measures evaluated through a one-group posttest only design will use descriptive statistics and DTA.
- **One-Group Pretest-Posttest Design:** Measures assessing hospital-based performance measures (measures under Hypothesis 5.1) will be evaluated with a one-group pretest-posttest design. This design will use repeated observations of outcome measures to monitor changes before and after the UC program transitioned to charity care only at the beginning of DY9. Measures evaluated through a one-group pretest-posttest design will use descriptive statistics, DTA, and ITS.

Table 7 and Table 8 provide an overview of all SPP-specific evaluation questions and hypotheses aligned with their respective measures. Subsequent sections provide additional information on the study population, study period, data sources, and analytic methods. Additional details for each of the proposed measures can be found in Appendix E.

Table 7. Evaluation Design Overview, Evaluation Question 4: Do the SPPs financially support providers serving the Medicaid and charity care populations?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H4.1. The UC and PHP-CCP programs financially support Medicaid providers by reimbursing Medicaid or charity care costs in Texas.	4.1.1 Number of UC program providers 4.1.2 Number of PHP-CCP program providers 4.1.3 UC eligible costs and reimbursements 4.1.4 PHP-CCP eligible costs and reimbursements	• UC program providers • PHP-CCP program providers	• American Community Survey • DSH/UC application • PHP-CCP application • Provider-level eligibility files	• Descriptive statistics • DTA • Subgroup analysis[1]
H4.2. The UC and PHP-CCP programs support greater network adequacy and community health.	4.2.1 Network adequacy 4.2.2 Potentially preventable events (3M)	• MMC members • Individuals served by hospitals participating in Texas Medicaid	• American Community Survey • DSH/UC application • EQRO-calculated measures using 3M software • Network adequacy reports • PHP-CCP application	• Multiple linear regression • Subgroup analysis[1]

Notes. [1] Subgroup analysis will only be performed where applicable. SPP=Supplemental payment program; UC=Uncompensated Care; PHP-CCP=Public Health Provider-Charity Care Pool; DSH=Disproportionate share hospital; DTA=Descriptive trend analysis; EQRO=Texas's External Quality Review Organization.

Table 8. Evaluation Design Overview, Evaluation Question 5: Did the implementation of UHRIP support the hospital delivery system during the transition of the UC program to charity care only?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H5.1. Hospital-based performance measures will maintain or improve following the transition to charity care only in DY9.	5.1.1 Average length of stay per Medicaid inpatient hospital admission 5.1.2 Average cost per Medicaid inpatient hospital admission 5.1.3 Patients' perceptions of hospital care 5.1.4 Potentially preventable complications (3M) 5.1.5 Potentially preventable readmissions (3M)	• Medicaid clients served by UC program providers in UHRIP • Patients served by UC program providers in UHRIP • UC program providers in UHRIP	• CMS HCAHPS® Surveys • DSH/UC application • EQRO-calculated measures using 3M software • FFS Claims and MMC Encounters • Member-level enrollment files • Provider-level eligibility files • UHRIP administrative data	• Descriptive statistics • DTA • ITS, if feasible • Subgroup analysis[1]

Notes. [1] Subgroup analysis will only be performed where applicable. UHRIP=Uniform Hospital Rate Increase Program; UC=Uncompensated Care; DY=Demonstration year, October 1-September 30; CMS=Centers for Medicare and Medicaid Services; HCAHPS®=Hospital Consumer Assessment of Healthcare Providers and Systems; DSH=Disproportionate share hospital; EQRO=Texas's External Quality Review Organization; FFS=Fee-for-service; MMC=Medicaid managed care; DTA=Descriptive trend analysis; ITS=Interrupted time series.

SPP Study Populations

The SPP evaluation component includes two primary study populations: UC program providers and PHP-CCP program providers.

- **UC program providers:** UC program providers include hospitals, clinics, and other providers who provide "medical assistance," as defined in section 1905(a) of the Social Security Act, to individuals who cannot pay for the services received. UC providers included in the evaluation are limited to those who submit an annual Disproportionate Share Hospital (DSH)/UC application. In DY9, there were 527 UC program providers, the majority of which were private hospitals (Table 9); however, the number and distribution of UC program providers may vary from year to year.

Table 9. UC Program Providers (DY9)

Provider Type	Count
Ambulance Providers	138
Dental Providers	1
Large Public Hospital	6
Physician Group Practice	16
Private Hospital	253
Small Public Hospital	96
State Hospital	17
Total	527

    - UC program providers for Hypothesis 5.1 are limited to those eligible for UHRIP. All hospitals except institutions for mental diseases are eligible for UHRIP. Therefore, Hypothesis 5.1 will be limited to UC large public hospitals, private hospitals, small public hospitals, and state hospitals that are not institutions for mental diseases.
- **PHP-CCP program providers:** PHP-CCP program providers are limited to publicly-owned and operated CMHCs, LBHAs, LMHAs, LHDs, and PHDs. Similar to UC program providers, PHP-CCP program providers included in the evaluation are limited to those who submit an annual PHP-CCP application. The final number of providers participating in the PHP-CCP program during the first year of implementation was not available at the time of writing, but HHSC anticipates the program to reimburse costs for up to 300 providers annually.

In addition to UC and PHP-CCP program providers, the SPP evaluation component will rely on population-level outcomes for Medicaid beneficiaries and individuals served by hospitals participating in Texas Medicaid to understand the impact of SPPs on community health measures.

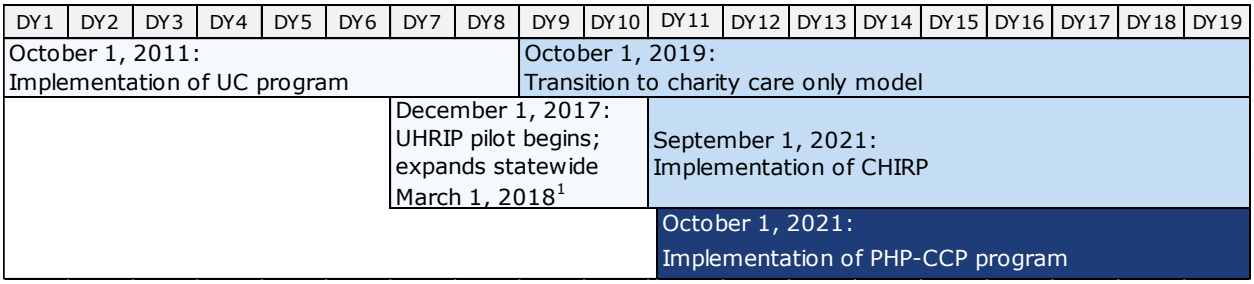
Potential Comparison Groups

Almost all eligible providers participate in the UC program. Since the final number of providers participating in the PHP-CCP program was not available at the time of writing, it is unclear whether there is a sufficient number of providers eligible for, but not participating in, the PHP-CCP program to constitute a comparison group. Moreover, the SPP evaluation component primarily relies on DSH/UC and PHP-CCP applications to obtain cost and payment data; this information is not available for providers not participating in UC or PHP-CCP programs. Thus, in the absence of application data, no viable comparison group exists for the UC or PHP-CCP programs. However, the external evaluator will leverage state and national benchmarks, where feasible, to support interpretation of findings amid key environmental confounds (e.g., the COVID-19 pandemic). Importantly, benchmarks at the state or national level may not be representative of all UC and PHP-CCP providers, and costs may differ definitionally from costs reported via DSH/UC and PHP-CCP applications. As a result, direct comparisons between UC and PHP-CCP measures and state or national benchmarks should be avoided.

SPP Study Periods

The UC program underwent significant changes at the beginning of DY9 when the program transitioned to a charity care only model (Figure 4). As a result, the focus of the Extension will be on the UC program in DY9 and later.[20] However, hospital-based performance outcomes for UC program providers dating back to DY1 will be used, where applicable, to examine whether the implementation of UHRIP supported hospitals before and after the transition to charity care only at the beginning of DY9. The PHP-CCP program study period will start in DY11 when the program is implemented. The study periods for both the UC and PHP-CCP programs will include payments made through the end of the Extension (DY19). Table 10 details key programmatic changes associated with study periods for the SPP evaluation component.

Figure 4. Study Periods for SPP Evaluation Component



Notes. [1] UHRIP expired on August 31, 2021 and transitioned to a component of CHIRP. DY=Demonstration year; UC=Uncompensated care; UHRIP=Uniform Hospital Rate Increase Program; CHIRP=Comprehensive Hospital Increased Reimbursement Program; PHP-CCP=Public Health Provider Charity Care Pool.

[20] The Draft Interim Evaluation Report covering DYs 7-11 due to CMS on March 31, 2024 includes an evaluation of the UC program prior to the transition to charity care only.

Table 10. Study Periods for SPP Evaluation Component

SPP Hypothesis	Pre-Period	Post-Period
H4.1. The UC and PHP-CCP programs financially support Medicaid providers by reimbursing Medicaid or charity care costs in Texas.	N/A	UC: DY9-DY19[1] PHP-CCP: DY11-DY19
H4.2. The UC and PHP-CCP programs support greater network adequacy and community health.	N/A	UC: DY9-DY19[1] PHP-CCP: DY11-DY19
H5.1. Hospital-based performance measures will maintain or improve following the transition to charity care only in DY9.	DY1-DY8[2,3]	DY9-DY19[3]

Notes. [1] Trends in UC costs and reimbursements should be explored before and after implementation of the DPPs and the PHP-CCP program. [2] Not all measures may be available as far back as DY1. The external evaluator will use the earliest data available for each measure. [3] The external evaluator may utilize multiple pre- or post-periods to capture implementation changes related to UHRIP, if feasible.
UC=Uncompensated Care; PHP-CCP= Public Health Provider Charity Care Pool; DY=Demonstration year.

SPP Data Sources

The SPP evaluation component relies on secondary data sources, as outlined below.

- **American Community Survey:** The evaluation will use estimates of regional characteristics, such as rural-urban continuum codes (RUCC) or uninsured rates, from the American Community Survey Samples for Texas.
- **Benchmark data:** The evaluation will leverage ongoing reporting of state and national benchmarks, where applicable, to support interpretation of findings amid key environmental confounds. The Hospital Cost Report Public Use File will be used to develop evaluation-specific benchmarks, where applicable.
- **CMS Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS®) Survey:** The HCAHPS® survey is a standardized national survey of clients' perceptions of hospital care. HCAHPS® assesses areas such as communication with hospital staff, cleanliness of hospital, the discharge process, and an overall rating of the hospital. CMS implemented the survey in 2006 and public reporting began in 2008. HCAHPS® data will be obtained through the CMS public data repository[21] to gather information on clients' experiences with hospitals participating in the UC program. Critical access hospitals and hospitals with less than 250 responses are exempted from the public use data file.

[21] CMS data repository can be accessed at: https://data.cms.gov/beta

- **DSH/UC application:** UC program providers complete an annual application to apply for reimbursement for costs incurred by providing services to uninsured individuals that are not otherwise reimbursed. Applications are submitted to HHSC annually, but are reimbursed on a two-year lag (e.g., UC payments during DY9 reflect charity care provided during DY7). The UC cost reimbursements are adjusted for inflation as an estimate of the UC costs for the year of payment.
- **EQRO-calculated measures using 3M software:** Texas's EQRO (ICHP) uses 3M software to calculate and publish potentially preventable events (PPEs) to the THLC portal. The THLC portal, or similar data obtained directly from ICHP, will be used to produce hospital-level estimates of potentially preventable complications (PPCs) and potentially preventable readmissions (PPRs).
- **FFS claims and MMC encounters:** FFS claims and MMC encounter data have been processed by TMHP since January 1, 2004. TMHP performs internal edits for data quality and completeness. The member-level claims/encounter data contain CPT codes, ICD-10-CM codes, place of service codes, and other information necessary to calculate duration and cost of hospital admissions. There is an approximate eight-month time lag for claims and encounter data adjudication. Prior analyses with Texas data showed that, on average, over 96 percent of the claims and encounters are complete by that timeframe.
- **Member-level enrollment files:** The enrollment files contain information about the person's age, gender, race/ethnicity, county, health care service delivery model (i.e., FFS or MMC), MCO enrollment, and length of enrollment. The member-level enrollment files will be used to identify member-level subgroups for measures related inpatient hospital admissions before and after the transition of UC to charity care only. Member-level enrollment files are subject to an approximate eight-month time lag.
- **Network adequacy reports**: HHSC developed a methodology for assessing network adequacy for each MMC program (STAR, STAR+PLUS, STAR Kids), per provider type and region. Specific information in network adequacy reports include member counts and the number/percentage of members meeting performance standards. Network adequacy reports include aggregate findings, and findings separated by each MMC program, provider type, and county classification (metro, micro, and rural).
- **PHP-CCP application:** PHP-CCP program providers complete an annual application to be reimbursed for certain costs incurred by providing services that are not otherwise reimbursed. During the first year of PHP-CCP implementation, providers may be reimbursed for charity care and Medicaid shortfall costs. For all other years, PHP-CCP is limited to costs incurred by providing services to uninsured individuals not otherwise reimbursed.

- **Provider-level enrollment files:** Provider-level enrollment files contain information on NPI, TPI, provider location, provider type, and provider specialty. Provider data will be sourced from TMHP and an HHSC SQL database, and are subject to an approximate one-month lag. The provider-level enrollment files will be used to support linking providers across multiple data sources and provide information necessary for any provider-level subgroups.
- **UHRIP administrative data:** HHSC maintains monitoring information for UHRIP to track participating providers and payment amounts over time. These data will be used identify UC program providers who participated in UHRIP.

SPP Proposed Analytic Methods

Quantitative methods will be used to evaluate the SPP evaluation component. This section describes the proposed analytic strategies for examining the measures presented in Table 7 and Table 8. The external evaluator should attempt to account for or provide context for historical programmatic factors such as amendments to the Demonstration (see Appendix H), the implementation or expiration of funding pools or payment programs which support the Medicaid system, and environmental and historical confounds (e.g., the COVID pandemic), as applicable.

Descriptive Statistics

All SPP evaluation measures—except open-ended primary data collection questions—may be examined through a variety of descriptive and inferential statistics. Descriptive statistics include estimates of central tendency and dispersion. Potential inferential analyses include bivariate statistics, parametric tests (e.g., paired or unpaired t-tests), and non-parametric tests (e.g., McNemar's test, Wilcoxon signed-rank test). Importantly, some measures may not be suited to inferential statistics, such as those that rely on population-level data rather than a sample. The external evaluator will ensure the correct application of statistical testing depending on whether the data is population- or sample-based, whether the measure is categorical or continuous, and whether the data meet the assumptions of parametric tests (e.g., normality, independence).

Descriptive Trend Analysis

DTA is an alternative approach to time-series analysis for measures that do not have enough pre-and post-period observations to conduct more rigorous time series analyses, such as ITS. DTA plots and analyzes time-series data calculated at equally spaced intervals to explain patterns in selected measures over time. DTA typically focuses on identification and quantification of a trend through the use of correlation coefficients and ordinary least squares regression. DTA will be used examine UC and PHP-CCP costs reimbursed over time (Measures 4.1.3 and 4.1.4). For outcome measures using DTA, the basic regression model is:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 program\ transitions + \beta_3 controls + \varepsilon_t$$

Where, $\beta_0$reflects the baseline level of the outcome at the beginning of the study period; $\beta_1 time$ estimates the trends in the outcome variable; where applicable, the external evaluator should add $\beta_2 program\ transition$, which reflects the impact of the key program transitions (e.g., expiration of the DSRIP pool, implementation of new DPPs, introduction of PHP-CCP, and SPP pool resizing); and $\beta_3 controls$ reflects a vector of control variables the external evaluator may add to the DTA model. Potential control variables include client- or provider-level characteristics, or other programmatic and historical factors, where feasible and necessary.

DTA will also be used to examine hospital-based performance measures (5.1.1 to 5.1.5) before and after the UC program transitioned to charity care only in DY9 if the recommended minimum number of observations for ITS are not available (i.e., eight pre- and eight post-Demonstration time points).

Interrupted Time Series

ITS analysis uses aggregate data collected over equally spaced intervals before and after a policy change. A key assumption of ITS is that data trends before the policy change can be extrapolated to predict trends had the policy change not occurred. If a policy change has an impact on an outcome of interest, the trend of that outcome will have a slope that is significantly different from the slope before the policy change.

When properly executed, ITS is a valuable method to evaluate the success, failure, or unintended consequences of health care policy on outcomes (Lagarde, 2012). However, given the serial nature of ITS data, autocorrelation, nonstationarity, and seasonality need to be considered. Failing to assess and correct for these factors can lead to biased results (Wagner, Soumerai, Zhang, & Ross-Degnan, 2002). A key strength of ITS methodology is that a control site is not required, providing an alternate method of measuring the effect of an intervention "when randomization or identification of a comparison group are impractical" (Grimshaw, et al., 2003). The ITS method allows the target population to serve as its own comparison group.

An ITS model will be used to evaluate measures under Hypothesis 5.1. For Hypothesis 5.1, a basic segmented regression model will examine a series of hospital-based performance measures (5.1.1 to 5.1.5) before and after the UC program transitioned to charity care only in DY9. The proposed regression model for each outcome of interest (Y_t) over time is:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 UC\ transition + \beta_3 post\ time + \varepsilon_t$$

In the above equation, β_0 represents the baseline level of the outcome measure at the beginning of the study period; $\beta_1$estimates trends in the outcome measure before the transition to charity care only; β_2 estimates the immediate impact of the transition to charity care only; and β_3 estimates the change in trend of the outcome measure after the transition to charity care only. To ease interpretation, ITS results are presented as: baseline level, trend before transition to charity care only, level change after transition to charity care only, and trend after transition to charity

care only. The external evaluator may add covariates to the ITS model to determine the effects of client- or provider-level characteristics, or programmatic and historical factors, where feasible and necessary.

The ITS model for Hypothesis 5.1 will incorporate subgroup analyses (e.g., by provider type or RUCC classification), where feasible, to strengthen the validity of observed outcomes.

Multiple Linear Regression

Multiple linear regression (MLR) will be used to examine how changes in network adequacy and PPE rates are associated with SPP funding over time (Hypothesis 4.2), while controlling for county or regional characteristics, such as county type (metro, micro, and rural) and the percentage of individuals who are uninsured per county. MLR is used to estimate the association between two or more independent variables and a single dependent variable. The goal of this analysis is to determine whether SPP payments support network adequacy and reduce the rate of avoidable healthcare events.

The proposed regression model for each outcome of interest (Y_{ct}) over time is:

$$Y_{ct} = \beta_{0i} + \beta_1 time_c + \beta_2 SPP\ payments_{ct} + \beta_3 county\ type_{ct} + \beta_4 uninsured_{ct} + \varepsilon_{ct}$$

Where the dependent variable is network adequacy or PPE rates for county *c* in DY *t*; *time* is a time trend variable; *SPP payments* represents the total amount of UC and PHP-CCP payments across all providers for county *c* in year *t*; *county type* delineates metro, micro, and rural counties; *uninsured* represents the percentage of individuals who are uninsured in county *c* in year *t*; and *e* is an error term.

The external evaluator may add additional county or regional characteristics to the proposed model, as deemed necessary. The external evaluator should aim to use county-level data for the regression model. However, PPE rates are calculated by the state's EQRO and are not currently available at the county level. HHSC and the external evaluator will examine the feasibility of obtaining county-level PPE rates; if county-level rates are not feasible for PPEs, or other model parameters, the external evaluator may use other regional breakouts for the model. The external evaluator may also choose to adjust the proposed model to account for the multicollinearity between model parameters, such as potential associations between county type and SPP funding. Lastly, because the dependent variables for network adequacy and PPE rates are bounded,[22] the external evaluator should use a Tobit regression, or a similar statistical approach, in the proposed model.

[22] Network adequacy rates are bounded between 0 and 1. PPE rates are bounded between 0 and 1,000 at-risk admissions (PPA, PPR, and PPCs) or between 0 and 1,000 at-risk ED visits (PPVs).

SPP Methodological Limitations

A major limitation of the SPP evaluation component is the use of application data. These data were designed for administrative payment purposes, not for research. As a result, the information is limited to what is required to be paid through the UC or PHP-CCP programs. These data do not include information on charity care costs prior to DY9, and do not include payer source or other subgroupings that would allow evaluators to determine the source of uncompensated care. Additionally, the use of application data means that uncompensated care cannot be estimated before the UC or PHP-CCP programs were implemented. This limitation is especially salient for the UC program, which transitioned to charity care only in DY9. DSH/UC applications prior to DY9 did not require providers to submit charity care costs like those submitted after DY9, limiting examinations into changes in charity care prior to DY9.

The use of application data also means the SPP evaluation component is limited by the lack of a comparison group. Subgroup analyses and rigorous one-group analytic methods will be utilized, where applicable. However, the lack of a comparison group makes it is difficult to draw causal inferences about the impact of these programs. A final limitation associated with the use of application data is data lags, which pose a challenge to measuring and reporting changes in a timely manner (Schoenberg, Heider, Rosenthal, Schwartz, & Kaye, 2015). The UC program is subject to a two-year data lag.

Analyses of some hospital-level outcome measures are limited by the use of all-payer data. Specifically, PPEs and patients' perceptions of hospital care are not restricted to individuals whose care was eventually reimbursed through the UC or PHP-CCP programs. Rather, these measures include both uninsured individuals and individuals with public or private insurance served at Medicaid-participating hospitals. Stronger hospital financial performance, including less uncompensated care or accounts receivable, has been associated with greater hospital quality, safety, and patient experience of care (Akinleye, McNutt, Lazariu, & McLaughlin, 2019). While the use of all-payer data will allow the evaluation to measure changes in hospital-level outcomes over the study period, it may be difficult to detect more nuanced impacts to specific payer groups resulting from the implementation of UHRIP or programmatic changes in the UC or PHP-CCP programs.

Lastly, the COVID-19 pandemic began in the middle of DY9 when UC transitioned to charity care only. Additionally, the PHP-CCP program is slated to be implemented amidst the ongoing COVID-19 pandemic. Impacts of these policy changes will be confounded by impacts to uncompensated care costs resulting from the COVID-19 pandemic. However, since the COVID-19 pandemic will impact all evaluation components, additional details regarding the implications of the pandemic are presented in the larger Methodological Limitations section on page 61.

Despite these limitations, the SPP evaluation component will provide insight into how UC and PHP-CCP programs support Medicaid providers, changes in

uncompensated care costs over time, and impacts to hospital-level outcomes following the transition to charity care only. This evaluation component will inform whether Texas has made progress towards improved outcomes while containing cost growth.

Overall Demonstration Evaluation Methods

The Overall Demonstration evaluation component will utilize a mixed-method approach to investigate four evaluation questions and five hypotheses related to cost outcomes for the Demonstration as a whole. The Overall Demonstration evaluation component explores Medicaid health service expenditures and the administrative costs associated with implementing and operating the Demonstration; in addition, this section considers how Demonstration costs align with other Demonstration components to support provider operations and sustainability.

Overall Demonstration Evaluation Design

The Overall Demonstration evaluation component will rely on one quasi-experimental design: a one-group posttest only design. This design will use repeated observations of cost measures across all Demonstration approval periods (DY1 to DY19). Measures will be evaluated using descriptive statistics and DTA.

Table 11, Table 12, Table 13, and Table 14 provide an overview of Overall Demonstration-specific hypotheses aligned with their respective measures. Subsequent sections provide additional information on the study populations, study periods, data sources, and analytic methods. Additional details for each of the proposed measures can be found in Appendix E.

Table 11. Evaluation Design Overview, Evaluation Question 6: What are the costs of providing health care services to Medicaid beneficiaries served under the Demonstration?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H6.1. The Demonstration results in overall savings in health care service expenditures.	6.1.1 Actual Medicaid health service expenditures 6.1.2 Hypothetical WOW Medicaid health service expenditures	• Medicaid Eligibility Groups served under the Demonstration	• Budget neutrality worksheet	• Descriptive statistics • DTA

Notes. WOW=Without waiver; DTA=Descriptive trend analysis.

Table 12. Evaluation Design Overview, Evaluation Question 7: What are the administrative costs of implementing and operating the Demonstration?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H7.1. Administrative costs required to implement and operate the Demonstration are relatively stable and reasonable over time.	7.1.1 HHSC administrative costs directly attributable to the Demonstration	• HHSC	• Form CMS-64	• Descriptive statistics • DTA
	7.1.2 MCO administrative costs	• MCOs	• MCO Financial Statistical Reports	• Descriptive statistics • DTA

Notes. HHSC=Health and Human Services Commission; CMS=Centers for Medicare and Medicaid Services; DTA=Descriptive trend analysis; MCO=Managed care organization.

Table 13. Evaluation Design Overview, Evaluation Question 8: How do directed and supplemental payment programs support providers and overall Medicaid program sustainability?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H8.1. The Demonstration leverages savings in health care service expenditures to administer directed and supplemental payment programs.	8.1.1 Total expenditures for DSRIP, DPPs, and SPPs 8.1.2 Medicaid providers receiving payments through DSRIP, DPPs, and SPPs	• DPP providers • DSRIP providers • PHP-CCP program providers • UC program providers	• Budget neutrality worksheet • DSRIP and DPP administrative data • DSH/UC application • PHP-CCP application	• Descriptive statistics • DTA
H8.2. The directed and supplemental payment programs support Medicaid provider operations and sustainability.	8.2.1 Participation in directed and supplemental payment programs 8.2.2 Need for directed and supplemental payment programs 8.2.3 Perceived benefits and challenges of directed and supplemental payment programs 8.2.4 Provider perspectives on state priorities and policy development	• DPP providers • PHP-CCP program providers • UC program providers	• Provider survey and/or interviews	• Descriptive statistics • Thematic content analysis

Notes. DSRIP=Delivery System Reform Incentive Payment; DPP=Directed payment program; SPP=Supplemental payment program; PHP-CCP=Public Health Providers Charity Care Pool; UC=Uncompensated Care; DSH=Disproportionate share hospital.

Table 14. Evaluation Design Overview, Evaluation Question 9: Did Texas's quality initiatives impact the development and implementation of quality-based payment systems?

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H9.1. The implementation of APMs in Texas Medicaid will increase over time.	9.1.1 Percentage of providers implementing APMs 9.1.2 Percentage of MCOs and providers implementing risk-based APMs 9.1.3 Percentage of MCO payments made through APMs 9.1.4 Perceived benefits of implementing APMs 9.1.5 Perceived challenges with implementing APMs	• MCOs • DPP providers • PHP-CCP program providers • UC program providers	• MCO APM reporting tool • MCO survey • Provider survey	• Content analysis • Descriptive statistics • DTA • Subgroup analysis[1] • Thematic content analysis

Notes. [1] Subgroup analysis will only be performed where applicable. APM=Alternative payment model; MCO=Managed care organization; DPP=Directed payment program; DTA=Descriptive trend analysis.

Overall Demonstration Study Populations

The study population for the Overall Demonstration evaluation component collectively refers to all stakeholders, providers, members, and individuals contributing to and/or being served through the Demonstration. However, costs are presented for four study populations:

- **Medicaid Eligibility Groups (MEGs) served under the Demonstration:** The MEGs reflect state plan eligibility groups that are mandatory and voluntary enrollees in MMC (i.e., beneficiaries served through the Demonstration). MEGs are categorized into four groups for the purposes of budget neutrality limit calculations:[23]
  - **Adults:** Medicaid assistance expenditures for low-income parent and caretaker relatives, pregnant women, family members providing permanent homes for children who were in foster care, and individuals who aged out of foster care.
  - **Children:** Medicaid assistance expenditures for infants, children, and transitional youth in low-income families, and individuals who aged out of foster care.
  - **Aged and Medicare Related:** Medicaid assistance expenditures for children and adults receiving SSI benefits, Dual eligibles (Medicare and Medicaid), children with disabilities with Medicaid buy-in, individuals residing in a nursing facility, and individuals needing treatment for breast or cervical cancer.
  - **Disabled:** Medicaid assistance expenditures for children and adults receiving SSI benefits and/or with disabilities who are not receiving Medicare.
- **HHSC:** HHSC staff and contractors involved in the administration and operation of the Demonstration.
- **MCOs**: MCOs contracted to administer STAR, STAR+PLUS, and STAR Kids MMC Programs.

In addition to study populations associated with Demonstration costs, the Overall Demonstration evaluation component will rely on primary data collection with the following populations.

- **DPP Providers:** MMC providers participating in a DPP will be surveyed to gather provider perspectives on APMs. The provider survey will focus on MMC providers participating in DPPs because a wide range of provider types are eligible to participate in DPPs, and all DPP providers contract with MCOs, who administer APMs. Surveying Medicaid providers participating in DPPs may also allow the external evaluator to understand potential confounds or impacts to the MMC environment from DPPs, which are not a direct subject of this evaluation.

[23] STC 18 provides additional details on eligibility groups served through the Demonstration.

- **MCOs:** HHSC contracts with MCOs to manage and deliver quality health care services to MMC members statewide. At the time of writing, HHSC had contracts with 17 MCOs. MCOs vary in size, covered service areas, and MMC program offerings.[24] HHSC contractually requires MCOs to establish APMs with providers. By December 31, 2021, MCOs were expected to have at least 50 percent of total provider payments for medical and prescription expenses in APMs, and at least 25 percent in a risk-based model. MCOs contracted to provide MMC in Texas will be surveyed to gather MCO perspectives on APMs.
- **PHP-CCP program providers:** PHP-CCP program providers are limited to publicly-owned and operated CMHCs, LBHAs, LMHAs, LHDs, and PHDs. Similar to UC program providers, PHP-CCP program providers included in the evaluation are limited to those who submit an annual PHP-CCP application.
- **UC program providers:** UC program providers include hospitals, clinics, and other providers who provide "medical assistance," as defined in section 1905(a) of the Social Security Act, to individuals who cannot pay for the services received. UC providers included in the evaluation are limited to those who submit an annual Disproportionate Share Hospital (DSH)/UC application.

Potential Comparison Groups

The Demonstration operates statewide and encompasses almost all individuals served through MMC.[25] In addition, nearly all eligible providers have historically participated in the directed and supplemental payment programs administered through the Demonstration. Collectively, this means there is no characteristically similar group of individuals or providers not involved in Demonstration activities, and therefore, no available comparison group for the Demonstration as a whole.

However, the Overall Demonstration evaluation component relies on hypothetical health care service expenditures ('Without Waiver' [WOW] expenditures) to estimate costs for individuals served under the Demonstration if the Demonstration did not exist (i.e., a hypothetical comparison group). These WOW expenditures are created for budget neutrality purposes and reflect theoretical costs for MEGs served under the Demonstration if their services were provided through FFS instead of MMC. The WOW expenditures are available for each DY.

[24] Additional information on MCOs contracted to deliver MMC can be accessed at: https://www.hhs.texas.gov/services/health/medicaid-chip/provider-information/managed-care-organization-dental-maintenance-organization-provider-services-contact-information

[25] STAR Health is an MMC program that operates outside the Demonstration. STAR Health is limited to children in conservatorship, in the Adoption Assistance or Permanency Care Assistance program, extended foster care, or Former Foster Care Children.

Overall Demonstration Study Periods

The Overall Demonstration evaluation component will rely on costs (expenditures and payments) under the Demonstration (post-Demonstration) and will span all Demonstration approval periods (DY1 through DY19), as well as primary data collection focused on the Extension (DY10 through DY19).

Overall Demonstration Data Sources

The Overall Demonstration evaluation component will include both quantitative and qualitative data. These data include both primary and secondary data sources, as outlined below.

Overall Demonstration Primary Data Sources

- **MCO survey:** MCOs will be surveyed regarding their experiences planning and implementing APMs. This survey will be developed by the external evaluator but should include questions to address Evaluation Question 9 and related hypotheses. Additional details on the requirements for primary data collection, including possible methods, sampling strategy, data analysis, and timing of primary data collection activities, can be found in Appendix D.
- **Provider survey and/or interviews:** Provider perspectives offer valuable insight into the successes and challenges of various Demonstration activities, including funding pools and the development of APMs. The external evaluator will determine the most appropriate data collection approach and will develop corresponding instruments and/or guides. If feasible, the external evaluator should make efforts to assure primary data collection activities target providers of different types, sizes, and geographic regions to ensure a range of provider perspectives are included. The external evaluator may combine primary data collection activities across various evaluation questions (e.g., primary data collection on directed and supplemental payment programs in Evaluation Question 8 and APMs in Evaluation Question 9), as applicable. Additional details on the requirements for primary data collection, including possible methods, sampling strategy, data analysis, and timing of primary data collection activities, can be found in Appendix D.

Overall Demonstration Secondary Data Sources

- **Budget neutrality worksheet:** HHSC and CMS collaborate to determine the total cost of the Demonstration. "With waiver" (WW) costs are calculated for all years of the Demonstration, with past years based on actual costs and future years projected based on forecasted spending and enrollment trends. WOW costs are projections based on what the services provided would cost without the Demonstration. HHSC submits the budget neutrality worksheet to CMS quarterly, and also produces an annual budget neutrality summary. The quarterly budget neutrality worksheet relies exclusively on actual costs,

whereas the annual summary uses cost caps for SPPs and DPPs.[26] Quarterly budget neutrality worksheets and annual summaries will be provided to the external evaluator.

- **DSH/UC application:** UC program providers complete an annual application to apply for reimbursement for costs incurred by providing services to uninsured individuals that are not otherwise reimbursed. Applications are submitted to HHSC annually, but are reimbursed on a two-year lag (e.g., UC payments during DY9 reflect charity care provided during DY7). The UC cost reimbursements are adjusted for inflation as an estimate of the UC costs for the year of payment. These data will be used to examine Medicaid providers participating in funding pools administered through the Demonstration.
- **DSRIP and DPP administrative data:** HHSC maintains monitoring information for DSRIP and DPP providers to track program participation over time. These data will be used to examine Medicaid providers participating in payment incentive programs administered through the Demonstration.
- **Form CMS-64:** Form CMS-64 is part of the Medicaid Budget and Expenditure System, a web-based application used to obtain quarterly expenses to compute the Federal Financial Participation amount CMS provides to states. Form CMS-64 includes a variety of sections detailing different types of expenditures. The Overall Demonstration evaluation component will focus on 64.10 expenditures for state and local administration attributable to the Demonstration. These administrative expenditures include costs associated with the Medicaid Management Information System, preadmission screening costs, enrollment brokers, and all other costs necessary to administer the Demonstration, including staff time and contracts management.
- **MCO Financial Statistical Reports (FSRs):** All MCOs contracted to provide MMC in Texas are required to submit FSRs for each service area and MMC program they operate. FSRs include a variety of financial information from MCOs, including revenues and expenditures for MMC members in the service area. The Overall Demonstration evaluation component will focus on MCO administrative expenses such as staff time, office space, equipment, and supplies.
- **PHP-CCP application:** PHP-CCP program providers complete an annual application to be reimbursed for certain costs incurred by providing services that are not otherwise reimbursed. During the first year of PHP-CCP implementation, providers may be reimbursed for charity care and Medicaid shortfall costs. For all other years, PHP-CCP is limited to costs incurred by providing services to uninsured individuals not otherwise reimbursed. These data will be used examine Medicaid providers participating in funding pools administered through the Demonstration.

[26] The annual budget neutrality worksheet also relies on historical costs for DPPs.

Overall Demonstration Proposed Analytic Methods

Quantitative and qualitative methods will be used for the Overall Demonstration evaluation component. This section describes the proposed analytic strategies for examining the measures presented in Table 11, Table 12, Table 13, and Table 14. Analytic methods will incorporate subgroup analyses (e.g., by provider type or region), where feasible, to strengthen the validity of observed outcomes. Additionally, the external evaluator should attempt to account for or provide context for historical programmatic factors such as amendments to the Demonstration (see Appendix H), the implementation or expiration of funding pools or payment programs which support the Medicaid system, and environmental and historical confounds (e.g., the Great Recession and the COVID pandemic) which may impact cost outcomes over time, as applicable.

Quantitative Analysis

Descriptive Statistics

All Overall Demonstration evaluation measures—except open-ended primary data collection questions—may be examined through a variety of descriptive and inferential statistics. Descriptive statistics include estimates of central tendency and dispersion. Potential inferential analyses include bivariate statistics, parametric tests (e.g., paired or unpaired t-tests), and non-parametric tests (e.g., McNemar's test, Wilcoxon signed-rank test). Importantly, some measures may not be suited to inferential statistics, such as those that rely on population-level data rather than a sample. The external evaluator will ensure the correct application of statistical testing depending on whether the data is population- or sample-based, whether the measure is categorical or continuous, and whether the data meet the assumptions of parametric tests (e.g., normality, independence).

Descriptive Trend Analysis

The costs included in the Overall Demonstration evaluation component exist only under the Demonstration. As a result, preferred time-series designs such as ITS are infeasible. DTA is an alternative approach to time-series analysis for programs that do not have an intervention point in the time series. DTA plots and analyzes time-series data calculated at equally spaced intervals to explain patterns in selected measures over time. DTA typically focuses on identification and quantification of a trend through the use of correlation coefficients and ordinary least squares regression. DTA will be used for all Overall Demonstration evaluation measures—except open-ended primary data collection questions. For outcome measures using DTA, the basic regression model is:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 controls + \varepsilon_t$$

Where, $\beta_0$reflects the baseline level of the outcome at the beginning of the study period; $\beta_1 time$ estimates the trends in the outcome variable; and $\beta_2 controls$ reflects a vector of control variables the external evaluator may add to the DTA model.

Potential control variables include client- or provider-level characteristics, or programmatic and historical factors, where feasible and necessary.

Qualitative Analysis

The appropriate methods for qualitative analysis will depend on the primary data collection tools adopted by the external evaluator. For measures relying on guided feedback through a limited number of open-ended survey questions, the external evaluator may utilize content analysis to supplement or expand upon quantitative survey results analyzed using descriptive statistics. Content analysis systematically examines documents to extract descriptive data that can be quantified in a structured dataset for statistical testing (Vaismoradi, Turunen, & Bondas, 2013). For less prescriptive approaches, such as provider interviews, more advanced qualitative techniques will be required, such as thematic content analysis. This qualitative method involves the identification of patterns and themes within survey or interview data, and is well-suited to analyzing the diverse and nuanced information collected from study participants (Vaismoradi, Turunen, & Bondas, 2013). As with quantitative approaches to data analysis, the external evaluator should incorporate subgroup analyses, where applicable.

Overall Demonstration Methodological Limitations

There are several limitations the Overall Demonstration evaluation component. First, given the long-standing, statewide nature of the Demonstration, no existing comparison groups are available for estimating a counterfactual condition without the Demonstration. Historical health care expenditures may be used as contextual reference, but due to differences in individuals included in historical health care expenditures and those served under the Demonstration, these historical costs cannot be used to determine costs which would have been incurred in the absence of the Demonstration.

Another limitation of the Overall Demonstration evaluation component is the reliance on application data and federally-and state-mandated reporting. These data were designed for administrative and oversight purposes, not for research. As a result, analyses are limited to what is available through these data sources. These data include health care service expenditures derived from FFS claims and MMC encounters data, administrative costs, and payments to providers necessary to investigate cost outcomes for the Demonstration as a whole; however, these data may not represent all possible costs associated with the Demonstration and may only be available at the aggregate level.

Conclusions derived from qualitative data analysis will be susceptible to common threats to validity, such as selection or sampling bias, recall bias, and social desirability bias. The number of survey waves may also be limited due to study timelines, survey logistics, and the level of effort required to conduct and analyze primary data collection.

Lastly, study periods for the Overall Demonstration evaluation component span the COVID-19 pandemic. Since the COVID-19 pandemic will impact all evaluation components, additional details regarding the implications of the pandemic are presented in the larger Methodological Limitations section on page 6161.

Despite these limitations, the Overall Demonstration evaluation component will provide insight into cost outcomes for the Demonstration as a whole, including health care service expenditures and administrative costs, how the Demonstration leverages cost savings into provider payment incentives and funding pools, and ultimately, how the Demonstration supports Medicaid provider operations and sustainability.

4. Special Methodological Considerations

The Demonstration aims to transform the Medicaid healthcare delivery system in Texas through the expansion of risk-based managed care and quality-based payment systems that target improved care coordination and health outcomes while containing overall cost growth. To meet these goals, the Demonstration contains multiple components. The complex, statewide nature of the Demonstration presents challenges for the evaluation of the Extension. Many demonstration components are pervasive in reach, including nearly all Medicaid clients or eligible providers that meet program criteria. Additionally, components of the Demonstration were implemented at different times, and each component comes with ongoing policy changes such as funding pool resizing, the initiation of new services, and the incorporation of new populations. Differences in timing and implementation of these components make it difficult to establish consistent definitions and isolate effects over time. Moreover, many providers and clients participate in multiple Demonstration components simultaneously; for example, many hospitals participate in the delivery of managed care, DPPs, and SPPs, effectively spanning the entire slate of Demonstration activities. Over time, the Demonstration has become increasingly intertwined with the broader operations of Texas Medicaid and its array of quality initiatives and satellite programs.

The Demonstration was in the tenth year of operation when CMS approved the Extension STCs. The long-standing nature of the Demonstration also poses unique challenges to the evaluation of the Extension because evaluation pre-periods are no longer free of relevant interventions. In the proposed evaluation design, new or modified Demonstration components are primarily compared to outcomes derived from prior Demonstration periods, not a historical cohort free from the Demonstration. Additionally, the statewide implementation of the Demonstration precludes the availability of a true comparison group. The implementation of new components or shifts in component operations apply to all eligible Medicaid members or providers. Members or providers who do not experience the change would either represent different eligibility groups or differences in motivation or engagement (i.e., selection bias). The lack of a true historical or contemporary comparison group is problematic for identifying a counterfactual condition that would allow the external evaluator to attribute changes in evaluation measures to specific Demonstration components. The evaluation design plan incorporates rigorous mixed-methods quasi-experimental evaluation designs to compensate for the absence of a true counterfactual. Results from the evaluation will provide insight into whether the state continued making progress towards the goals set forth in the initial Demonstration and met the specific aims of the Extension. However, evaluation results from specific Demonstration components may not imply direct causality; instead, evaluation results should be considered in aggregate when assessing the Demonstration performance.

The Demonstration evaluation will also coincide with programmatic changes to Texas Medicaid which may influence evaluation measures. Specifically, the state developed four new DPPs and one new SPP to sustain key DSRIP initiative areas and support further delivery system reform by incentivizing providers to maintain access and quality of care. The expiration of the DSRIP pool and the delayed approvals of the new DPPs may reduce incentives for system improvement and present additional financial burden for Medicaid providers, ultimately resulting in negative changes to access and quality of care measures for MMC programs and to cost-related measures for SPPs. The Overall Demonstration component includes measures of the new DPPs in the examination of how funding pools support providers and Medicaid program sustainability. However, since the DPPs are independently evaluated as outlined in STCs 31 and 35, the new DPPs are not directly assessed in the current evaluation. Additional programmatic changes include the state's other 1115 Demonstration Waiver for the Healthy Texas Women program, and updates to the Managed Care Quality Strategy, which Texas will revise no less than every three years. Texas will also undergo five legislative sessions during the Extension, which may significantly alter the Medicaid landscape operating both under and outside of the Demonstration. Collectively, the multiple ongoing state efforts to improve the administration of Texas Medicaid add further complexity to the interpretation of evaluation findings.

Finally, it should be noted that this evaluation design is being written during the ongoing COVID-19 pandemic. The outbreak has reordered priorities for both clients and providers in the state. One immediate consequence of the pandemic was to depress Medicaid utilization due to social distancing measures and shifting health care concerns. Medicaid enrollment was also impacted as the state implemented temporary eligibility changes to Medicaid programs in response to the pandemic. The COVID-19 pandemic is a confounding factor that may undermine casual inference of evaluation results across multiple domains. The external evaluator may use public use data files on COVID-19 confirmed cases and hospitalizations in Texas to better understand the impact of the pandemic on evaluation measures, where applicable. The external evaluator will take care to interpret and present pertinent findings within the appropriate context, carefully formulate primary data collection tools, and adjust the evaluation, where applicable and feasible, such that findings reflect the effects of 1115 Demonstration policies.

5. Communication, Dissemination, and Reporting

The Interim and Summative Evaluation Reports will be produced in alignment with the Attachment P of the Special Terms and Conditions (STCs), *Preparing the Evaluation Report,* and the schedule of deliverables listed in the timeline (Table 15 on the following page).

State Presentations for the CMS

As specified in STC 89, if requested by CMS, Texas will present and participate in discussions with CMS regarding the Evaluation Design, Interim Evaluation, and/or the Summative Evaluation Reports.

Public Access

As specified in STC 90, Texas shall post final documents (e.g., Monitoring Reports, Close Out Report, approved Evaluation Design, Interim Evaluation Report, and Summative Evaluation Report) on the state's Medicaid website within 30 days of approval by CMS.

Additional Publications and Presentations

Attachment O to the STCs, *Developing the Evaluation Design,* endorses dissemination of 1115(a) Demonstration evaluation findings on "what is or is not working and why." As a result, presentation of evaluation reports or their findings are encouraged. However, as specified in STC 91, for a period of twelve (12) months following CMS approval of the final reports, CMS will be notified prior to presentation of these reports or their findings, including in related publications (e.g., journal articles), by the state, contractor, or any other third party directly connected to the demonstration, including any associated press materials. Additionally, all peer-reviewed and non-peer-reviewed publications and presentations will be listed as an appendix in the Interim and Summative Evaluation Reports.

Table 15. Schedule of Evaluation Deliverables

Deliverable	Date
STCs approved for the 1115(a) the Extension	January 15, 2021
HHSC submits Draft Evaluation Design Plan to CMS for comments (within 180 calendar days of Extension approval)	July 14, 2021
HHSC receives comments from CMS	December 6, 2021
HHSC submits revised Evaluation Design (within 84 calendar days of receipt of CMS comments) and posts to the state's Demonstration website[1]	February 28, 2022
CMS approves Evaluation Design	May 26, 2022
HHSC obtains an independent evaluator	March 15, 2024
HHSC submits Draft Interim Evaluation Report for DYs 7-11 to CMS for comment	March 31, 2024
HHSC receives comments from CMS	March 21, 2025
HHSC submits Final Interim Evaluation Report for DYs 7-11 to CMS (within 60 calendar days of receipt of comments)[2]	May 20, 2025
HHSC submits Draft Interim Evaluation Report for DYs 10-14 to CMS for comment	March 31, 2027
HHSC receives comments from CMS (estimated within 90 business days)	*June 29, 2027*
HHSC submits Final Interim Evaluation Report for DYs 10-14 to CMS (within 60 calendar days of receipt of comments)[2]	August 28, 2027
HHSC submits Draft Interim Evaluation Report for DYs 10-16 to CMS for comment	September 30, 2029
HHSC receives comments from CMS (estimated within 90 business days)	*December 29, 2029*
HHSC submits Final Interim Evaluation Report for DYs 10-16 to CMS (within 60 calendar days of receipt of comments)[2]	February 27, 2030
HHSC submits Draft Summative Evaluation Report for DYs 10-19 to CMS for comment	March 30, 2032
HHSC receives comments from CMS (estimated within 90 business days)	*June 28, 2032*
HHSC submits Final Evaluation Report to CMS (within 60 calendar days of receipt of comments)[2]	August 27, 2032

Notes. [1] The Evaluation Design was originally due to CMS within 60 calendar days of receipt of CMS feedback (2/4/2022). CMS approved a 24-day extension on 12/15/2021, extending the deadline to 2/28/2022. [2] Evaluation deliverable date may require adjustments depending on when HHSC receives CMS comments on initial drafts. STC=Special Terms and Conditions; HHSC=Health and Human Services Commission; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year.

Appendix A. Document History Log

Table 16. Document History Log

Status[1]	Document Revision[2]	Effective Date	Description[3]
Baseline	n/a	July 14, 2021	Draft Evaluation Design for the Extension (STC 82)
Revision	2.1	February 28, 2022	Updated based on CMS feedback received December 6, 2020
Revision	3.1	August 13, 2024	Updated to incorporate amendments approved by CMS on November 16, 2023, necessary changes to STAR+PLUS HCBS measures (Evaluation Question 2), and other minor revisions
Revision	3.2	April 22, 2025	Updated based on CMS feedback received on March 18, 2025

Notes. [1] Status should be represented as "Baseline" for initial issuances, "Revision" for changes to the Baseline version, and "Cancellation" for withdrawn versions. [2] Revisions should be numbered according to the version of the issuance and sequential number of the revision – e.g., "1.2" refers to the first version of the document and the second revision. Brief description of the changes to the document made in the revision. STC=Special Terms and Conditions; CMS=Centers for Medicare and Medicaid Services.

Appendix B. Independent Evaluator

The STCs state the Demonstration evaluation must be conducted by an independent evaluator. To meet this requirement, HHSC will identify and contract with an independent external evaluator.

External Independent Evaluator

Required Qualifications

HHSC will select an independent evaluator with the expertise, experience, and impartiality to conduct a scientifically rigorous program evaluation meeting all requirements specified in the STCs, including the skills needed to examine measures in Appendix E, and meet deadlines in Table 15 (Schedule of Evaluation Deliverables). Required qualifications and experience include multi-disciplinary health services research skills and experience; an understanding of and experience with the Medicaid program; familiarity with HHSC programs and populations; experience conducting complex, multi-faced evaluations of large, multi-site health and/or social services programs; and proficiency producing accessible documents in line with CMS and HHSC requirements.

Potential external evaluators will be assessed on their relevant work experience, staff expertise, data management and analytic capacity, experience working with state agency program and research staff, proposed resource levels and availability of key staff, track record of related publications in peer-reviewed journals, and the overall quality of their proposal. Proposed deliverables must meet all standards of leading academic institutions and academic journal peer review. In the process of identifying, selecting, and contracting with an independent external evaluator, Texas will act appropriately to prevent a conflict of interest with the independent external evaluator, including the requirement to sign a declaration of "No Conflict of Interest."

HHSC will pursue a contract to secure independent evaluation services from a Texas university. The contracting process includes development of a project proposal and quote request specifying the Scope of Work, vendor qualifications, vendor requirements, timelines, milestones, and cost estimate template. The cost estimate template will include a breakdown of costs for staffing, fringe benefit, travel, equipment and supplies, data collection, and other administrative and indirect costs. The project proposal and quote request will be sent to the list of Texas universities allowing approximately 30 calendar days for response. A team of reviewers at HHSC will be identified prior to the submission deadline for proposals. Each proposal submitted in response to the request will be reviewed by the HHSC team of reviewers. Respondents with the best proposal and value are identified by the team. HHSC will make a final decision for contract award based on the strength of the overall proposal and the abilities of the external evaluator to satisfy the requirements of the project proposal and quote request and conduct the

independent evaluation in the timeframe required. The contracting process begins once a university is selected.

The timeframe for soliciting and contracting with an independent evaluator is 6-12 months from the date an Evaluation Design Plan is approved by CMS.

Evaluation Budget

As required by CMS in Attachment O of the STCs, Section F(2), the independent evaluator's budget for implementing the evaluation will include total estimated cost, as well as a breakdown of estimated staff, administrative, and other costs for all aspects of the evaluation. The total budget for the external independent evaluator is estimated to be approximately $12 million for 8.5 years (March 15, 2024 through September 30, 2032),[27] but the final budget will not be available until the external evaluator is selected. The estimated budget amount will cover all evaluation expenses, including salary, fringe, administrative costs, other direct costs such as travel for data collection, conference calls, as well as indirect costs and those related to quantitative and qualitative data collection and analysis, and report development. As part of the contracting process, potential contractors will populate the budget shell (Table 17).

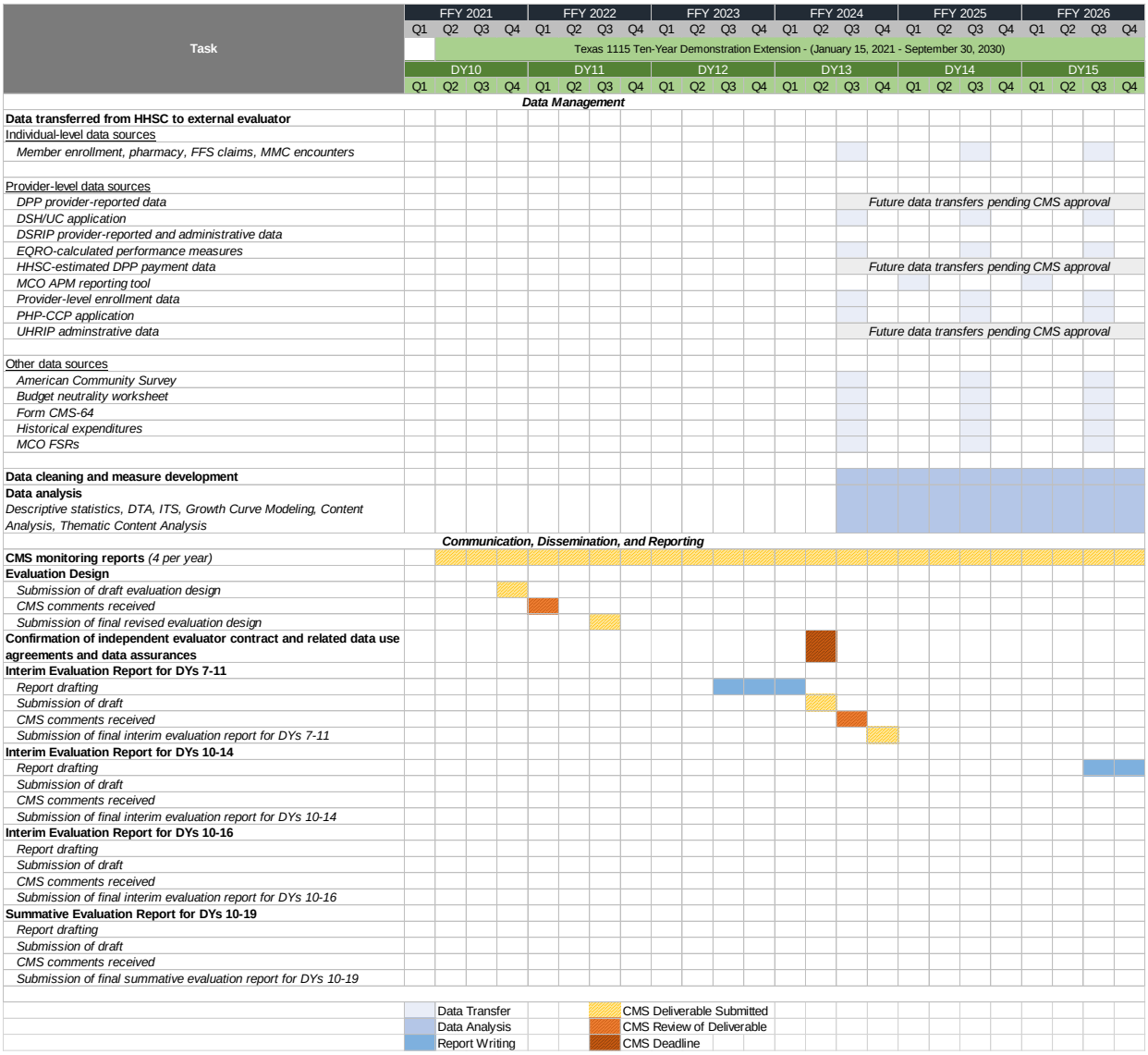
Table 17. Proposed Evaluation Budget

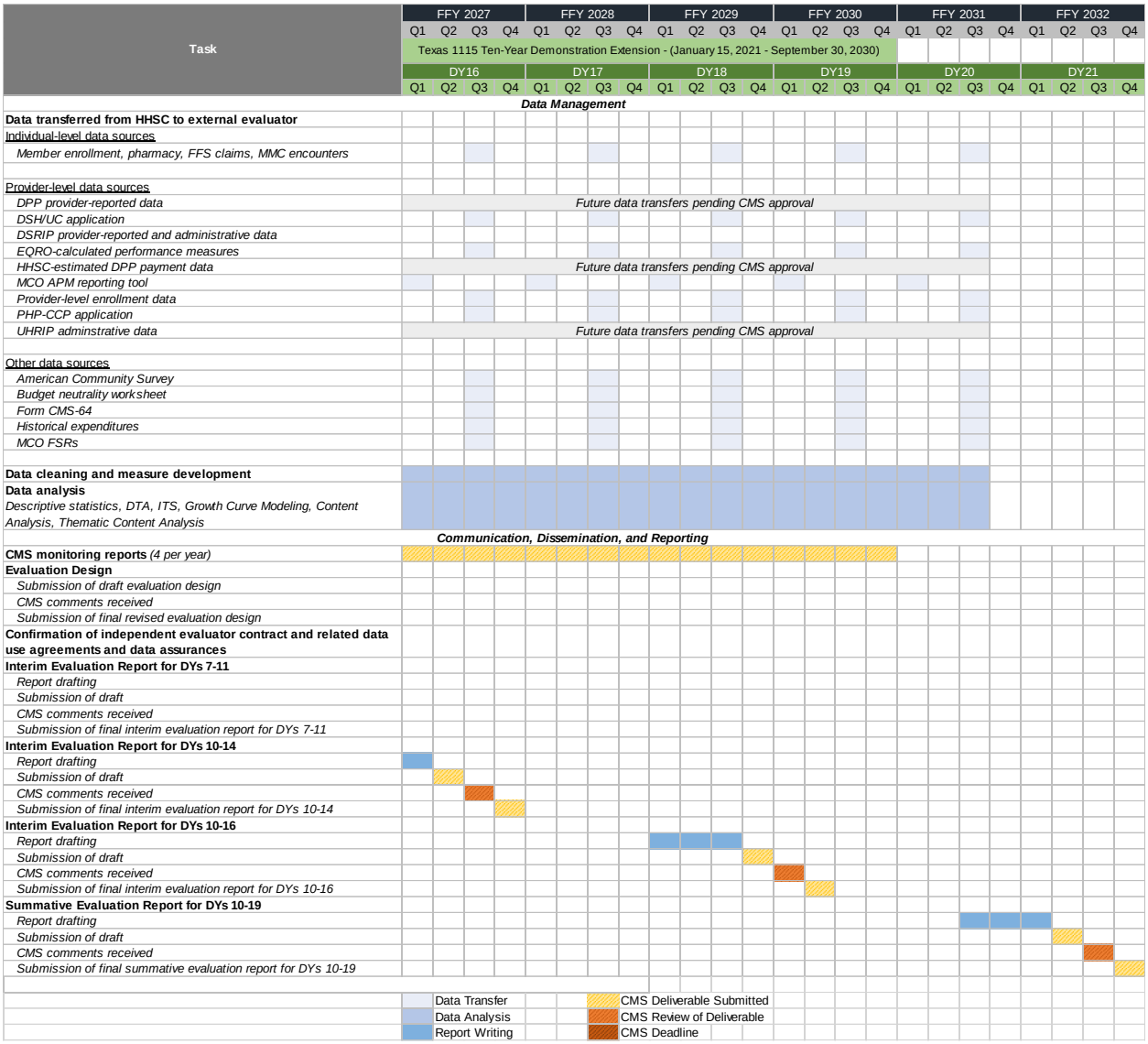
Category	Total Cost
Personnel	
Fringe	
Travel	
Indirect Costs	
Data Collection	
Equipment/Supplies	
Other Administrative Costs	
TOTAL EVALUATION COST	

[27] The external evaluator timeframe, March 15, 2024 through September 30, 2032, begins on the date HHSC executes the contract with an external evaluator and extends through CMS approval of the Summative Evaluation Report, allowing time for external evaluators to address any CMS comments/questions. The external evaluation contract end date may be extended based on when HHSC receives CMS comments on the Draft Summative Evaluation Report.

Evaluation Timeline and Major Milestones

Figure 5. Estimated Evaluation Timeline and Major Milestones





Notes. FFY=Federal fiscal year, October 1-September 30; Q1=October, November, and December; Q2=January, February, and March; Q3=April, May, and June; Q4=July, August, and September; DY=Demonstration year, October 1-September 30; FFS=Fee-for-service; MMC=Medicaid managed care; DPP=Directed payment program; DSH=Disproportionate share hospital; UC=Uncompensated Care; DSRIP=Delivery System reform Incentive Payment; EQRO=Texas's External Quality Review Organization; MCO=Managed care organization; APM=Alternative payment model; PHP-CCP=Public Health Provider Charity Care Pool; DTA=Descriptive trend analysis; ITS=Interrupted time series; CMS=Centers for Medicare and Medicaid Services.

Appendix C. HHSC Quality Initiative Descriptions

This appendix outlines the primary HHSC quality initiatives in place at the time of writing. HHSC quality initiatives are designed to incentivize and compare MCO, provider, and hospital performance across key process and outcome performance measures to improve the overall MMC service delivery model as specified in the state's managed care quality strategy.

Administrative Interviews: In accordance with 42 CFR 438.358, the EQRO conducts administrative interviews with each plan in Medicaid/CHIP, within a three-year period, to assess MCO/DMO compliance with state standards for access to care, structure and operations, and quality assessment and performance improvement (QAPI). The administrative interview process consists of four main deliverables, namely an Administrative Interview (AI) tool, AI evaluations, onsite visits, and AI reports.

Core Measure Reporting: Each year, CMS publishes Adult and Children Health Care Quality Core Set of measures to track quality of care and health care outcomes for Medicaid and CHIP beneficiaries. States voluntarily report on Adult and Children Health Care Quality Core Set measures to CMS. The EQRO assists HHSC in reporting core measures to CMS each year.[28]

Dental Pay-for-Quality (P4Q) Program: The Dental P4Q Program was implemented in 2014 and redesigned in 2018. The Dental P4Q program puts 1.5 percent of each dental plan's capitation at risk of recoupment based on performance measures. If dental plan performance declines beyond a set threshold for the Dental P4Q measures, HHSC will recoup 1.5 percent of the capitation. If dental plan performance falls within a "neutral zone" for Dental P4Q measures, they will not face recoupment or distribution of additional funds. If dental plan performance improves beyond a set threshold for the Dental P4Q measures, the plan will receive their full capitation rate and may be eligible for additional distribution of funds, contingent on funding availability.

Directed Payment Programs: HHSC has operated DPPs since the implementation of QIPP in 2018. Other DPPs include the state-wide implementation of UHRIP in 2018, and four new DPPs in 2021 (DPP BHS, CHIRP, RAPPS, and TIPPS). While the focus of each DPP may differ, the shared goal is to incentivize quality and innovation of services.

Hospital Quality-Based Payment Program: The Hospital Quality-Based Payment Program was implemented in SFY 2013. As part of this program, HHSC collects data on some PPEs and uses these data to improve quality and efficiency. MCOs and hospitals are fiscally accountable for PPCs and PPRs flagged by HHS. Based on

[28] CMS Core Set measure results are accessible via: https://thlcportal.com/measures/cmscoremeasuredashboard

performance on these measures, adjustments may be made to each MCO's capitation rates and to hospitals' FFS reimbursements.

MCO Report Cards: HHSC implemented MCO Report Cards in 2014. HHSC develops annual reports cards for each STAR, CHIP, STAR+PLUS, and STAR Kids MCO. The reports cards are provided at the service area level to allow Medicaid beneficiaries to compare MCOs on specific quality measures before enrolling in a plan. MCO report cards are posted on HHSC's website and included in Medicaid enrollment packets sent to potential members.

MCO Requirements for Value-Based Contracting: HHSC began assessing the payment methodologies MCOs use with their providers in 2012 and added a contract provision requiring MCOs to implement VBP models in 2014. HHSC established four-year targets for MCOs in 2018. The 2018 target required 25 percent of MCO payments to be associated with APMs, and 10 percent of MCO payments to be associated with APMs in which providers accept some level of risk. The 2021 target required 50 percent of MCO payments to be associated with APMs, and 25 percent of MCO payments to be associated with APMs in which providers accept some level of risk. MCOs failing to meet minimum APM targets are required to submit a corrective action plan and may be subject to additional contractual remedies, including liquidated damages.

Medical P4Q Program: The Medical P4Q Program was implemented in 2014 and redesigned in 2018. The Medical P4Q program creates incentives and disincentives for all MCOs based on their performance on certain quality measures. Health plans that excel at meeting the at-risk measures and bonus measures may be eligible for additional funds, while health plans that do not meet their at-risk measures can have up to three percent of their capitation payments for the measurement year recouped.

Medicaid Value-Based Enrollment: HHSC began using value scores in the auto-enrollment for MCOs participating in STAR, STAR+PLUS, and STAR Kids in 2020. The value score will automatically enroll a greater proportion of Medicaid beneficiaries who have not selected a health plan into MCOs with higher quality of care, efficiency, and effectiveness of service provision and performance.

Performance Improvement Projects: The Balanced Budget Act of 1997 requires all states with Medicaid managed care to ensure MCOs conduct Performance Improvement Projects (PIPs). 42 CFR 438.330 requires projects be designed to achieve, through ongoing measurements and interventions, significant improvement, sustained over time, in clinical care and nonclinical care areas that have a favorable effect on health outcomes and enrollee satisfaction. Health plans conduct PIPs to examine and improve areas of service or care identified by HHSC in consultation with Texas's EQRO as needing improvement. Topics are selected based on health plan performance on quality measures and member surveys. HHSC requires each health plan to conduct two PIPs per program. One PIP per health plan

must be a collaborative with another health plan or a DSRIP project, or a community-based organization.

Performance Indicator Dashboards: Texas's EQRO began producing Performance Indicator Dashboards in 2018. The dashboards include a series of measures that identify key aspects of MCO performance by MMC program to support transparency and accountability. MCOs whose performance falls below minimum standard thresholds for 33.33 percent or more of measures on the Performance Indicator Dashboard will be subject to remedies under the contract, including placement on a corrective action plan.

Appendix D. Primary Data Collection Protocol

The evaluation design relies on primary data collection to address two evaluation questions and hypotheses, and six corresponding measures, outlined in Table 18 on page 74. While the external evaluator is ultimately responsible for developing and executing the primary data collection protocol, this appendix outlines the expectations of HHSC and CMS related to primary data collection for the current evaluation. The external evaluator's ability to execute the primary data collection protocol outlined in this appendix is dependent on completion of prerequisite preparations for primary data collection (e.g., execution of the external evaluation contract, development of primary data collection tools, and IRB approval). Delays in these processes may alter this primary data collection protocol. Necessary adjustments or refinements to the plans outlined in this Appendix will be relayed to CMS in Quarterly Monitoring Reports for the Demonstration. CMS may provide feedback on proposed adjustments or refinements to the primary data collection protocol, when necessary.

Methods of Primary Data Collection

Primary data collection activities for the evaluation will include an MCO survey, a provider survey, and interviews with providers. Table 18 outlines possible primary data collection methods by evaluation question.

Table 18. Proposed Methods of Primary Data Collection

Evaluation Hypothesis	Purpose of Primary Data Collection	Corresponding Measures	Targeted Populations	Method(s) of Primary Data Collection
H8.2. The directed and supplemental payment programs support Medicaid provider operations and sustainability.	Gather perceptions on the benefits and challenges of directed and supplemental payment programs, including future priorities.	8.2.1 Participation in directed and supplemental payment programs 8.2.2 Need for directed and supplemental payment programs 8.2.3 Perceived benefits and challenges directed and supplemental payment programs 8.2.4 Provider perspectives on state priorities and policy development	• DPP providers • PHP-CCP program providers • UC program providers	• Print and/or online provider survey • Interviews
H9.1. The implementation of APMs in Texas Medicaid will increase over time.	Gather perceptions on the benefits and challenges of implementing APMs.	9.1.4 Perceived benefits of implementing APMs 9.1.5 Perceived challenges with implementing APMs	• MCOs • DPP providers • PHP-CCP program providers • UC program providers	• Print and/or online MCO survey • Print and/or online provider survey

Notes. DPP=Directed Payment Program; SPP=Supplemental Payment Program; PHP-CCP=Public Health Provider-Charity Care Pool; UC=Uncompensated Care; APM=Alternative Payment Model; MCO=Managed care organization.

Development of Primary Data Collection Tools

The external evaluator will develop corresponding surveys and interview guides to fully address evaluation questions, hypotheses, and measures relying on primary data collection. Appendix E provides required topics and example questions for measures relying on primary data collection to support development of primary data collection tools. To the extent possible, the external evaluator will model questions after existing and previously validated tools. The external evaluator should also incorporate Mathematica's best practices for designing and administering beneficiary surveys specific to 1115 demonstration evaluations (Matulewicz, Bradley, & Wagner, 2019). Additionally, the external evaluator should assess relevant external factors at the time of administration, in order to develop and frame corresponding surveys and/or guides carefully, and add contextual background, where necessary, to ensure feedback reflects the Demonstration, rather than external factors, such as unrelated changes to the Medicaid landscape or the COVID-19 pandemic, which may confound evaluation results. Lastly, the external evaluation should revisit surveys and interview guides through the Extension approval period to ensure tools are updated, as needed, to reflect new changes to APM or funding pool operations between DY10 and 19.

Sampling Strategy

The external evaluator will develop and execute a sampling strategy for each method of primary data collection (i.e., MCO survey, provider survey, and interviews with providers). Table 19 outlines the sampling technique for each method of primary data collection. The external evaluator may adjust the proposed sampling strategy outlined in Table 19 where necessary based on final MCO and provider demographic characteristics, however care should be taken to ensure the sample is representative at the statewide level (e.g., survey weights may be used to ensure demographic subgroups are appropriately represented in the statewide samples). The evaluator should detail the executed sampling strategy, including any modifications to Table 19, in Semi-Annual Monitoring Reports submitted to HHSC,[29] and subsequently through the Interim and Summative Evaluation Reports submitted to CMS.

[29] HHSC will document details on the executed sampling strategy to CMS via Quarterly Monitoring Reports for the Demonstration.

Table 19. Proposed Sampling Strategy for Primary Data Collection

Method of Primary Data Collection	Study Population	Sampling Technique	Target Analytic Sample[1]
Print and/or online MCO survey	• MCOs (17)[2]	At least one representative from each MCOs.	17
Print and/or online provider survey	• DPP providers (1,923)[3] • UC program providers (527)[4] • PHP-CCP program providers (300)[5,6]	Stratified random sample of providers based on DPP/SPP program participation and key demographic subgroups (e.g., region, provider type)	350[7]
Interviews	• Provider survey respondents (300)	Purposive sample of provider survey respondents with varying perspectives on funding pools (e.g., Maximum Variation Sampling) (Etikan, Musa, & Alkassin, 2015)	20

Notes. [1] The external evaluator will apply survey weights to ensure survey samples are representative of providers. [2] Reflects the number of Medicaid MCO contracts at the time of writing. [3] Reflects the estimated number of providers to be served by the four new DPPs in SFY 21 (CHIRP, DPP BHS, TIPPS, and RAPPS; N=709), plus the number nursing facilities eligible to participate in QIPP during SFY 21 (N=1,214). [4] Reflects the number of UC providers during DY 9. [5] Reflects the estimated number of providers to be served by the PHP-CCP at the time of writing. [6] Providers may participate in more than one funding pool (e.g., multiple DPPs and/or DPPs and UC). The external evaluator should de-duplicate providers before executing the proposed sampling technique. [7] Target analytic sample meets conventional criteria for statistical power (0.80) at $\alpha = 0.05$, based on largest possible sample (no overlap in providers across funding pools). The final analytic sample needed to meet conventional criteria for statistical power may vary due to overlap in providers across funding pools.

Primary Data Collection Analytic Methods

Descriptive Statistics

Closed-ended survey questions may be examined through a variety of descriptive statistics. The external evaluator will apply survey weights to close-ended survey items to ensure aggregate results are representative of the respective population. Descriptive statistics include estimates of central tendency and dispersion. For survey questions modeled from existing and previously validated tools, the external evaluator should use publicly available state or national benchmarks, where feasible, to support interpretation of findings.

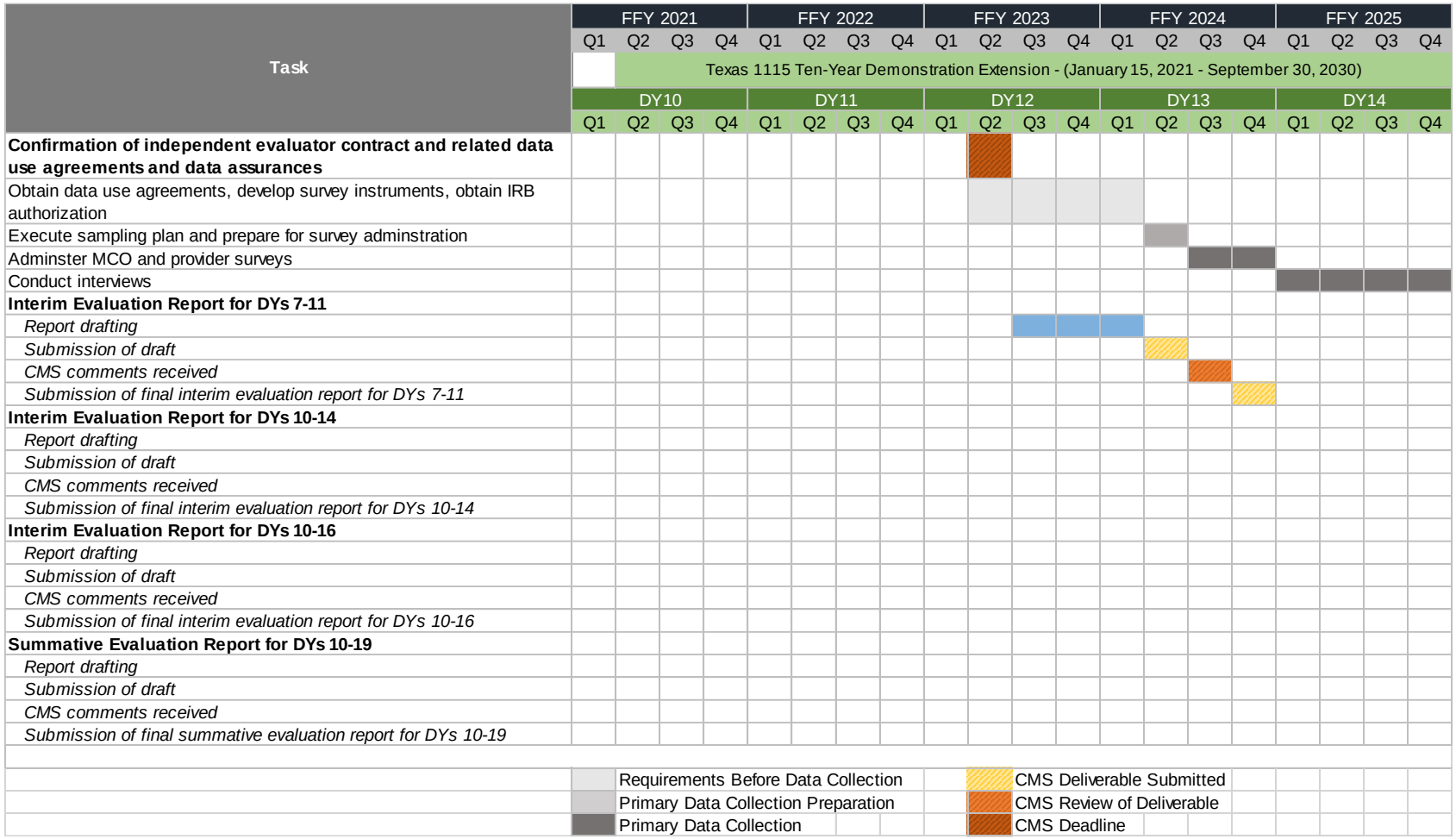
Qualitative Analysis

The appropriate methods for qualitative analysis will depend on the method of primary data collection and type of information gathered. The external evaluator may review open-ended survey responses using content analysis. Content analysis is used when the coding structure is based on previous theory and findings and/or a predefined set of hypotheses (Elo & Kyngas, 2008) which may be appropriate for some survey questions (e.g., focused or narrowly defined open-ended items). However, more advanced qualitative techniques will be required for stand-alone open-ended survey questions or interviews, such as thematic content analysis. Thematic content analysis is a qualitative analytic approach that identifies and codes patterns or themes in the data using inductive or deducting reasoning (Vaismoradi, Turunen, & Bondas, 2013). A strength of thematic content analysis is its ability to examine similarities and differences in the perspectives of study participants (Nowell, Norris, White, & Moules, 2017). As with quantitative approaches to data analysis, the external evaluator should incorporate subgroup analyses, where applicable.

Timing of Primary Data Collection Activities

After the external evaluation contract is executed, the external evaluator will begin obtaining data use agreements, developing survey instruments, and applying for IRB approval within their institution and with HHS, after which the external evaluator will execute the sampling plan, and prepare for primary data collection administration through survey printing and/or online survey development. HHSC estimates the MCO and provider surveys will be initially deployed approximately one year after the external evaluation contract is executed (Q3 of DY13), with additional waves occurring biannually, as deemed necessary and feasible by the external evaluator (4 possible waves). HHSC estimates interviews with providers will be conducted 3-6 months after the initial provider survey is deployed (Q1 of DY14). Due to the large labor investment required to conduct and analyze provider interviews, HHSC estimates the external evaluator will only conduct one additional round of interviews starting in Q1 of DY18, but the external evaluator may pursue additional rounds of interviews, as deemed necessary and feasible by the external evaluator. Preliminary findings from primary data collection will first be reported in the Interim Evaluation Report covering DYs 10-14 (due no later than March 31, 2027), with additional findings presented in subsequent reports. Figure 6 depicts the estimated timeline for primary data collection activities alongside major Demonstration deliverables.

Figure 6. Estimated Primary Data Collection Protocol



Task	FFY 2027				FFY 2028				FFY 2029				FFY 2030				FFY 2031				FFY 2032			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	Texas 1115 Ten-Year Demonstration Extension - (January 15, 2021 - September 30, 2030)																							
	DY16				DY17				DY18				DY19				DY20				DY21			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Confirmation of independent evaluator contract and related data use agreements and data assurances																								
Obtain data use agreements, develop survey instruments, obtain IRB authorization																								
Execute sampling plan and prepare for survey adminstration																								
Adminster MCO and provider surveys																								
Conduct interviews																								
Interim Evaluation Report for DYs 7-11																								
Report drafting																								
Submission of draft																								
CMS comments received																								
Submission of final interim evaluation report for DYs 7-11																								
Interim Evaluation Report for DYs 10-14																								
Report drafting																								
Submission of draft																								
CMS comments received																								
Submission of final interim evaluation report for DYs 10-14																								
Interim Evaluation Report for DYs 10-16																								
Report drafting																								
Submission of draft																								
CMS comments received																								
Submission of final interim evaluation report for DYs 10-16																								
Summative Evaluation Report for DYs 10-19																								
Report drafting																								
Submission of draft																								
CMS comments received																								
Submission of final summative evaluation report for DYs 10-19																								
	Requirements Before Data Collection								CMS Deliverable Submitted															
	Primary Data Collection Preparation								CMS Review of Deliverable															
	Primary Data Collection								CMS Deadline															

Notes. FFY=Federal fiscal year, October 1-September 30; Q1=October, November, and December; Q2=January, February, and March; Q3=April, May, and June; Q4=July, August, and September; DY=Demonstration year, October 1-September 30; MCO=Managed care organization; CMS=Centers for Medicare and Medicaid Services.

Appendix E. Detailed Tables

MMC Component

Evaluation Question 1: Did the programmatic changes associated with the carve-in of NEMT into MMC improve health care outcomes for MMC clients?

H1.1. Utilization of NEMT services will increase as a result of programmatic changes associated with the carve-in of NEMT into MMC.

Measure 1.1.1	**MMC members utilizing NEMT services per month/quarter**
Definition	The unique count of MMC members with a paid NEMT service.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any NEMT service. The unique PCN count can be calculated per month or quarter.
Exclusion Criteria	If calculated quarterly: MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	This measure is a direct indicator of utilization of NEMT services for MMC members.

Measure 1.1.1	MMC members utilizing NEMT services per month/quarter
Benchmark	None

Notes. [1] The COVID-19 pandemic substantially suppressed NEMT utilization; the external evaluator will take care to interpret and present pre-post comparisons within the appropriate context. MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; PCN=Patient Control Number; FFS=Fee-for-service; DRTS=Demand response transportation services; ITS=Interrupted time series.

Measure 1.1.2	NEMT services per month/quarter
Definition	The total number of NEMT services provided.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	Count of unique NEMT services from paid FFS claims or MMC encounters. MMC members may have multiple paid NEMT services in a single day (e.g., round trips or multiple stops). Each paid NEMT service should be counted separately. The count of NEMT services can be calculated per month or quarter.
Exclusion Criteria	If calculated quarterly: MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	This measure is a direct indicator of utilization of NEMT services for MMC members.
Benchmark	None

Notes. [1] The COVID-19 pandemic substantially suppressed NEMT utilization; the external evaluator will take care to interpret and present pre-post comparisons within the appropriate

context. NEMT=Nonemergency medical transportation; MMC=Medicaid managed care; FFS=Fee-for-service; DRTS=Demand response transportation services; ITS=Interrupted time series.

Measure 1.1.3	**Average NEMT services per month/quarter**
Definition	The average number of NEMT services provided.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	**Numerator**: Count of unique NEMT services from paid FFS claims or MMC encounters **Denominator**: Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any NEMT service **Rate**: Numerator / Denominator The rate can be calculated per month or quarter. MMC members may have multiple paid NEMT services in a single day (e.g., round trips or multiple stops). Each paid NEMT service should be counted separately.
Exclusion Criteria	If calculated quarterly: MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	This measure is a direct indicator of utilization of NEMT services for MMC members.
Benchmark	None

Notes. [1] The COVID-19 pandemic substantially suppressed NEMT utilization; the external evaluator will take care to interpret and present pre-post comparisons within the appropriate context. NEMT=Nonemergency medical transportation; MMC=Medicaid managed care; FFS=Fee-for-service; PCN=Patient Control Number; DRTS=Demand response transportation services; ITS=Interrupted time series.

H1.2. Access to health care services will maintain or improve as a result of programmatic changes associated with the carve-in of NEMT into MMC.

Measure 1.2.1	Adults' access to preventive/ambulatory health services (HEDIS®-like)
Definition	The percentage of MMC members utilizing NEMT services who accessed preventive/ambulatory health care services.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	NCQA (HEDIS®)-like measure: Adults' access to preventive/ambulatory health services (AAP)
Technical Specifications	**Numerator**: Number of MMC members utilizing NEMT services who had an ambulatory or preventive care visit **Denominator**: Number of MMC members utilizing NEMT services **Rate**: (Numerator / Denominator) * 100 The rate can be calculated per quarter or measurement year.
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter or measurement year.
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA • ITS, if feasible
Interpretation	An increase in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved access to primary health care services for adult MMC members.

Measure 1.2.1	Adults' access to preventive/ambulatory health services (HEDIS®-like)
Benchmark	None

Notes. HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; NCQA=National Committee for Quality Assurance; FFS=Fee-for-service; DRTS=Demand response transportation services; NCQA=National Committee for Quality Assurance; DTA=Descriptive trend analysis; ITS=Interrupted time series.

Measure 1.2.2	Child and adolescent well-care visits (HEDIS®)
Definition	The percentage of MMC members utilizing NEMT services who had at least one comprehensive well-care visit with a primary care practitioner or an obstetrician/gynecologist in measurement year.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	NCQA (HEDIS®): Child and adolescent well-care visits (W15, W34, AWC) The codes used to calculate this measure are publicly available on the Medicaid website: • 2021 Medicaid and CHIP Child Core Set: https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-and-chip-child-core-set-manual.pdf The external evaluator should use the same HEDIS® technical specifications to calculate this measure across the entire study period.
Technical Specifications	**Numerator**: Total number of unduplicated MMC members meeting denominator criteria with one or more well-care visits (as specified in CMS Well-Care Value Set) in measurement year **Denominator**: Total number of unduplicated MMC members utilizing NEMT services who were ages 3 to 21 at end of measurement year **Rate**: (Numerator / Denominator) * 100
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during measurement year
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data

Measure 1.2.2	Child and adolescent well-care visits (HEDIS®)
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved access to primary health care services for children and young adult MMC members.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[1] • W15: 66.1 • W34: 79.8 • AWC: 70.1 NCQA Quality Compass 2020, 50th Percentile Benchmark: • W15: 67.9 • W34: 74.7 • AWC: 57.2

Notes. [1] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; NCQA=National Committee for Quality Assurance; CHIP=Children's Health Insurance Program; CMS=Centers for Medicare and Medicaid Services; FFS=Fee-for-service; DRTS=Demand response transportation services; DTA=Descriptive trend analysis.

Measure 1.2.3	Utilization of pharmacy benefits
Definition	MMC members utilizing NEMT services who received pharmacy benefits.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A

Measure 1.2.3	Utilization of pharmacy benefits
Technical Specifications	Utilization of pharmacy benefits is calculated using two rates: 1) MMC members utilizing pharmacy benefits, and 2) Medications filled. **Numerator 1**: Unique PCN count of MMC members meeting denominator criteria with a paid pharmacy claim **Denominator 1**: Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any NEMT service **Rate 1**: (Numerator / Denominator) * 100 **Numerator 2**: Count of paid medications filled for MMC members meeting denominator criteria **Denominator 2**: Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any NEMT service **Rate 2**: Numerator / Denominator Both rates can be calculated per month or quarter.
Exclusion Criteria	If calculated quarterly: MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Member-level pharmacy data • Provider-level enrollment data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	An increase in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved access to pharmacy-related health care services for MMC members.
Benchmark	None

Notes. MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; FFS=Fee-for-service; PCN=Patient Control Number; FFS=Fee-for-service; DRTS=Demand response transportation services; ITS=Interrupted time series.

H1.3 Treatment of chronic, complex, and serious conditions will maintain or improve as a result of programmatic changes associated with the carve-in of NEMT into MMC.

Measure 1.3.1	**Diabetes medication adherence**
Definition	Overall proportion of days covered (PDC) for diabetes medications among MMC members utilizing NEMT services.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	PQA, as detailed in CMS' Quality Rating System[1]
Technical Specifications	PDC is the number of "covered" days by prescription claims divided by the number of days in the treatment period. PDC will be calculated for PQA's "Diabetes All Class" therapeutic category. The Index Prescription Start Date (IPSD) is the earliest date of service for a target medication (at least 91 days before start of measurement year). The treatment period begins on the IPSD and continues through the last day of the measurement year. **Numerator**: MMC members meeting denominator criteria who meet or exceed the 80% PDC threshold during the measurement year, for the "Diabetes All Class" therapeutic category **Denominator**: Unique PCN count of MMC members (18 years or older on first day of measurement year) with a paid FFS claim or MMC encounter for any NEMT service and at least two prescriptions filled for qualifying diabetes medications on different dates of service within the treatment period **Rate**: (Numerator / Denominator) * 100 The external evaluator should use the same PQA technical specifications to calculate this measure across the entire study period.
Exclusion Criteria	MMC members with any gaps in enrollment during treatment period Any MMC members with one or more of the following: • In hospice • A paid FFS claim or MMC encounter with an end stage renal disease (primary diagnosis or in any other diagnosis filed) during treatment period • A paid prescription claim for insulin during treatment period

Measure 1.3.1	Diabetes medication adherence
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Member-level pharmacy data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved treatment of diabetes for MMC members.
Benchmark	None

Notes. [1] https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/QualityInitiativesGenInfo/ACA-MQI/Quality-Rating-System/About-the-QRS. PDC=Proportion of days covered; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; PQA=Pharmacy Quality Alliance; CMS=Centers for Medicare and Medicaid Services; IPSD=Index Prescription Start Date; PCN=Patient Control Number; FFS=Fee-for-service; DRTS=Demand response transportation services; DTA=Descriptive trend analysis.

Measure 1.3.2	Testing HbA1c levels
Definition	Individuals with HbA1c tests during the measurement period among MMC members utilizing NEMT services.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	**Numerator**: MMC members meeting denominator criteria with at least one HbA1c test (using CPT codes 83036, 83037, 83020, or 83021) **Denominator**: Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any NEMT service and a paid FFS claim or MMC encounter with a diabetes diagnosis during measurement period **Rate**: (Numerator / Denominator) * 100 Rate can be calculated quarter or measurement year.
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter or measurement year

Measure 1.3.2	Testing HbA1c levels
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA • ITS, if feasible
Interpretation	An increase in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved treatment of diabetes for MMC members.
Benchmark	None

Notes. HbA1c=Glycosylated Hemoglobin, Type A1c; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; PCN=Patient Control Number; CPT=Current Procedural Terminology; FFS=Fee-for-service; DRTS=Demand response transportation services; DTA=Descriptive trend analysis; ITS=Interrupted time series.

Measure 1.3.3	Asthma Medication Ratio (HEDIS®)
Definition	The percentage of MMC members with a paid NEMT service between 5-64 years of age who were identified as having persistent asthma and had a ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year
Study Population	MMC members utilizing NEMT services

Measure 1.3.3	Asthma Medication Ratio (HEDIS®)
Measure Steward or Source	NCQA (HEDIS®): Asthma medication ratio (AMR) The codes used to calculate this measure are publicly available on the Medicaid website: • 2021 Medicaid and CHIP Adult Core Set: https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-adult-core-set-manual.pdf • 2021 Medicaid and CHIP Child Core Set: https://www.medicaid.gov/medicaid/quality-of-care/downloads/medicaid-and-chip-child-core-set-manual.pdf The external evaluator should use the same HEDIS® technical specifications to calculate this measure across the entire study period.
Technical Specifications	**Numerator:** MMC members meeting denominator criteria who have an asthma medication ratio of 0.50 or greater during the measurement year **Denominator:** Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any NEMT service during the measurement year with persistent asthma in both the current and previous measurement years (as specified in CMS Value Sets) **Rate**: (Numerator / Denominator) * 100 Rates should be presented across the following age stratifications (based on age at end measurement year): 5-11 years; 12-18 years; 19-50 years; 51-64 years
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during the current and previous measurement years MMC members who have a diagnosis of: • Emphysema • Chronic obstructive pulmonary disease • Obstructive chronic bronchitis • Chronic respiratory conditions due to fumes/vapors • Cystic fibrosis • Acute respiratory failure (with no asthma controller or reliever medications dispensed)
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Member-level pharmacy data

Measure 1.3.3	Asthma Medication Ratio (HEDIS®)
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved treatment of asthma for MMC members.
Benchmark	Texas CMS Core Measure, 2019 State Rate:[1] • Ages 5-11: 72.4 • Ages 12-18: 64.4 • Ages 19-50: 61.7 • Ages 51-64: 55.0 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Ages 5-11: 73.9 • Ages 12-18: 65.5 • Ages 19-50: 53.3 • Ages 51-64: 56.3

Notes. [1] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; NCQA=National Committee for Quality Assurance; CHIP=Children's Health Insurance Program; PCN=Patient Control Number; FFS=Fee-for-service; CMS=Centers for Medicare and Medicaid Services; DRTS=Demand response transportation services; DTA=Descriptive trend analysis.

H1.4 Preventable emergency department use will maintain or decrease as a result of programmatic changes associated with the carve-in of NEMT into MMC.

Measure 1.4.1	Prevention quality overall composite (PQI #90)
Definition	Overall composite measure of hospital admissions for acute conditions per 100,000 adult population among MMC members with a paid NEMT service.
Study Population	MMC members utilizing NEMT services

Measure 1.4.1	Prevention quality overall composite (PQI #90)
Measure Steward or Source	AHRQ The codes used to calculate this measure are publicly available on the AHRQ website. At the time of writing, July 2021 PQI Technical Specifications were available at: • Prevention Quality Indicators Technical Specifications, Version v2021: https://qualityindicators.ahrq.gov/Modules/PQI_TechSpec_ICD10_v2021.aspx The external evaluator should use the same PQI technical specifications to calculate this measure across the entire study period.
Technical Specifications	The measure includes admissions with a principal diagnosis of one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary, disease, asthma, hypertension, heart failure, angina without a cardiac procedure, dehydration, bacterial pneumonia, or urinary tract infection. **Numerator**: MMC members meeting denominator criteria who meet the inclusion and exclusion rules for the numerator in any of the PQIs included in the overall composite measure (PQI #s 1, 3, 5, 7, 8, 10, 11, 12, 13, 14, 15, and 16)[1] **Denominator**: Unique PCN count of MMC members ages 18 or older with a paid FFS claim or MMC encounter for any NEMT service during measurement period **Rate**: (Numerator / Denominator) * 100 The rate can be calculated per quarter or measurement year. However, quarterly rates should be interpreted with caution given seasonal differences for many conditions.
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter or DY Numerator exclusion criteria defined for each PQI
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data

Measure 1.4.1	Prevention quality overall composite (PQI #90)
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA • ITS, if feasible
Interpretation	A decrease in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition reduced avoidable hospital admissions for adult MMC members.
Benchmark	None

Notes. [1] MMC members who meet the inclusion and exclusion criteria rules for the numerator in more than one PQI are only counted once in the overall composite measure. PQI=Prevention quality indicators; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; AHRQ=Agency for Healthcare Research and Quality; FFS=Fee-for-service; DRTS=Demand response transportation services; DTA=Descriptive trend analysis; ITS=Interrupted time series.

Measure 1.4.2	Pediatric quality overall composite (PDI #90)
Definition	Overall composite measure of hospital admissions for acute conditions per 100,000 child population among MMC members with a paid NEMT service.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	AHRQ The codes used to calculate this measure are publicly available on the AHRQ website. At the time of writing, July 2021 PDI Technical Specifications were available at: • Pediatric Quality Indicators Technical Specifications, Version v2021: https://qualityindicators.ahrq.gov/Modules/PDI_TechSpec_ICD10_v2021.aspx The external evaluator should use the same PDI technical specifications to calculate this measure across the entire study period.

Measure 1.4.2	Pediatric quality overall composite (PDI #90)
Technical Specifications	The measure includes admissions with a principal diagnosis of one of the following conditions: asthma, diabetes with short-term complications, gastroenteritis, or urinary tract infection. **Numerator**: Number of hospital discharges for MMC members utilizing NEMT services, ages 6 to 17, that meet the inclusion and exclusion rules for the numerator in any of the PDIs included in the overall composite measure (PDI #s 14, 15, 16, and 18)[1] **Denominator**: Unique PCN count of MMC members ages 6 to 17 with a paid FFS claim or MMC encounter for any NEMT service during measurement period **Rate**: (Numerator / Denominator) * 100 The rate can be calculated per quarter or measurement year. However, quarterly rates should be interpreted with caution given seasonal differences for many conditions.
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter or DY Numerator exclusion criteria defined for each PDI
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files • Provider-level enrollment data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA • ITS, if feasible
Interpretation	A decrease in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition reduced avoidable hospital admissions for child MMC members.

Measure 1.4.2	Pediatric quality overall composite (PDI #90)
Benchmark	None

Notes. [1] MMC members who meet the inclusion and exclusion criteria rules for the numerator in more than one PDI are only counted once in the overall composite measure. PDI=Pediatric quality indicators; MMC=Medicaid managed care; NEMT=Nonemergency medical transportation; AHRQ=Agency for Healthcare Research and Quality; FFS=Fee-for-service; DRTS=Demand response transportation services; DTA=Descriptive trend analysis; ITS=Interrupted time series.

Measure 1.4.3	Rate of potentially preventable emergency department use
Definition	An emergency treatment for a condition that did not require immediate medical care; required immediate medical care but care could have been provided in a primary care setting; or, required immediate medical care but the nature of the condition was potentially preventable or avoidable if timely and effective primary care had been provided among MMC members with a paid NEMT service.
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	NYU Wagner: https://wagner.nyu.edu/faculty/billings/nyued-articles
Technical Specifications	Using the NYU algorithm, potentially preventable ED use is defined as ED visits that are: • Non-emergent; • Emergent, but primary care treatable; or, • Emergent and ED care needed, but preventable/avoidable **Numerator**: Unique count of potentially preventable ED visits meeting denominator criteria **Denominator**: Unique count of ED visits during measurement period among of MMC members with a paid FFS claim or MMC encounter for any NEMT service **Rate**: (Numerator / Denominator) * 100 Rate can be calculated per month or quarter.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• FFS claims and MMC encounter data • Member-level enrollment files

Measure 1.4.3	Rate of potentially preventable emergency department use
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: 9/1/2017 – 5/31/2021 • Post: 6/1/2021 – 5/31/2026 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable NEMT service type (DRTS, non-DRTS ride, non-ride service, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA • ITS, if feasible
Interpretation	A decrease in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition reduced preventable emergency department use for MMC members.
Benchmark	N/A

Notes. NYU=New York University; ED=Emergency department; PPV=Potentially preventable emergency department visit. NEMT=Nonemergency medical transportation; AHRQ=Agency for Healthcare Research and Quality; FFS=Fee-for-service; DRTS=Demand response transportation services; DTA=Descriptive trend analysis; ITS=Interrupted time series.

H1.5 Experiences with transportation services will improve as a result of programmatic changes associated with the carve-in of NEMT into MMC.

Measure 1.5.1	Familiarity with transportation services
Definition	Self-reported familiarity with transportation services
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	Possible survey questions include: • Did you know the MTP/MCO offers help with [*transportation service type*]?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	EQRO's Medical Transportation Program Client Satisfaction Survey

Measure 1.5.1	Familiarity with transportation services
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: SFYs 2019 – 2020[1] • Post: SFYs 2021 – 2026[2] Member demographic and geographic characteristics, where applicable Transportation service type (mass transit, DRTS, mileage reimbursement, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in this measure following the transition of NEMT into MMC would suggest the programmatic changes associated with the transition improved MMC members' awareness of NEMT services available.
Benchmark	N/A

Notes. [1] The pre-period reflects when the EQRO began administering the Medical Transportation Program Client Satisfaction Survey (SFY 2019). [2] Availability of this measure through SFY 2026 is contingent on continuity in the EQRO's administration of the Medical Transportation Program Client Satisfaction Survey. NEMT=Nonemergency medical transportation; MMC=Medicaid managed care; EQRO=Texas's External Quality Review Organization; SFY=State Fiscal Year, September 1-August 31; DTA=Descriptive trend analysis.

Measure 1.5.2	Transportation-related barriers to care
Definition	Self-reported transportation-related barriers to obtaining medical/dental care experienced in past 12 months
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	Possible survey questions include: • In the past 12 months, how difficult was it for you/your child to find transportation to the doctor or dentist? • In the past 12 months, has a lack of transportation kept you/your child from medical appointments or getting medication? • In the past 12 months, how often have you/has your child missed a medical or dental appointment because of a lack of transportation? • In the past 12 months, how often was it easy to [*use specific transportation service type*]?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	EQRO's Medical Transportation Program Client Satisfaction Survey

Measure 1.5.2	Transportation-related barriers to care
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: SFYs 2019 – 2020[1] • Post: SFYs 2021 – 2026[2] Member demographic and geographic characteristics, where applicable Transportation service type (mass transit, DRTS, mileage reimbursement, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Decreases in transportation-related barriers following the transition of NEMT into MMC would suggest programmatic changes associated with the transition reduced MMC members' perceived barriers to care.
Benchmark	N/A

Notes. [1] The pre-period reflects when the EQRO began administering the Medical Transportation Program Client Satisfaction Survey (SFY 2019). [2] Availability of this measure through SFY 2026 is contingent on continuity in the EQRO's administration of the Medical Transportation Program Client Satisfaction Survey. NEMT=Nonemergency medical transportation; MMC=Medicaid managed care; EQRO=Texas's External Quality Review Organization; SFY=State Fiscal Year, September 1-August 31; DTA=Descriptive trend analysis.

Measure 1.5.3	Satisfaction with transportation services
Definition	Self-reported satisfaction with transportation services
Study Population	MMC members utilizing NEMT services
Measure Steward or Source	N/A
Technical Specifications	Possible survey questions include: • Overall, how satisfied were you on average with all the transportation services you/your child received from Medicaid in the past 12 months? • In the past 12 months, how satisfied were you overall with [*transportation service type*] you/your child received from Medicaid?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	EQRO's Medical Transportation Program Client Satisfaction Survey
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • Pre: SFYs 2019 – 2020[1] • Post: SFYs 2021 – 2026[2] Member demographic and geographic characteristics, where applicable Transportation service type (mass transit, DRTS, mileage reimbursement, etc.), where applicable

Measure 1.5.3	Satisfaction with transportation services
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in this measure following the transition of NEMT into MMC would suggest programmatic changes associated with the transition improved MMC members' satisfaction with NEMT services.
Benchmark	N/A

Notes. [1] The pre-period reflects when the EQRO began administering the Medical Transportation Program Client Satisfaction Survey (SFY 2019). [2] Availability of this measure through SFY 2026 is contingent on continuity in the EQRO's administration of the Medical Transportation Program Client Satisfaction Survey. NEMT=Nonemergency medical transportation; MMC=Medicaid managed care; EQRO=Texas's External Quality Review Organization; SFY=State Fiscal Year, September 1-August 31; DTA=Descriptive trend analysis.

Evaluation Question 2: Does STAR+PLUS HCBS improve health care outcomes for MMC clients?

H2.1. STAR+PLUS HCBS serves a distinct population of MMC members.

Measure 2.1.1	MMC members enrolled in STAR+PLUS HCBS
Definition	The unique count of MMC members enrolled in STAR+PLUS HCBS.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	N/A
Technical Specifications	**Numerator**: Unique PCN count of MMC members enrolled in STAR+PLUS HCBS. **Denominator**: Unique PCN count of MMC members enrolled in STAR+PLUS. **Rate**: (Numerator / Denominator) * 100 The external evaluator should present both the numerator and the rate as part of this measure. The numerator and rate can be calculated per month or quarter.
Exclusion Criteria	If calculated quarterly: MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during quarter
Data Source(s)/Data Collection Methods	• Member-level enrollment files

Measure 2.1.1	MMC members enrolled in STAR+PLUS HCBS
Comparison Group(s)/ Subgroup(s)	Post Only: 9/1/2014 – 8/31/2029[1] Member demographic and geographic characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of MMC members served by STAR+PLUS HCBS.
Benchmark	None

Notes. [1] The post-period ends on August 31, 2029, approximately one year before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. MMC=Medicaid managed care; STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; PCN=Patient Control Number; DTA=Descriptive trend analysis.

Measure 2.1.2	Medically fragile individuals enrolled in STAR+PLUS HCBS
Definition	A summary of medically fragile individuals enrolled in STAR+PLUS HCBS.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	N/A
Technical Specifications	Total number of medically fragile individuals receiving Medicaid-paid services beyond the STAR+PLUS HCBS cost cap, per SFY. Total number of medically fragile individuals on the interest list to receive Medicaid-paid services beyond the STAR+PLUS HCBS cost cap, per SFY. If no individuals are on the interest list, total number will be reported as zero. Total (sum) and average (per person) cost of Medicaid-paid HCBS services beyond the STAR+PLUS HCBS cost cap provided to medically fragile individuals, per SFY.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• STAR+PLUS HCBS administrative data
Comparison Group(s)/ Subgroup(s)	Post Only: 11/16/2023[1] – 8/31/2029[2]
Analytic Methods	• Descriptive statistics • DTA

Measure 2.1.2	Medically fragile individuals enrolled in STAR+PLUS HCBS
Interpretation	This measure is a direct indicator of medically fragile individuals served by STAR+PLUS HCBS.
Benchmark	STAR+PLUS HCBS annual cost limits are 202% of the average nursing facility rate, based on the individual's resource utilization group value (approximately $70,000 to $250,000 per year).[3]

Notes. [1] HHSC submitted an amendment to allow services for medically fragile individuals to be delivered via managed care on February 22, 2021. CMS approved the amendment on November 16, 2023. Services beyond the STAR+PLUS HCBS cost cap transitioned to managed care on November 16, 2023, for medically fragile individuals with service plans renewed on or after July 1, 2024. [2] The post-period ends on August 31, 2029, approximately one year before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] STAR+PLUS HCBS annual cost limits are provided for contextual purposes only; costs for medically fragile individuals should not be directly compared to STAR+PLUS HCBS annual cost limits. Similarly, any direct or indirect comparisons between costs for medically fragile individuals and average nursing facility rates would also be inappropriate and misleading. The STAR+PLUS HCBS program, and additional services provided to medically fragile individuals, were designed to provide individuals requiring a nursing facility level of care the opportunity to receive comprehensive services in a community setting within the budget neutrality requirements of the 1115 Demonstration; the program was not designed to align with the average cost of care for clients served in a nursing facility. MMC=Medicaid managed care; STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; SFY=State Fiscal Year; DTA=Descriptive trend analysis.

H2.2. STAR+PLUS HCBS supports MMC members' treatment of chronic, complex, and serious conditions.

Measure 2.2.1	Diabetes care measures (HEDIS®)
Definition	The percentage of STAR+PLUS HCBS members with type 1 or type 2 diabetes who: • Had an eye exam (retinal) performed, • Received an annual kidney health evaluation, or • Received and adhered to statin therapy.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measures: • Eye Exam for Patients With Diabetes (EED) • Kidney Health Evaluation for Patients With Diabetes (KED) • Statin Therapy for Patients With Diabetes (SPD)
Technical Specifications	**Eye Exam Numerator:** Patients with an eye screening for diabetic retinal disease during CY **Eye Exam Denominator:** Patients ages 18 to 75 with type 1 or type 2 diabetes **Eye Exam Rate:** (Numerator / Denominator) * 100

Measure 2.2.1	Diabetes care measures (HEDIS®)
	Kidney Health Numerator: Patients who received an annual kidney health evaluation, including a blood test for kidney function during CY **Kidney Health Denominator:** Patients ages 18 to 75 with type 1 or type 2 diabetes **Kidney Health Rate:** (Numerator / Denominator) * 100 **Statin Therapy Numerator 1:** Patients who received statin therapy during CY **Statin Therapy Numerator 2:** Patients who adhered with statin therapy at least 80% during CY **Statin Therapy Denominator:** Patients ages 40 to 75 with type 1 or type 2 diabetes, who do not have clinical atherosclerotic cardiovascular disease **Statin Therapy Rate 1 (received statin therapy):** (Numerator 1 / Denominator) * 100 **Statin Therapy Rate 2 (adhered to statin therapy):** (Numerator 2 / Denominator) * 100
Exclusion Criteria	STAR+PLUS HCBS members enrolled in Medicare (dual eligible) STAR+PLUS HCBS members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) Additional exclusion criteria as specified for each measure in the HEDIS® technical specifications used by EQRO
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Post Only: 1/1/2015[1] - 12/31/2029[2]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in these measures over time would suggest STAR+PLUS HCBS members experienced improvements in the effective treatment of diabetes.
Benchmark	NCQA Quality Compass 2020, 50th Percentile Benchmark: • Eye Exam (Retinal) Performed: 58.6 • Statin Therapy (Received): 65.9 • Statin Therapy (Adherence): 64.3

Notes. [1] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, measurement periods do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available

prior to the Summative Evaluation Report. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CY=Calendar year, January 1-December 31; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 2.2.2	**Statin therapy for patients with cardiovascular disease (HEDIS®)**
Definition	Percentage of STAR+PLUS HCBS members ages 21 to 75 (males) or ages 40 to 75 (females) with clinical atherosclerotic cardiovascular disease who received and adhered to statin therapy.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Statin therapy for patients with cardiovascular disease (SPC)
Technical Specifications	**Numerator 1:** Patients who received statin therapy during CY **Numerator 2:** Patients who adhered with statin therapy at least 80% during CY **Denominator:** Patients ages 21 to 75 (males) or ages 40 to 75 (females) who have clinical atherosclerotic cardiovascular disease **Rate 1 (received statin therapy):** (Numerator 1 / Denominator) * 100 **Rate 2 (adhered to statin therapy):** (Numerator 2 / Denominator) * 100
Exclusion Criteria	STAR+PLUS HCBS members enrolled in Medicare (dual eligible) STAR+PLUS HCBS members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) Additional exclusion criteria as specified in the HEDIS® technical specifications used by EQRO
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Post Only: 1/1/2015[1] - 12/31/2029[2]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure over time would suggest STAR+PLUS HCBS members with cardiovascular disease experienced improvements in the recommended use of statin treatment to treat their condition.

Measure 2.2.2	Statin therapy for patients with cardiovascular disease (HEDIS®)
Benchmark	NCQA Quality Compass 2020, 50th Percentile Benchmark: • Statin Therapy (Received): 80.0 • Statin Therapy (Adherence): 68.0

Notes. [1] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, measurement periods do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CY=Calendar year, January 1-December 31; MMC=Medicaid Managed Care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 2.2.3	Antidepressant medication management (HEDIS®)
Definition	The percentage of STAR+PLUS HCBS members age 21 and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on antidepressant medication treatment.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Antidepressant medication management (AMM)
Technical Specifications	The HEDIS® measure includes two rates: 1) Effective acute phase treatment and 2) Effective continuation phase treatment. **Numerator 1:** Total number of unduplicated STAR+PLUS HCBS members age 21 and older with at least 84 days (12 weeks) of treatment with antidepressant medication beginning on the IPSD[1] through 114 days after the IPSD (115 total days). This allows gaps in medication treatment up to a total of 31 days during the 115-day period. Gaps can include either washout period gaps to change medication or treatment gaps to refill the same medication **Numerator 2:** Total number of unduplicated STAR+PLUS HCBS members age 21 and older with at least 180 days (6 months) of treatment with antidepressant medication beginning on the IPSD through 231 days after the IPSD (232 total days). This allows gaps in medication treatment up to a total of 52 days during the 232-day period. Gaps can include either washout period gaps to change medication or treatment gaps to refill the same medication **Denominator**: Total number of unduplicated STAR+PLUS HCBS members age 21 and older with any of the following:

Measure 2.2.3	Antidepressant medication management (HEDIS®)
	• An acute or nonacute inpatient stay with any diagnosis of major depression • An outpatient visit with any diagnosis of major depression • An intensive outpatient encounter or partial hospitalization with any diagnosis of major depression • A community mental health center visit with any diagnosis of major depression • Electroconvulsive therapy with any diagnosis of major depression • Transcranial magnetic stimulation visit with any diagnosis of major depression • A telehealth visit with any diagnosis of major depression • An observation visit with any diagnosis of major depression • An ED visit with any diagnosis of major depression • A telephone visit with any diagnosis of major depression **Rate 1 (Effective acute phase treatment)**: (Numerator 1 / Denominator) * 100 **Rate 2 (Effective continuation phase treatment)**: (Numerator 1 / Denominator) * 100
Exclusion Criteria	STAR+PLUS HCBS members enrolled in Medicare (dual eligible) STAR+PLUS HCBS members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) 105 days prior to IPSD through 231 days after IPSD
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Post Only: 1/1/2015[2] - 12/31/2029[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest STAR+PLUS HCBS members experienced improvements in the effective treatment of mental health conditions.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Effective Acute Phase Treatment: 53.2 • Effective Continuation Phase Treatment: 37.5 NCQA Quality Compass 2020, 50th Percentile Benchmark:

Measure 2.2.3	Antidepressant medication management (HEDIS®)
	• Effective Acute Phase Treatment: 53.7 • Effective Continuation Phase Treatment: 38.4

Notes. [1] The IPSD is the earliest prescription dispensing event for an antidepressant medication during the period of 270 days prior to the start of the measurement period through 90 days after the start of the measurement period. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, measurement periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; IPSD=Index Prescription Start Date; ED=Emergency department; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 2.2.4	Follow-up after hospitalization for mental illness (HEDIS®)
Definition	The percentage of discharges for STAR+PLUS HCBS members, 21 years of age and older, who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit within 7 or 30 days of discharge.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Follow-up after hospitalization for mental illness (FUH)
Technical Specifications	**7-Day Numerator**: STAR+PLUS HCBS members meeting the denominator criteria with a follow-up visit with a mental health provider within 7 days after acute inpatient discharge **30-Day Numerator**: STAR+PLUS HCBS members meeting the denominator criteria with a follow-up visit with a mental health provider within 30 days after acute inpatient discharge **Denominator**: STAR+PLUS HCBS members 21 years of age and older who were discharged from an acute inpatient setting (including acute care psychiatric facilities) with a principal diagnosis of mental illness or intentional self-harm in the measurement period **7-Day Rate**: (7-day Numerator / Denominator) * 100 **30-Day Rate**: (30-day Numerator / Denominator) * 100

Measure 2.2.4	Follow-up after hospitalization for mental illness (HEDIS®)
Exclusion Criteria	Discharges followed by readmission or direct transfer to a non-acute facility within the 7- or 30-day follow-up period, regardless of principal diagnosis for the readmission, or to an acute facility within the 7- or 30-day follow-up period if the principal diagnosis was not for mental health disorders or intentional self-harm Clinician-documented reason STAR+PLUS HCBS member was not able to complete 7- or 30-day follow-up from acute inpatient setting discharge (i.e., member death prior to follow-up visit, member non-compliance for follow-up) STAR+PLUS HCBS members enrolled in Medicare (dual eligible) STAR+PLUS HCBS members receiving hospice care Follow-up visits that occur on the date of discharge
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Post Only: 1/1/2015[1] - 12/31/2029[2]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest STAR+PLUS HCBS members experienced improvements in the effective treatment of mental health.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[3] • 7-Day Age 6-17 Rate: 35.0 • 7-Day Age 18+ Rate: 22.3 • 30-Day Age 6-17 Rate: 58.5 • 30-Day Age 18+ Rate: 40.9 NCQA Quality Compass 2020, 50th Percentile Benchmark: • 7-Day Rate: 36.8 • 30-Day Rate: 59.4

Notes. [1] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, measurement periods do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-

based services; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 2.2.5	**Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)**
Definition	The percentage of STAR+PLUS HCBS members age 21 and older with a new episode of alcohol or other drug (AOD) abuse or dependence who: • Initiated treatment within 14 days of the diagnosis, and • Initiated treatment and were engaged in ongoing treatment within 34 days of the initiation visit.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Initiation and engagement of alcohol and other drug abuse or dependence treatment (IET)
Technical Specifications	As of CY 2019, the EQRO calculated a rate for: • Alcohol abuse or dependence • Opioid abuse or dependence • Other drug abuse or dependence • Total alcohol/drug abuse or dependence For each rate: **Initiation of AOD Treatment Numerator**: STAR+PLUS HCBS members meeting the denominator criteria with initiation of AOD treatment within 14 days of the IESD[1] **Engagement of AOD Treatment Numerator**: STAR+PLUS HCBS members meeting the denominator criteria with one or more AOD-related medications filled or at least two treatment engagement visits with an AOD-related diagnosis within 34 days of the initiation visit **Denominator**: STAR+PLUS HCBS members age 21 or older as of December 31 with a claim/encounter with an AOD-related diagnosis between January 1 and November 14 (IESD),[1] and no claims/encounters with an AOD-related diagnosis for 60 days prior **Initiation of AOD Treatment Rate**: (Initiation of AOD Treatment Numerator / Denominator) * 100 **Engagement of AOD Treatment Rate**: (Engagement of AOD Treatment Numerator / Denominator) * 100

Measure 2.2.5	Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)
Exclusion Criteria	STAR+PLUS HCBS members enrolled in Medicare (dual eligible) STAR+PLUS HCBS members not continuously enrolled for 60 days prior to IESD through 47 days after IESD STAR+PLUS HCBS members if the initiation of treatment event is an inpatient stay with a discharge date after November 27 of CY STAR+PLUS HCBS members receiving hospice care
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Post Only: 1/1/2015[2] - 12/31/2029[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest STAR+PLUS HCBS members experienced improvements in the effective treatment of substance use disorders.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Total Initiation of AOD Treatment: 40.0 • Total Engagement of AOD Treatment: 7.8 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Total Initiation of AOD Treatment: 43.6 • Total Engagement of AOD Treatment: 14.22

Notes. [1] The IESD is the earliest date of service for an eligible encounter during the Intake Period with a diagnosis of AOD abuse or dependence. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, measurement periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; AOD=Alcohol or other drug; STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; IESD=Index episode start date; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

H2.3. STAR+PLUS HCBS supports MMC members' ability to make decisions about their everyday lives.

Measure 2.3.1	**Percentage of people who are able to get up and go to bed when they want to**
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they could get up and go to bed when they want to.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No, never • Some days, sometimes • Yes, always/almost always • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes, always/almost always".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' perceptions about their ability to make decisions about their everyday lives.
Benchmark	NCI-AD™ 2018-2019 Overall HCBS Average: 94%

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

Measure 2.3.2	Percentage of people who are able to eat their meals when they want to
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they were able to eat their meals when they want to.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No, never • Some days, sometimes • Yes, always/almost always • N/A – Unable to eat due to medical condition • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes, always/almost always".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' perceptions about their ability to make decisions about their everyday lives.
Benchmark	NCI-AD™ 2018-2019 Overall HCBS Average: 90%

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

Measure 2.3.3	Percentage of people who never feel in control of their lives
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they did not feel in control of their lives.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No, rarely or never • In-between, sometimes • Yes, always/almost always • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "No, rarely or never".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' perceptions about their ability to make decisions about their everyday lives.
Benchmark	N/A

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

H2.4. STAR+PLUS HCBS supports MMC members' ability to self-direct their services.

Measure 2.4.1	**Percentage of people who can choose when they get services**
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they can make decisions about when they get services.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No • Sometimes, or some services • Yes, all services • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes, all services".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' perceptions about their ability to self-direct their services.
Benchmark	NCI-AD™ 2018-2019 Overall HCBS Average: 61%

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

Measure 2.4.2	Percentage of people who can choose their paid support staff
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they can choose or change their paid support staff.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No • Sometimes, or some • Yes, all • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes, all".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' perceptions about their ability to self-direct their services.
Benchmark	NCI-AD™ 2018-2019 Overall HCBS Average: 75%

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

H2.5. STAR+PLUS HCBS supports MMC members' satisfaction with their everyday lives.

Measure 2.5.1	**Percentage of people who like where they live**
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they like where they are living.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No • In-between, most of the time • Yes • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' satisfaction with their everyday lives.
Benchmark	NCI-AD™ 2018-2019 Overall HCBS Average: 81%

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

Measure 2.5.2	Percentage of people who like how they spend their time during the day
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported they like how they spend their time during the day.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No, never • Some days, sometimes • Yes, always, or almost always • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes, always, or almost always".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' satisfaction with their everyday lives.
Benchmark	NCI-AD™ 2018-2019 Overall HCBS Average: 62%

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

Measure 2.5.3	Percentage of people whose services help them live a better life
Definition	The percentage of STAR+PLUS HCBS survey respondents who reported their services help them live a better life.
Study Population	STAR+PLUS HCBS members
Measure Steward or Source	NCI-AD™
Technical Specifications	Response options include: • No • Yes • Don't know • Unclear/refused/no response Percentages may be presented for all response options, or for just for respondents indicating "Yes".
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• NCI-AD™
Comparison Group(s)/ Subgroup(s)	Post Only: 2015/16 biennium – 2027/28 biennium[1]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Responses will provide direct insight into STAR+PLUS HCBS members' satisfaction with their everyday lives.
Benchmark	N/A

Notes. [1] The post-period extends through the 2027/2028 biennium, the final administration with results published before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. Availability of this measure is contingent on continuity in the EQRO's administration of the NCI-AD™. STAR+PLUS=MMC program serving aged and disabled clients; HCBS=Home and community-based services; NCI-AD™=National Core Indicators – Aging and Disabilities; DTA=Descriptive trend analysis.

Evaluation Question 3: Did the MMC service delivery model improve access to and quality of care over time?

H3.1. Access to preventive care will maintain or improve over time.

Measure 3.1.1	Childhood immunization status (HEDIS®)
Definition	The percentage of children age 2 who received the following vaccines by their 2nd birthday: • Four diphtheria, tetanus and acellular pertussis (DtaP); • Three polio (IPV); • One measles, mumps and rubella (MMR); • Three haemophilus influenza type B (HiB); • Three hepatitis B (HepB); • One chicken pox (VZV); • Four pneumococcal conjugate (PCV); • One hepatitis A (HepA); • Two or three rotavirus (RV); and • Two influenza
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Childhood immunization status (CIS)
Technical Specifications	As of CY 2019, the EQRO calculated a rate for each of the 10 vaccines, as well as three combination rates: • Combination 2: DtaP, IPV, HiB, HebP, and VZV • Combination 4: DtaP, IVP, MMR, HiB, HepB, VZV, PCV, HepA • Combination 10: DtaP, IPV, MMR, HiB, HepB, VZV, PCV, HepA, RV, and influenza For each rate: **Numerator**: Children meeting the denominator criteria with evidence that vaccine requirement was met **Denominator**: Children who turn age 2 during CY, who were enrolled in MMC for 12 months prior to 2nd birthday **Rate**: (Numerator / Denominator) * 100
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during CY
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures

Measure 3.1.1	Childhood immunization status (HEDIS®)
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2017 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in access to preventive care for children.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Combination 2: 72.4 • Combination 4: 69.7 • Combination 10: 32.0 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Combination 2: 74.1 • Combination 4: 69.0 • Combination 10: 37.5

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; Dtap=Diphtheria, tetanus and acellular pertussis; IPV=Inactivated polio vaccine; MMR=Measles, mumps, and rubella; HiB=Haemophilus influenza type B; HepB=Hepatitis B; VZV=Varicella-zoster virus; PCV=Pneumococcal conjugate virus; HepA=Hepatitis A; RV=Rotavirus; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 3.1.2	Immunization for adolescents (HEDIS®)
Definition	The percentage of adolescents age 13 who received the following vaccines by their 13th birthday: • One meningococcal conjugate (MCV4) • One tetanus, diphtheria toxoids and acellular pertussis (Tdap) • Three human papillomavirus (HPV)
Study Population	STAR; STAR Kids
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Immunization for adolescents (IMA)
Technical Specifications	As of CY 2019, the EQRO calculated a rate for each of the 3 vaccines, as well as two combination rates: • Combination 1: MCV4, Tdap • Combination 2: MCV4, Tdap, HPV For each rate: **Numerator**: Adolescents meeting the denominator criteria with evidence that vaccine requirement was met **Denominator**: Adolescents who turn age 13 during CY, who were enrolled in MMC for 12 months prior to 13th birthday **Rate**: (Numerator / Denominator) * 100
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during CY
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2009 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR Kids Post Only: 1/1/2017 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in access to preventive care for adolescents.

Measure 3.1.2	Immunization for adolescents (HEDIS®)
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Combination 1: 85.6 • Combination 2: 40.3 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Combination 1: 82.3 • Combination 2: 36.7

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; MCV4=Meningococcal conjugate vaccines; Tdap=Tetanus, diphtheria toxoids and acellular pertussis; HPV=Human papillomavirus; STAR=MMC program primarily serving children and pregnant women; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.1.3	Prenatal and postpartum care (HEDIS®)
Definition	The percentage of women who received appropriate prenatal and postpartum care.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Prenatal and postpartum care (PPC)
Technical Specifications	The HEDIS® measure includes two rates: 1) Timeliness of prenatal care and 2) Postpartum care. **Numerator 1**: Women meeting the denominator criteria who received a prenatal care visit in the first trimester, on or before the enrollment start date, or within 42 days of enrollment in the MMC **Denominator 1**: Women who delivered a live birth between October 8 of prior CY and October 7 of current CY, who were enrolled in MMC 43 days prior to delivery through 60 days after delivery **Rate 1**: (Numerator 1 / Denominator 1) * 100 **Numerator 2**: Women meeting the denominator criteria who received a postpartum visit between 7 and 84 days after delivery **Denominator 2**: Women who delivered a live birth between October 8 of prior CY and October 7 of current CY, who were enrolled in MMC 43 days prior to delivery through 60 days after delivery **Rate 2**: (Numerator 2 / Denominator 2) * 100
Exclusion Criteria	Non-live births MMC members with any gaps in enrollment
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2017 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in access to appropriate maternal care.

Measure 3.1.3	Prenatal and postpartum care (HEDIS®)
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate, Postpartum care: 78.1[4] NCQA Quality Compass 2020, 50th Percentile Benchmark: • Timeliness of prenatal care: 89.1 • Postpartum care: 2: 76.4

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; MMC=Medicaid managed care; CY=Calendar year, January 1-December 31; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.1.4	Cervical cancer screening (HEDIS®)
Definition	The percentage of women age 21 to 64 screened for cervical cancer in past 3 (cervical cytology) or 5 years (cervical cytology/human papillomavirus co-testing).
Study Population	STAR; STAR+PLUS
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Cervical cancer screening (CCS)
Technical Specifications	**Numerator 1:** Women meeting the denominator criteria who had cervical cytology during CY or in the previous two to Cys **Numerator 2:** Among women who do not meet criteria in Numerator 1, women meeting the denominator criteria who had cervical cytology and a human papillomavirus test with service dates four or fewer days apart during CY or in the previous four Cys (and who were age 30 or older on date of both tests) **Final Numerator:** Numerator 1 + Numerator 2 **Denominator:** Total number of women who are ages 24 to 64 as of December 31 **Rate:** (Final Numerator / Denominator) * 100

Measure 3.1.4	Cervical cancer screening (HEDIS®)
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during CY MMC members receiving hospice care Optional: MMC members with hysterectomy with no residual cervix, cervical agenesis, or acquired absence of cervix at any time in member's history through end of CY
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure over time would suggest MMC members experienced improvements in access to preventive cancer screenings.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate: 53.4[4] NCQA Quality Compass 2020, 50th Percentile Benchmark: 61.3

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.1.5	Breast cancer screening (HEDIS®)
Definition	The percentage of women ages 50 to 74 who had a mammogram to screen for breast cancer.
Study Population	STAR; STAR+PLUS
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Breast cancer screening (BCS)
Technical Specifications	**Numerator:** Women meeting the denominator criteria with one or more mammograms any time on or before October 1 two years prior to the Cys and December 31 of CY **Denominator:** All women ages 52 to 74 as of December 31 of CY (to account for the look-back period) **Rate:** (Numerator / Denominator) * 100
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during CY MMC members receiving hospice or palliative care, or MMC members with frailty and advanced illness Optional: MMC members with bilateral mastectomy, or unilateral mastectomy with bilateral modifier at any time in member's history through end of CY
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure over time would suggest MMC members experienced improvements in access to preventive cancer screenings.

Measure 3.1.5	Breast cancer screening (HEDIS®)
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate: 50.4[4] NCQA Quality Compass 2020, 50th Percentile Benchmark: 58.8

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; CMS=Centers for Medicare and Medicaid Services; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

H3.2. Effective treatment of chronic, complex, and serious conditions will maintain or improve over time.

Measure 3.2.1	Comprehensive diabetes care (HEDIS®)
Definition	The percentage of MMC members ages 18 to 75 with type 1 or type 2 diabetes who had any of the following: • HbA1c testing • HbA1c poor control (>9.0%) • HbA1c control (<8.0% or <7.0% for select populations) • Eye exam (retinal) performed • Medical attention for nephropathy • BP control (<140/90 mm Hg)
Study Population	STAR; STAR+PLUS
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Comprehensive diabetes care (CDC)

Measure 3.2.1	Comprehensive diabetes care (HEDIS®)
Technical Specifications	As of CY 2019, the EQRO calculated five rates under this measure: • HbA1c testing • HbA1c control (<8.0%) • Eye exam (retinal) performed • Medical attention for nephropathy • BP control (<140/90 mm Hg) **Numerators**: MMC members meeting the denominator criteria specific to each rate: • *HbA1c testing*: Who had a HbA1c test performed in CY • *HbA1c control (<8.0%)*: Whose most recent HbA1c test result was <8.0% • *Eye exam (retinal) performed*: Who had an eyes screening for diabetic retinal disease • *Medical attention for nephropathy*: With a screening for nephropathy or evidence of nephropathy in CY • *BP control (<140/90 mm Hg)*: Whose most recent blood pressure level was <40/90mm Hg during CY **Denominator (applicable to all rates)**: MMC members ages 18 to 75 who with an inpatient discharge or two outpatient visits with a diagnosis of diabetes, or who were dispensed insulin or hypoglycemics/antihyperglycemics on an ambulatory basis in CY or previous CY **Rate**: (Numerator / Denominator) * 100
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during CY MMC members receiving hospice or palliative care, or MMC members with frailty and advanced illness MMC members aged 66 years of age or older as of December 31 of CY who were enrolled in an institutional special needs plan or living long-term in an institution at any point in CY
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]

Measure 3.2.1	Comprehensive diabetes care (HEDIS®)
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in the effective treatment of diabetes.
Benchmark	NCQA Quality Compass 2020, 50th Percentile Benchmark: • HbA1c testing: 88.8 • HbA1c control (<8.0%): 51.8 • Eye exam (retinal) performed: 58.6 • Medical attention for nephropathy: 90.1 • BP control (<140/90 mm Hg): 64.0

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid managed care; HbA1c=Hemoglobin A1c; BP=Blood pressure; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; CDC=Comprehensive Diabetes Care; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 3.2.2	Controlling high blood pressure (HEDIS®)
Definition	Percentage of beneficiaries ages 18 to 85 who had a diagnosis of hypertension and whose blood pressure was adequately controlled (< 140/90 mm Hg) during the measurement year.
Study Population	STAR; STAR+PLUS
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Controlling high blood pressure (CBP)
Technical Specifications	**Numerator:** MMC members meeting the denominator criteria whose most recent BP reading was taken on or after the date of the second diagnosis of hypertension where the BP reading was < 140/90 mm Hg. If there are multiple BPs on the same date of service, use the lowest systolic and lowest diastolic BP on that date as the representative BP **Denominator:** MMC members ages 18 to 85 as of December 31 of CY **Rate:** (Numerator / Denominator) * 100

Measure 3.2.2	Controlling high blood pressure (HEDIS®)
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) during CY Beneficiaries receiving palliative care Optional: MMC members with frailty and advanced illness, MMC members with evidence of end stage renal disease, dialysis or renal transplant before or during the CY, MMC members who are pregnant during CY, and MMC members with nonacute inpatient admission during CY
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006 – 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	An increase in this measure over time would suggest MMC members experienced improvements in the effective treatment of high blood pressure.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate: 49.6[4] NCQA Quality Compass 2020, 50th Percentile Benchmark: 61.8

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; MMC=Medicaid Managed Care; BP=Blood pressure; CY=Calendar year, January 1-December 31; CMS=Centers for Medicare and Medicaid Services; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.2.3	Follow-up care for children prescribed ADHD medication (HEDIS®)
Definition	The percentage of children newly prescribed attention-deficit/hyperactivity disorder (ADHD) medication who had at least three follow-up care visits within a 10-month period, one of which was within 30 days of when the first ADHD medication was dispensed.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Follow-up care for children prescribed ADHD medication (ADD)
Technical Specifications	The HEDIS® measure includes two rates: 1) Initiation phase and 2) Continuation and maintenance phase. **Numerator 1:** Children meeting denominator criteria with a follow-up visit with a practitioner, within 30 days after the IPSD[1] **Numerator 2:** Among children who meet criteria in Numerator 1, children with at least two follow-up visits on different dates of service with any practitioner, from 31–300 days (9 months) after the IPSD. Only one of the two visits (during days 31–300) may be an e-visit or virtual check-in **Denominator:** Children age 6 as of March 1 of the year prior to the CY to age 12 as of the last calendar day of February of the CY **Rate 1 (Initiation phase):** (Numerator for Rate 1 / Denominator) * 100 **Rate 2 (Continuation and maintenance phase):** (Numerator for Rate 2 / Denominator) * 100
Exclusion Criteria	Children with narcolepsy MMC members receiving hospice care Rate 1 (Initiation phase): MMC members with gaps in MMC enrollment 120 days prior to IPSD through 300 days after IPSD Rate 2 (Continuation and maintenance phase): MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) 120 days prior to IPSD through 300 days after IPSD
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures

Measure 3.2.3	Follow-up care for children prescribed ADHD medication (HEDIS®)
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2009- 12/31/2011[2] • STAR Post: 1/1/2012 – 12/31/2029[3] • STAR+PLUS Pre: 9/1/2009- 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2017 – 12/31/2029 Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in the effective management of ADHD.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[5] • Initiation Phase: 41.7 • Continuation and Maintenance Phase: 56.7 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Initiation Phase: 43.1 • Continuation and Maintenance Phase: 54.8

Notes. [1] The IPSD is the earliest prescription dispensing date for an ADHD medication where the date is in the Intake Period and there is a Negative Medication History. [2] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each State Fiscal Year (September 1 – August 31). Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. [5] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; ADHD=attention-deficit/hyperactivity disorder; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; IPSD=Index Prescription Start Date; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.2.4	Antidepressant medication management (HEDIS®)
Definition	The percentage of MMC members age 18 and older who were treated with antidepressant medication, had a diagnosis of major depression, and who remained on antidepressant medication treatment.
Study Population	STAR; STAR+PLUS
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Antidepressant medication management (AMM)
Technical Specifications	The HEDIS® measure includes two rates: 1) Effective acute phase treatment and 2) Effective continuation phase treatment. **Numerator 1:** Total number of unduplicated MMC members age 18 and older with at least 84 days (12 weeks) of treatment with antidepressant medication beginning on the IPSD[1] through 114 days after the IPSD (115 total days). This allows gaps in medication treatment up to a total of 31 days during the 115-day period. Gaps can include either washout period gaps to change medication or treatment gaps to refill the same medication **Numerator 2:** Total number of unduplicated MMC members age 18 and older with at least 180 days (6 months) of treatment with antidepressant medication beginning on the IPSD through 231 days after the IPSD (232 total days). This allows gaps in medication treatment up to a total of 52 days during the 232-day period. Gaps can include either washout period gaps to change medication or treatment gaps to refill the same medication **Denominator**: Total number of unduplicated MMC members age 18 and older with any of the following: • An acute or nonacute inpatient stay with any diagnosis of major depression • An outpatient visit with any diagnosis of major depression • An intensive outpatient encounter or partial hospitalization with any diagnosis of major depression • A community mental health center visit with any diagnosis of major depression • Electroconvulsive therapy with any diagnosis of major depression • Transcranial magnetic stimulation visit with any diagnosis of major depression • A telehealth visit with any diagnosis of major depression • An observation visit with any diagnosis of major depression • An ED visit with any diagnosis of major depression

Measure 3.2.4	Antidepressant medication management (HEDIS®)
	• A telephone visit with any diagnosis of major depression **Rate 1 (Effective acute phase treatment)**: (Numerator 1 / Denominator) * 100 **Rate 2 (Effective continuation phase treatment)**: (Numerator 1 / Denominator) * 100
Exclusion Criteria	MMC members with one or more gaps in MMC enrollment lasting more than 45 days (or more than one month if enrollment determined monthly) 105 days prior to IPSD through 231 days after IPSD
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2009 – 12/31/2011[2] • STAR Post: 1/1/2012 – 12/31/2029[3] • STAR+PLUS Pre: 9/1/2009 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in the effective treatment of mental health conditions.

Measure 3.2.4	Antidepressant medication management (HEDIS®)
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[5] • Effective Acute Phase Treatment: 53.2 • Effective Continuation Phase Treatment: 37.5 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Effective Acute Phase Treatment: 53.7 • Effective Continuation Phase Treatment: 38.4

Notes. [1] The IPSD is the earliest prescription dispensing event for an antidepressant medication during the period of 270 days prior to the start of the measurement period through 90 days after the start of the measurement period. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. [5] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard.
HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid Managed Care; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; IPSD=Index Prescription Start Date; ED=Emergency department; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.2.5	Follow-up after hospitalization for mental illness (HEDIS®)
Definition	The percentage of discharges for MMC members, 6 years of age and older, who were hospitalized for treatment of selected mental illness or intentional self-harm diagnoses and who had a follow-up visit within 7- or 30-days of discharge.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Follow-up after hospitalization for mental illness (FUH)

Measure 3.2.5	Follow-up after hospitalization for mental illness (HEDIS®)
Technical Specifications	**7-Day Numerator**: MMC member meeting the denominator criteria with a follow-up visit with a mental health provider within 7 days after acute inpatient discharge **30-Day Numerator**: MMC member meeting the denominator criteria with a follow-up visit with a mental health provider within 30 days after acute inpatient discharge **Denominator**: MMC members 6 years of age and older who were discharged from an acute inpatient setting (including acute care psychiatric facilities) with a principal diagnosis of mental illness or intentional self-harm in measurement period **7-Day Rate**: (7-day Numerator / Denominator) * 100 **30-Day Rate**: (30-day Numerator / Denominator) * 100
Exclusion Criteria	Discharges followed by readmission or direct transfer to a non-acute facility within the 7- or 30-day follow-up period, regardless of principal diagnosis for the readmission, or to an acute facility within the 7- or 30-day follow-up period if the principal diagnosis was not for mental health disorders or intentional self-harm Clinician-document reason MMC member was not able to complete 7- or 30-day follow-up from acute inpatient setting discharge (i.e., member death prior to follow-up visit, member non-compliance for follow-up) MMC members receiving hospice care Follow-up visits that occur on the date of discharge
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2006- 12/31/2011[1] • STAR Post: 1/1/2012 – 12/31/2029[2] • STAR+PLUS Pre: 9/1/2006- 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in the effective treatment of mental health.

Measure 3.2.5	Follow-up after hospitalization for mental illness (HEDIS®)
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • 7-Day Age 6-17 Rate: 35.0 • 7-Day Age 18+ Rate: 22.3 • 30-Day Age 6-17 Rate: 58.5 • 30-Day Age 18+ Rate: 40.9 NCQA Quality Compass 2020, 50th Percentile Benchmark: • 7-Day Rate: 36.8 • 30-Day Rate: 59.4

Notes. [1] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid managed care; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

Measure 3.2.6	Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)
Definition	The percentage of MMC members age 18 and older with a new episode of alcohol or other drug (AOD) abuse or dependence who: • Initiated treatment within 14 days of the diagnosis, and • Initiated treatment and were engaged in ongoing treatment within 34 days of the initiation visit.
Study Population	STAR; STAR+PLUS
Measure Steward or Source	EQRO-calculated NCQA (HEDIS®) measure: Initiation and engagement of alcohol and other drug abuse or dependence treatment (IET)

Measure 3.2.6	Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)
Technical Specifications	As of CY 2019, the EQRO calculated a rate for: • Alcohol abuse or dependence • Opioid abuse or dependence • Other drug abuse or dependence • Total alcohol/drug abuse or dependence For each rate: **Initiation of AOD Treatment Numerator**: MMC member meeting the denominator criteria with initiation of AOD treatment within 14 days of the IESD[1] **Engagement of AOD Treatment Numerator**: MMC members meeting the denominator criteria with one or more AOD-related medications filled or at least two treatment engagement visits with an AOD-related diagnosis within 34 days of the initiation visit **Denominator**: MMC members age 18 or older as of December 31 with a claim/encounter with an AOD-related diagnosis between January 1 and November 14 (IESD),[1] and no claims/encounters with an AOD-related diagnosis for 60 days prior **Initiation of AOD Treatment Rate**: (Initiation of AOD Treatment Numerator / Denominator) * 100 **Engagement of AOD Treatment Rate**: (Engagement of AOD Treatment Numerator / Denominator) * 100
Exclusion Criteria	MMC members not continuously enrolled for 60 days prior to IEDS through 47 days after IESD MMC members if the initiation of treatment event is an inpatient stay with a discharge date after November 27 of CY MMC members receiving hospice care
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Pre: 9/1/2009- 12/31/2011[2] • STAR Post: 1/1/2012 – 12/31/2029[3] • STAR+PLUS Pre: 9/1/2009 – 12/31/2011 Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA

Measure 3.2.6	Initiation and engagement of alcohol and other drug dependence treatment (HEDIS®)
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in the effective treatment of substance use disorders.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[5] • Total Initiation of AOD Treatment: 40.0 • Total Engagement of AOD Treatment: 7.8 NCQA Quality Compass 2020, 50th Percentile Benchmark: • Total Initiation of AOD Treatment: 43.6 • Total Engagement of AOD Treatment: 14.22

Notes. [1] The IESD is the earliest date of service for an eligible encounter during the Intake Period with a diagnosis of AOD abuse or dependence. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. [5] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. HEDIS®=Healthcare Effectiveness Data and Information Set; MMC=Medicaid managed care; AOD=Alcohol or other drug; STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; EQRO=Texas's External Quality Review Organization; NCQA=National Committee for Quality Assurance; IESD=Index episode start date; CY=Calendar year, January 1-December 31; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30.

H3.3. Appropriate use of health care will maintain or improve over time.

Measure 3.3.1	Potentially preventable admissions (3M)
Definition	A hospital admission or long-term care facility stay that might have been reasonably prevented with adequate access to ambulatory care or health care coordination.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated measure using 3M software

Measure 3.3.1	Potentially preventable admissions (3M)
Technical Specifications	Following the 3M protocol, the EQRO identifies inpatient admissions at-risk for being a potentially preventable admission (PPA), actual PPAs, assigns weights, risk-adjusts PPAs, and calculates expected-to-actual PPA rates. As of CY 2019, the EQRO published the following information on PPAs: • Total at-risk admissions • The number of PPAs • Total weight of all PPAs • Expected weight across all PPAs • Actual weight divided by expected weight • Total member months • Total PPA weight per 1,000 members • Total PPA weight per 1,000 at-risk admissions • Sum of the institutional expenditures across all PPAs
Exclusion Criteria	None besides exclusion criteria specified by 3M
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • STAR Post Only: 1/1/2012 – 12/31/2029[2,3] • STAR+PLUS Post Only: 1/1/2012 – 12/31/2029[3] • STAR Kids Post Only: 1/1/2017 – 12/31/2029[3] Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	A decrease in this measure over time would suggest MMC members experienced improvements in the appropriate use of ambulatory health care and care coordination.
Benchmark	None

Notes. [1] Due to 3M software changes, PPA rates prior to January 1, 2012 are excluded. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; PPA=Potentially preventable admission; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 3.3.2	Potentially preventable emergency department visits (3M)
Definition	Emergency treatment for a condition that could have been treated or prevented by a physician or other health care provider in a non-emergency setting.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated measure using 3M software
Technical Specifications	Following the 3M protocol, the EQRO identifies ED visits at-risk for being a potentially preventable emergency department visit (PPV), actual PPVs, assigns weights, risk-adjusts PPVs, and calculates expected-to-actual PPV rates. As of CY 2019, the EQRO published the following information on PPVs: • Total at-risk ED visits • The number of PPVs • Total weight of all PPVs • Expected weight across all PPVs • Actual weight divided by expected weight • Total member months • Total PPV weight per 1,000 members • Total PPV weight per 1,000 at-risk admissions • Sum of the institutional expenditures across all PPVs
Exclusion Criteria	None besides exclusion criteria specified by 3M
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • STAR Post Only: 1/1/2012 – 12/31/2029[2,3] • STAR+PLUS Post Only: 1/1/2012 – 12/31/2029[3] • STAR Kids Post Only: 1/1/2017 – 12/31/2029[3] Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	A decrease in this measure over time would suggest MMC members experienced improvements in the appropriate use of non-emergency health care.

Measure 3.3.2	Potentially preventable emergency department visits (3M)
Benchmark	None

Notes. [1] Due to 3M software changes, PPV rates prior to January 1, 2012 are excluded. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; ED=Emergency department; PPV=Potentially preventable emergency department visit; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

H3.4. Poor care or care coordination which may result in unnecessary patient harm will maintain or reduce over time.

Measure 3.4.1	Potentially preventable complications (3M)
Definition	A harmful event or negative outcome, such as an infection or surgical complication, that occurs during a hospital admission or a long-term care facility stay, which was not present on admission and might have resulted from poor care or treatment rather than from natural progression of the underlying disease.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated measure using 3M software
Technical Specifications	Following the 3M protocol, the EQRO identifies inpatient admissions at-risk for being a PPC, actual PPCs, assigns weights, risk-adjusts PPCs, and calculates expected-to-actual PPC rates. As of CY 2019, the EQRO published the following information on PPCs: • Total at-risk admissions • Number of admissions that had one or more PPC • Number of PPCs • Total weight of all PPCs • Expected weight across all PPCs • Actual weight divided by expected weight • Total PPC weight per 1,000 at-risk admissions
Exclusion Criteria	None besides exclusion criteria specified by 3M
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures

Measure 3.4.1	Potentially preventable complications (3M)
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • STAR Post Only: 1/1/2016 – 12/31/2029[2,3] • STAR+PLUS Post Only: 1/1/2016 – 12/31/2029[3] • STAR Kids Post Only: 1/1/2017 – 12/31/2029[3] Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	A decrease in this measure over time would suggest MMC members experienced reductions in harmful patient outcomes resulting from poor care or lack of care coordination.
Benchmark	None

Notes. [1] Due to 3M software changes, PPC rates prior to January 1, 2016 are excluded. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; PPC=Potentially preventable complication; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 3.4.2	Potentially preventable readmissions (3M)
Definition	A return hospitalization within 30 days that might have resulted from problems in care during a previous hospital stay or from deficiencies in a post-hospital discharge follow-up.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	EQRO-calculated measure using 3M software

Measure 3.4.2	Potentially preventable readmissions (3M)
Technical Specifications	Following the 3M protocol, the EQRO identifies readmissions with a plausible clinical relationship to a prior admission, readmissions at-risk for being a PPR, actual PPRs, assigns weights, risk-adjusts PPRs, and calculates expected-to-actual PPR rates. As of CY 2019, the EQRO published the following information on PPRs: • Total at-risk admissions • The number of PPR chains • Number of PPRs • Total weight of all PPRs • Expected weight across all PPRs • Actual weight divided by expected weight • Total PPR weight per 1,000 at-risk admissions • Sum of the institutional expenditures across all PPRs
Exclusion Criteria	None besides exclusion criteria specified by 3M
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • STAR Post Only: 1/1/2012 – 12/31/2029[2,3] • STAR+PLUS Post Only: 1/1/2012 – 12/31/2029[3] • STAR Kids Post Only: 1/1/2017 – 12/31/2029[3] Member demographic and geographic characteristics, where applicable[4]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	A decrease in this measure over time would suggest MMC members experienced reductions in unnecessary hospital readmissions resulting from poor care.
Benchmark	None

Notes. [1] Due to 3M software changes, PPR rates prior to January 1, 2012 are excluded. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [4] Member subgroups may not be available for all years. STAR=MMC program primarily serving children and pregnant women; STAR+PLUS=MMC program serving aged and disabled clients; STAR Kids=MMC program serving disabled individuals 20 years or younger; EQRO=Texas's External Quality Review Organization; PPR=Potentially preventable readmission; CY=Calendar year, January 1-December 31; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

H3.5. MMC member experience will maintain or improve over time.

Measure 3.5.1	Getting care quickly composite (CAHPS®)
Definition	The percentage of members or caregivers who report "always" being able to get care quickly.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	AHRQ: Health Plan Survey 5.0H – Adult and Child Version (Medicaid) Including Medicaid and Children with Chronic Conditions Supplemental Items
Technical Specifications	**Members:** The percentage of member respondents who answered "Always" to the following questions: • In the last 6 months, when you needed care right away, how often did you get care as soon as you needed? • In the last 6 months, how often did you get an appointment for a check-up or routine care at a doctor's office or clinic as soon as you needed? **Caregiver**: Number of caregiver respondents who answered "Always" to the following questions: • In the last 6 months, when your child needed care right away, how often did your child get care as soon as he or she needed? • In the last 6 months, when you made an appointment for a check-up or routine care for your child at a doctor's office or clinic, how often did you get an appointment as soon as your child needed? Survey results are weighted to account for the probability of selection into the survey sample and potential response bias by members' race/ethnicity. The Getting Care Quickly composite score is the average percentage of member/caregiver respondents who answered "Always" across the two questions. The composite score is calculated using weighted counts.
Exclusion Criteria	Members or caregivers who do not answer getting care quickly questions
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Post Only: 1/1/2012 – 12/31/2029[1,2] • STAR+PLUS Pre: 9/1/2008 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2018 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]

Measure 3.5.1	Getting care quickly composite (CAHPS®)
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in MMC members' experience getting care.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Adult: 54.8 • Child: 80.5 National Aggregate 2019 Percentiles:[5] • Adult: 60.0 • Child: 73.0

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each SFY. Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1-December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. [5] National aggregate rates available via the CAHPS® Online Reporting System: https://cahpsdatabase.ahrq.gov/CAHPSIDB/HP/about.aspx. CAHPS®=Consumer Assessment of Healthcare Providers and Systems; STAR=MMC program for children, newborns, and pregnant women; STAR+PLUS=MMC program for individuals 21 and older with disabilities and individuals age 65 and older; STAR Kids=MMC program serving disabled individuals 20 years and younger; AHRQ=Agency for Healthcare Research and Quality; EQRO=External Quality Review Organization; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; SFY=State Fiscal Year, September 1-August 31; DY=Demonstration year, October 1-September 30.

Measure 3.5.2	Getting needed care composite (CAHPS®)
Definition	The percentage of members or caregivers who report "always" being able to get needed care.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	AHRQ: Health Plan Survey 5.0H – Adult and Child Version (Medicaid) Including Medicaid and Children with Chronic Conditions Supplemental Items
Technical Specifications	**Members**: The percentage of member respondents who answered "Always" to the following questions: • In the last 6 months, how often did you get an appointment to see a specialist as soon as you needed? • In the last 6 months, how often was it easy to get the care, tests, or treatment you needed? **Caregivers**: The percentage of caregiver respondents who answered "Always" to the following questions: • In the last 6 months, how often did you get an appointment for your child to see a specialist as soon as you needed? • In the last 6 months, how often was it easy to get the care, tests, or treatment your child needed? Survey results are weighted to account for the probability of selection into the survey sample and potential response bias by members' race/ethnicity. The Getting Needed Care composite score is the average percentage of member/caregiver respondents who answered "Always" across the two questions. The composite score is calculated using weighted counts.
Exclusion Criteria	Members or caregivers who do not answer getting needed care questions
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Post Only: 1/1/2012 – 12/31/2029[1,2] • STAR+PLUS Pre: 9/1/2008 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2018 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA

Measure 3.5.2	Getting needed care composite (CAHPS®)
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in MMC members' experience getting care.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Adult: 54.4 • Child: 68.2 National Aggregate 2019 Percentiles:[5] • Adult: 56.0 • Child: 61.0

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each SFY. Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1-December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. [5] National aggregate rates available via the CAHPS® Online Reporting System: https://cahpsdatabase.ahrq.gov/CAHPSIDB/HP/about.aspx. CAHPS®=Consumer Assessment of Healthcare Providers and Systems; STAR=MMC program for children, newborns, and pregnant women; STAR+PLUS=MMC program for individuals 21 and older with disabilities and individuals age 65 and older; STAR Kids=MMC program serving disabled individuals 20 years and younger; AHRQ=Agency for Healthcare Research and Quality; EQRO=External Quality Review Organization; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; SFY=State Fiscal Year, September 1-August 31; DY=Demonstration year, October 1-September 30.

Measure 3.5.3	Rating of personal doctor (CAHPS®)
Definition	The rating members and caregivers provide of their personal doctor.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	AHRQ: Health Plan Survey 5.0H – Adult and Child Version (Medicaid) Including Medicaid and Children with Chronic Conditions Supplemental Items
Technical Specifications	**Members:** The percentage of member respondents who rate their personal doctor at a 9 or 10 on a scale of 0 to 10, with 0 being the worst and 10 being the best **Caregivers:** The percentage of caregiver respondents who rate their child's personal doctor at a 9 or 10 on a scale of 0 to 10, with 0 being the worst and 10 being the best Survey results are weighted to account for the probability of selection into the survey sample and potential response bias by members' race/ethnicity.
Exclusion Criteria	Members or caregivers who do not provide a rating
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Post Only: 1/1/2012 – 12/31/2029[1,2] • STAR+PLUS Pre: 9/1/2008 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2018 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in MMC members' perceptions of their personal doctor.

Measure 3.5.3	Rating of personal doctor (CAHPS®)
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Adult: 67.7 • Child: 82.8 National Aggregate 2019 Percentiles:[5] • Adult: 67.0 • Child: 77.0

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each SFY. Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1-December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. [5] National aggregate rates available via the CAHPS® Online Reporting System: https://cahpsdatabase.ahrq.gov/CAHPSIDB/HP/about.aspx. CAHPS®=Consumer Assessment of Healthcare Providers and Systems; STAR=MMC program for children, newborns, and pregnant women; STAR+PLUS=MMC program for individuals 21 and older with disabilities and individuals age 65 and older; STAR Kids=MMC program serving disabled individuals 20 years and younger; AHRQ=Agency for Healthcare Research and Quality; EQRO=External Quality Review Organization; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; SFY=State Fiscal Year, September 1-August 31; DY=Demonstration year, October 1-September 30.

Measure 3.5.4	Rating of health plan (CAHPS®)
Definition	The rating members and caregivers provide of their health plan.
Study Population	STAR; STAR+PLUS; STAR Kids
Measure Steward or Source	AHRQ: Health Plan Survey 5.0H – Adult and Child Version (Medicaid) Including Medicaid and Children with Chronic Conditions Supplemental Items
Technical Specifications	**Members:** The percentage of member respondents who rate their health plan at a 9 or 10 on a scale of 0 to 10, with 0 being the worst and 10 being the best **Caregivers:** The percentage of caregiver respondents who rate their child's health plan at a 9 or 10 on a scale of 0 to 10, with 0 being the worst and 10 being the best Survey results are weighted to account for the probability of selection into the survey sample and potential response bias by members' race/ethnicity.
Exclusion Criteria	Members or caregivers who do not provide a rating

Measure 3.5.4	Rating of health plan (CAHPS®)
Data Source(s)/Data Collection Methods	EQRO-calculated MMC performance measures
Comparison Group(s)/ Subgroup(s)	Pre-post comparison: • STAR Post Only: 1/1/2012 – 12/31/2029[1,2] • STAR+PLUS Pre: 9/1/2008 – 12/31/2011 • STAR+PLUS Post: 1/1/2012 – 12/31/2029 • STAR Kids Post Only: 1/1/2018 – 12/31/2029 Member demographic and geographic characteristics, where applicable[3]
Analytic Methods	• Descriptive statistics • DTA
Interpretation	Increases in the rates under this measure over time would suggest MMC members experienced improvements in MMC members' perceptions of their health plan.
Benchmark	Texas CMS Core Measure, 2019 Medicaid State Rate:[4] • Adult: 56.9 • Child: 82.4 National Aggregate 2019 Percentiles:[5] • Adult: 60.0 • Child: 71.0

Notes. [1] Prior to January 1, 2010, the EQRO calculated Texas MMC program measures each SFY. Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1-December 31). As a result, pre- and post-periods for Texas MMC program measures do not align with DYs. [2] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. Availability of this measure through December 31, 2029 is contingent on continuity in the EQRO's calculation and reporting of the measure. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [3] Member subgroups may not be available for all years. [4] Texas CMS Core Measure rates available via the Texas Healthcare Learning Collaborative Portal: https://thlcportal.com/measures/cmscoremeasuredashboard. [5] National aggregate rates available via the CAHPS® Online Reporting System: https://cahpsdatabase.ahrq.gov/CAHPSIDB/HP/about.aspx. CAHPS®=Consumer Assessment of Healthcare Providers and Systems; STAR=MMC program for children, newborns, and pregnant women; STAR+PLUS=MMC program for individuals 21 and older with disabilities and individuals age 65 and older; STAR Kids=MMC program serving disabled individuals 20 years and younger; AHRQ=Agency for Healthcare Research and Quality; EQRO=External Quality Review Organization; MMC=Medicaid managed care; DTA=Descriptive trend analysis; CMS=Centers for Medicare and Medicaid Services; SFY=State Fiscal Year, September 1-August 31; DY=Demonstration year, October 1-September 30.

SPP Component

Evaluation Question 4: Do the SPPs financially support providers serving the Medicaid and charity care populations?

H4.1. The UC and PHP-CCP programs financially support Medicaid providers by reimbursing Medicaid or charity care costs in Texas.

Measure 4.1.1	Number of UC program providers
Definition	The unique count of providers participating in the UC program.
Study Population	UC program providers
Measure Steward or Source	N/A
Technical Specifications	Unique TPI count of UC providers who submitted DSH/UC application in DY
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• American Community Survey • DSH/UC application • Provider-level eligibility files
Comparison Group(s)/ Subgroup(s)	Provider characteristics, where applicable Regional characteristics (RUCC, uninsured rates, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA, including DY1-8 data, where applicable
Interpretation	This measure is a direct indicator of Medicaid providers that are financially supported by the UC program.
Benchmark	None

Notes. UC=Uncompensated Care; TPI=Texas provider identifier; DSH=Disproportionate Share Hospital; DY=Demonstration year, October 1-September 30; RUCC=Rural-Urban Continuum Codes; DTA=Descriptive trend analysis.

Measure 4.1.2	Number of PHP-CCP program providers
Definition	The unique count of providers participating in the PHP-CCP program.
Study Population	PHP-CCP program providers
Measure Steward or Source	N/A
Technical Specifications	Unique TPI count of PHP-CCP providers who submitted PHP-CCP application in DY
Exclusion Criteria	None

Measure 4.1.2	Number of PHP-CCP program providers
Data Source(s)/Data Collection Methods	• American Community Survey • PHP-CCP application • Provider-level eligibility files
Comparison Group(s)/ Subgroup(s)	Provider characteristics, where applicable Regional characteristics (RUCC, uninsured rates, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of Medicaid providers that are financially supported by the PHP-CCP program.
Benchmark	None

Notes. PHP-CCP=Public Health Provider-Charity Care Pool; TPI=Texas provider identifier; DY=Demonstration year, October 1-September 30; RUCC=Rural-Urban Continuum Codes; DTA=Descriptive trend analysis.

Measure 4.1.3	UC eligible costs and reimbursements
Definition	Total costs and reimbursements for costs associated with services provided under a provider's charity care policy.
Study Population	UC program providers
Measure Steward or Source	N/A
Technical Specifications	Total amount of UC eligible charity care costs in DY Total amount of UC eligible charity care costs reimbursed in DY.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• American Community Survey • DSH/UC application • Provider-level eligibility files
Comparison Group(s)/ Subgroup(s)	Provider characteristics, where applicable Regional characteristics (metro, micro, rural; RUCC, uninsured rates, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of financial support delivered through the UC program to Medicaid providers.

Measure 4.1.3	UC eligible costs and reimbursements
Benchmark	The external evaluator should use the Hospital Cost Report Public Use File for benchmarks, where appropriate[1]

Notes. [1] Charity care definitions may vary across data sources, so direct comparisons between DSH/UC application data and the Hospital Cost Report Public Use File should be avoided. UC=Uncompensated Care; DY=Demonstration year, October 1-September 30; DSH=Disproportionate Share Hospital; RUCC=Rural-Urban Continuum Codes; DTA=Descriptive trend analysis.

Measure 4.1.4	PHP-CCP eligible costs and reimbursements
Definition	Total costs and reimbursements for costs associated used to defray actual uncompensated care (DY11), or costs associated with services provided under a provider's charity care policy (DY12 forward).
Study Population	PHP-CCP program providers
Measure Steward or Source	N/A
Technical Specifications	Total amount of PHP-CCP eligible costs in DY Total amount of PHP-CCP eligible costs reimbursed in DY.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• American Community Survey • PHP-CCP application • Provider-level eligibility files
Comparison Group(s)/ Subgroup(s)	Provider characteristics, where applicable Regional characteristics (metro, micro, rural; RUCC, uninsured rates, etc.), where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of financial support delivered through the PHP-CCP program to Medicaid providers.
Benchmark	None

Notes. PHP-CCP=Public Health Provider-Charity Care Pool; DY=Demonstration year, October 1-September 30; RUCC=Rural-Urban Continuum Codes; DTA=Descriptive trend analysis.

H4.2. The UC and PHP-CCP programs support greater network adequacy and community health.

Measure 4.2.1	Network adequacy
Definition	The percentage of MMC members meeting prescribed network adequacy distance standards.
Study Population	MMC members
Measure Steward or Source	N/A
Technical Specifications	HHSC creates robust and meaningful distance standards between enrolled MMC members' residence and service delivery addresses of providers. Network adequacy reports include: • Number MMC members • Number of MMC members within distance standard of two providers • Percentage of MMC members within distance standard of two providers Network adequacy reports present results by provider type, MMC program, county type, and MCO; not all variables or subgroups will be relevant to analysis conducted for this evaluation.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Network adequacy reports Additional data sources needed for MLR model: • American Community Survey • DSH/UC application • PHP-CCP application
Comparison Group(s)/ Subgroup(s)	Provider type (e.g., acute care hospital, behavioral health, primary care provider, specialty care provider, etc.) County/regional characteristics (SPP funding, county type, uninsured rates, etc.)
Analytic Methods	• Descriptive statistics • MLR
Interpretation	Results from the MLR model will inform whether county/regional concentration of UC and PHP-CCP funds are associated with access to care for Medicaid members, after controlling for other county/regional characteristics.
Benchmark	None

Notes. MMC=Medicaid managed care; MLR=Multiple linear regression; DSH=Disproportionate Share Hospital; UC=Uncompensated Care; PHP-CCP=Public Health Providers Charity Care Pool.

Measure 4.2.2	Potentially preventable events (3M)
Definition	A health care event, which could have been prevented, that led to unnecessary services or contributes to poor quality of care.
Study Population	Individuals served by hospitals participating in Texas Medicaid; MMC members
Measure Steward or Source	EQRO-calculated measures using 3M software
Technical Specifications	Following the 3M protocol, the EQRO calculates the following PPEs: • Potentially preventable admissions (PPA): A hospital admission or long-term care facility stay that might have been reasonably prevented with adequate access to ambulatory care or health care coordination. This measure only includes MMC members. • Potentially preventable complications (PPC): A harmful event or negative outcome, such as an infection or surgical complication, that occurs after a hospital admission or an long-term care facility stay and might have resulted from care, lack of care, or treatment during the admission or stay. This measure includes all individuals served by hospitals (e.g., all payer sources). • Potentially preventable emergency department visits (PPV): Emergency treatment for a condition that could have been treated or prevented by a physician or other health care provider in a non-emergency setting. This measure only includes MMC members. • Potentially preventable readmissions (PPR): A return hospitalization, within a set time, that might have resulted from problems in care during a previous hospital stay or from deficiencies in a post-hospital discharge follow-up. This measure includes all individuals served by hospitals (e.g., all payer sources). The EQRO calculates all PPEs as rates, which reflect the number of PPEs per 1,000 at risk admissions (PPA, PPR, and PPC) or per 1,000 at risk ED visits (PPV). The external evaluator may use all PPEs, or a subset of PPEs based on data availability at the county/regional level.
Exclusion Criteria	None

Measure 4.2.2	Potentially preventable events (3M)
Data Source(s)/Data Collection Methods	• EQRO-calculated measures using 3M software Additional data sources needed for MLR model: • American Community Survey • DSH/UC application • PHP-CCP application
Comparison Group(s)/ Subgroup(s)	County/regional characteristics (SPP funding, county type, uninsured rates, etc.)
Analytic Methods	• Descriptive statistics • MLR
Interpretation	Results from the MLR model will inform whether county/regional concentration of UC and PHP-CCP funds are associated with community health outcomes, after controlling for other county/regional characteristics.
Benchmark	None

Notes. MMC=Medicaid managed care; EQRO=Texas's External Quality Review Organization; PPC=Potentially preventable complication; PPR=Potentially preventable readmission; PPA=Potential preventable admission; PPV=Potentially preventable emergency department visit; DSH=Disproportionate Share Hospital; UC=Uncompensated Care; PHP-CCP=Public Health Providers Charity Care Pool; MLR=Multiple linear regression.

Evaluation Question 5: Did the implementation of UHRIP support the hospital delivery system during the transition of the UC program to charity care only?

H5.1. Hospital-based performance measures will maintain or improve following the transition to charity care only in DY9.

Measure 5.1.1	Average length of stay per Medicaid inpatient hospital admission
Definition	The average number of days of care per Medicaid inpatient hospital admission.
Study Population	Medicaid clients served by UC program providers in UHRIP
Measure Steward or Source	N/A
Technical Specifications	**Numerator**: Total number of days across all Medicaid inpatient hospital admissions **Denominator**: Unique count of Medicaid inpatient hospital admissions **Rate**: Numerator / Denominator The rate can be calculated per quarter or DY.

Measure 5.1.1	Average length of stay per Medicaid inpatient hospital admission
Exclusion Criteria	UC program providers not participating in UHRIP (non-hospital providers: ambulance providers, dental providers, and physician group practices)
Data Source(s)/Data Collection Methods	• DSH/UC application • FFS Claims and MMC Encounters • Member-level enrollment files • Provider-level eligibility files • UHRIP administrative data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • Pre: 10/1/2011- 9/30/2019 • Post: 10/1/2019- 9/30/2030 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	No change or a decrease in this measure after DY9 would suggest UHRIP helped to maintain or improve hospital-based performance following the transition of the UC program to charity care only.
Benchmark	None

Notes. [1] Contingent of CMS approval, UHRIP will transition to a component of CHIRP on September 1, 2021. The external evaluator may utilize multiple pre- or post-periods to capture implementation changes related to UHRIP and the transition to CHIRP, if feasible.
UC=Uncompensated Care; UHRIP=Uniform Hospital Rate Increase Program; DY=Demonstration year, October 1-September 30; DSH=Disproportionate Share Hospital; FFS=Fee-for-service; MMC=Medicaid managed care; ITS=Interrupted time series.

Measure 5.1.2	Average cost per Medicaid inpatient hospital admission
Definition	The average cost per Medicaid inpatient hospital admission.
Study Population	Medicaid clients served by UC program providers in UHRIP
Measure Steward or Source	N/A
Technical Specifications	**Numerator**: Total cost across all Medicaid inpatient hospital admissions **Denominator**: Unique count of Medicaid inpatient hospital admissions **Rate**: Numerator / Denominator The rate can be calculated per quarter or DY.

Measure 5.1.2	Average cost per Medicaid inpatient hospital admission
Exclusion Criteria	UC program providers not participating in UHRIP (non-hospital providers: ambulance providers, dental providers, and physician group practices)
Data Source(s)/Data Collection Methods	• DSH/UC application • FFS Claims and MMC Encounters • Member-level enrollment files • Provider-level eligibility fil • UHRIP administrative data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1] • Pre: 10/1/2011- 9/30/2019 • Post: 10/1/2019- 9/30/2030 Member demographic and geographic characteristics, where applicable Provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	No change or a decrease in this measure after DY9 would suggest UHRIP helped to maintain or improve hospital-based performance following the transition of the UC program to charity care only.
Benchmark	None

Notes. [1] Contingent of CMS approval, UHRIP will transition to a component of CHIRP on September 1, 2021. The external evaluator may utilize multiple pre- or post-periods to capture implementation changes related to UHRIP and the transition to CHIRP, if feasible.
UC=Uncompensated Care; UHRIP=Uniform Hospital Rate Increase Program; DY=Demonstration year, October 1-September 30; DSH=Disproportionate Share Hospital; FFS=Fee-for-service; MMC=Medicaid managed care; ITS=Interrupted time series.

Measure 5.1.3	Patients' perceptions of hospital care
Definition	Patients' experience with hospital care during a recent inpatient hospital stay.
Study Population	Patients served by UC program providers in UHRIP
Measure Steward or Source	Agency for Healthcare Research and Quality (AHRQ), administered by CMS State-level HCAHPS® results are publicly accessible via: • Patient survey (HCAHPS ®) - State: https://data.cms.gov/provider-data/dataset/84jm-wiui • HCAHPS ® Hospital Survey Website: https://hcahpsonline.org/en/summary-analyses/previous-summary-analyses-documents/ Provider-level HCAHPS® results are publicly available via: • Hospital comparison website: https://www.medicare.gov/care-compare/?providerType=Hospital&redirect=true#search
Technical Specifications	CMS administers the HCAHPS® survey to a random sample of adult patients who have been recently discharged. The HCAHPS® survey assesses patients' experience of communicating with nurses and doctors, patients' perception of hospital staff responsiveness, communication about medicines, hospital quietness and cleanliness, information about discharge, post-hospital care transition planning, and rating the hospital overall. HCAHPS® survey results are presented per CY.
Exclusion Criteria	UC program providers not participating in UHRIP (non-hospital providers: ambulance providers, dental providers, and physician group practices)
Data Source(s)/Data Collection Methods	• CMS HCAHPS® Surveys • DSH/UC application • Provider-level eligibility files • UHRIP administrative data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1,2] • Pre: 1/1/2012- 12/31/2019[3] • Post: 1/1/2020- 12/31/2029[4] Provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA • ITS, if feasible

Measure 5.1.3	Patients' perceptions of hospital care
Interpretation	No change or an increase in this measure after DY9 would suggest UHRIP helped to maintain or improve hospital-based performance following the transition of the UC program to charity care only.
Benchmark	HCAHPS® Percentile Tables 2018 Discharges, National Average "Top Box" Score:[5] • Communication with nurses: 81.0 • Communication with doctors: 81.0 • Responsiveness of hospital staff: 70.0 • Communication about medicines: 66.0 • Cleanliness of hospital environment:75.0 • Quietness of hospital environment: 62.0 • Discharge information: 87.0 • Care transition: 53.0 • Hospital rating: 73.0 • Would recommend hospital: 72.0

Notes. [1] Provider-level HCAHPS® survey results may not be available for the entire the pre- and post-periods. The external evaluator may use the all provider-level data available or may choose to use state-level estimates. [2] Contingent of CMS approval, UHRIP will transition to a component of CHIRP on September 1, 2021. The external evaluator may utilize multiple pre- or post-periods to capture implementation changes related to UHRIP and the transition to CHIRP, if feasible. [3] HCAHPS® survey results are published for calendar years (January 1 – December 31). As a result, pre- and post-periods for do not align with DYs. [4] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. [5] "Top Box" scores reflect how often respondents provided positive assessments of the hospital experience. HCAHPS® Percentile Tables are accessible via: https://hcahpsonline.org/en/summary-analyses/previous-summary-analyses-documents/. UC=Uncompensated Care; UHRIP=Uniform Hospital Rate Increase Program; AHRQ=Agency for Healthcare Research and Quality; CMS=Centers for Medicare and Medicaid Services; HCAHPS®=Hospital Consumer Assessment of Healthcare Providers and Systems; CY=Calendar year, January 1-December 31; DSH=Disproportionate Share Hospital; DTA=Descriptive trend analysis; ITS=Interrupted time series; DY=Demonstration year, October 1-September 30.

Measure 5.1.4	Potentially preventable complications (3M)
Definition	A harmful event or negative outcome, such as an infection or surgical complication, that occurs during a hospital admission or a long-term care facility stay, which was not present on admission and might have resulted from poor care or treatment rather than from natural progression of the underlying disease.
Study Population	UC program providers in UHRIP
Measure Steward or Source	EQRO-calculated measures using 3M software
Technical Specifications	Following the 3M protocol, the EQRO identifies inpatient admissions at-risk for being a PPC, actual PPCs, assigns weights, risk-adjusts PPCs, and calculates expected-to-actual PPC rates. As of CY 2019, the EQRO published the following information on PPCs: • Total at-risk admissions • Number of admissions that had one or more PPC • Number of PPCs • Total weight of all PPCs • Expected weight across all PPCs • Actual weight divided by expected weight • Total PPC weight per 1,000 at-risk admissions
Exclusion Criteria	UC program providers not participating in UHRIP (non-hospital providers: ambulance providers, dental providers, and physician group practices) Exclusion criteria specified by 3M
Data Source(s)/Data Collection Methods	• EQRO-calculated PPE performance measures • Provider-level eligibility files • UHRIP administrative data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1,2,3] • Pre: 1/1/2016- 12/31/2019 • Post: 1/1/2020- 12/31/2029[4] Provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	No change or a decrease in this measure after DY9 would suggest UHRIP helped to maintain or improve hospital-based performance following the transition of the UC program to charity care only.

Measure 5.1.4	Potentially preventable complications (3M)
Benchmark	None

Notes. [1] Due to 3M software changes, PPC rates prior to January 1, 2016 are excluded. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] Contingent of CMS approval, UHRIP will transition to a component of CHIRP on September 1, 2021. The external evaluator may utilize multiple pre- or post-periods to capture implementation changes related to UHRIP and the transition to CHIRP, if feasible. [4] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. UC=Uncompensated Care; UHRIP=Uniform Hospital Rate Increase Program; EQRO=Texas's External Quality Review Organization; PPC=Potentially preventable complication; CY=Calendar year, January 1-December 31; PPE=Potentially preventable event; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 5.1.5	Potentially preventable readmissions (3M)
Definition	A return hospitalization within 30 days that might have resulted from problems in care during a previous hospital stay or from deficiencies in a post-hospital discharge follow-up.
Study Population	UC program providers in UHRIP
Measure Steward or Source	EQRO-calculated measures using 3M software
Technical Specifications	Following the 3M protocol, the EQRO identifies readmissions with a plausible clinical relationship to a prior admission, readmissions at-risk for being a PPR, actual PPRs, assigns weights, risk-adjusts PPRs, and calculates expected-to-actual PPR rates. As of CY 2019, the EQRO published the following information on PPRs: • Total at-risk admissions • The number of PPR chains • Number of PPRs • Total weight of all PPRs • Expected weight across all PPRs • Actual weight divided by expected weight • Total PPR weight per 1,000 at-risk admissions • Sum of the institutional expenditures across all PPRs
Exclusion Criteria	UC program providers not participating in UHRIP (non-hospital providers: ambulance providers, dental providers, and physician group practices) Exclusion criteria specified by 3M

Measure 5.1.5	Potentially preventable readmissions (3M)
Data Source(s)/Data Collection Methods	• EQRO-calculated PPE performance measures • Provider-level eligibility files • UHRIP administrative data
Comparison Group(s)/ Subgroup(s)	Pre-post comparison:[1,2,3] • Pre: 1/1/2012- 12/31/2019 • Post: 1/1/2020- 12/31/2029[4] Provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	No change or a decrease in this measure after DY9 would suggest UHRIP helped to maintain or improve hospital-based performance following the transition of the UC program to charity care only.
Benchmark	None

Notes. [1] Due to 3M software changes, PPR rates prior to January 1, 2012 are excluded. [2] Starting January 1, 2010, the EQRO began calculating Texas MMC program measures each calendar year (January 1 – December 31). As a result, pre- and post-periods do not align with DYs. [3] Contingent of CMS approval, UHRIP will transition to a component of CHIRP on September 1, 2021. The external evaluator may utilize multiple pre- or post-periods to capture implementation changes related to UHRIP and the transition to CHIRP, if feasible. [4] The post-period ends on December 31, 2029, the last full calendar year before the Ten-Year Demonstration Extension approval period ends. The external evaluator may extend the post-period if additional data become available prior to the Summative Evaluation Report. UC=Uncompensated Care; UHRIP=Uniform Hospital Rate Increase Program; EQRO=Texas's External Quality Review Organization; PPR=Potentially preventable readmission; CY=Calendar year, January 1-December 31; PPE=Potentially preventable event; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Overall Demonstration Component

Evaluation Question 6. What are the costs of providing health care services to Medicaid beneficiaries served under the Demonstration?

H6.1. The Demonstration results in overall savings in health care service expenditures.

Measure 6.1.1	Actual Medicaid health service expenditures
Definition	Actual Medicaid health care expenditures for Medicaid beneficiaries served prior to or under the Demonstration.
Study Population	Medicaid Eligibility Groups served under the Demonstration
Measure Steward or Source	N/A

Measure 6.1.1	Actual Medicaid health service expenditures
Technical Specifications	WW expenditures for MEGs served under the Demonstration per DY The external evaluator will calculate inflation adjustments as necessary. The external evaluator should present this measure alongside Measure 8.1.2 (Hypothetical WOW Medicaid health service expenditures).
Exclusion Criteria	Expenditures not associated with traditional reimbursement of Medicaid claims and encounters (e.g., SPPs or DPPs)
Data Source(s)/Data Collection Methods	• Budget neutrality worksheet
Comparison Group(s)/ Subgroup(s)	WW costs versus WOW costs MEGs served under the Demonstration
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator the costs of providing health care services to MMC members under the Demonstration.
Benchmark	None; Historical health care expenditures for Medicaid clients (FFS and MMC) prior to the Demonstration (October 2006 – September 2010) may be used as a contextual reference cohort[1]

Notes. [1] HHSC calculations of health care service expenditures prior to the Demonstration can be shared with the external evaluator upon request. Historical health care expenditures prior to the Demonstration include individuals receiving services through FFS and MMC. Most individuals who received services through FFS prior to the Demonstration transitioned into MMC and are included in WW expenditures for MEGs. However, at the time of writing, approximately 6% of all Medicaid beneficiaries received services through FFS, and therefore are not included in WW expenditures for MEGs. As a result, trends in historical health care expenditures are provided for contextual reference only and should not be used to make direct dollar amount comparisons. Additional information on historical expenditures prior to the Demonstration is presented in HHSC's Rider 61 Final Comprehensive Report: Evaluation of Medicaid and CHIP Managed Care, August 2018. This evaluation was conducted in partnership with Deloitte LLP and is accessible via: https://www.hhs.texas.gov/reports/2018/08/rider-61-evaluation-medicaid-chip-managed-care.
WW=With waiver; MEG=Medicaid Eligibility Group; DY=Demonstration year, October 1-September 30; FFS=Fee-for-service; SPP=Supplemental Payment Program; DPP=Directed Payment Program; DTA=Descriptive trend analysis; MMC=Medicaid managed care.

Measure 6.1.2	Hypothetical WOW Medicaid health service expenditures
Definition	Hypothetical Medicaid health care service expenditures for MMC members served under the Demonstration if the Demonstration did not exist (e.g., FFS).
Study Population	Medicaid Eligibility Groups served under the Demonstration
Measure Steward or Source	N/A
Technical Specifications	WOW expenditures for MEGs served under the Demonstration per DY The external evaluator will calculate inflation adjustments as necessary. The external evaluator should present this measure alongside Measure 6.1.1 (Actual Medicaid health service expenditures).
Exclusion Criteria	Expenditures not associated with traditional reimbursement of Medicaid claims and encounters (e.g., UPL program)
Data Source(s)/Data Collection Methods	• Budget neutrality worksheet
Comparison Group(s)/ Subgroup(s)	WW costs versus WOW costs MEGs served under the Demonstration
Analytic Methods	• Descriptive statistics • DTA
Interpretation	The difference between this measure and actual expenditure costs (Measure 6.1.1) is a direct indicator of overall cost savings in health care service expenditures.
Benchmark	None

Notes. WOW=Without waiver; MMC=Medicaid managed care; FFS=Fee-for-service; MEG=Medicaid Eligibility Group; DY=Demonstration year, October 1-September 30; UPL=Upper payment limit; DTA=Descriptive trend analysis.

Evaluation Question 7. What are the administrative costs of implementing and operating the Demonstration?

H7.1. Administrative costs required to implement and operate the Demonstration are relatively stable and reasonable over time.

Measure 7.1.1	HHSC administrative costs directly attributable to the Demonstration
Definition	HHSC-incurred administrative expenditures attributable to the Demonstration.
Study Population	HHSC
Measure Steward or Source	N/A
Technical Specifications	Form CMS-64 includes a variety of sections detailing different types of expenditures. This measure will focus on costs attributable to the Demonstration reported on 64.10, Expenditures for State and Local Administration, per DY. The external evaluator will calculate inflation adjustments as necessary.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Form CMS-64
Comparison Group(s)/ Subgroup(s)	Type of administrative expenditures, where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a director indicator of the administrative costs of implementing and operating the Demonstration.
Benchmark	None

Notes. HHSC=Health and Human Services Commission; CMS=Centers for Medicare and Medicaid Services; DY=Demonstration year, October 1-September 30; DTA=Descriptive trend analysis.

Measure 7.1.2	MCO administrative costs
Definition	MCO-incurred administrative expenditures for implementing MMC.
Study Population	MCOs
Measure Steward or Source	N/A
Technical Specifications	MCO-reported administrative expenses directly or indirectly in support of MMC operations, per SFY.[1,2] Administrative expenses include salaries, wages and other benefits, payroll taxes, utilities and maintenance, auditing and other consulting expenses, etc. The external evaluator will calculate inflation adjustments as necessary.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• MCO Financial Statistical Reports
Comparison Group(s)/ Subgroup(s)	Type of administrative expenditures, where applicable
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a director indicator of the administrative costs of implementing MMC, which operates under the authority of the Demonstration.
Benchmark	None

Notes. [1] MCOs report administrative costs on State Fiscal Year (September 1 – August 31) cycles. As a result, post-period does not align with DYs. [2] Due to changes in MCO-required reporting over time, MCO administrative costs may not be comparable across all SFYs. MCO=Managed care organization; MMC=Medicaid managed care; SFY=State Fiscal Year, September 1-August 31; DTA=Descriptive trend analysis.

Evaluation Question 8. How do directed and supplemental payment programs support providers and overall Medicaid program sustainability?

H8.1. The Demonstration leverages savings in health care service expenditures to administer directed and supplemental payment programs.

Measure 8.1.1	Total expenditures for DSRIP, DPPs, and SPPs
Definition	Total expenditures per DY for the directed and supplemental payment programs administered through the Demonstration.
Study Population	DPP providers; DSRIP providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A
Technical Specifications	Total expenditures for DSRIP, DPPs, UC program, and PHP-CCP program per DY. Total expenditures should be presented for each program and summed across all programs. The external evaluator will calculate inflation adjustments as necessary.
Exclusion Criteria	Expenditures associated with payment systems not directly funded through the Demonstration (e.g., APMs)
Data Source(s)/Data Collection Methods	• Budget neutrality worksheet (quarterly version)
Comparison Group(s)/ Subgroup(s)	• Type of payment system or funding pool administered through the Demonstration
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a director indicator of the directed and supplemental payment programs available through savings in health care service expenditures under the Demonstration.
Benchmark	None

Notes. DSRIP=Delivery System Reform Incentive Payment; DPP=Directed Payment Program; SPP=Supplemental Payment Program; DY=Demonstration year, October 1-September 30; PHP-CCP=Public Health Providers Charity Care Pool; UC=Uncompensated Care; APM=Alternative Payment Model; DTA=Descriptive trend analysis.

Measure 8.1.2	Medicaid providers receiving payments through DSRIP, DPPs, and SPPs
Definition	Total number of providers per DY enrolled in quality-payment systems and supplemental payment pools administered through the Demonstration.
Study Population	DPP providers; DSRIP providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A
Technical Specifications	Unique count of providers enrolled in DSRIP, any DPP program, UC program, or PHP-CCP program per DY/SFY.[1] Providers enrolled in multiple programs should only be counted once. Provider counts should be presented for each program and summed across all programs.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• DSRIP and DPP administrative data • DSH/UC application • PHP-CCP application
Comparison Group(s)/ Subgroup(s)	• Type of payment system or funding pool administered through the Demonstration
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a director indicator of participation in directed and supplemental payment programs available through savings in health care service expenditures under the Demonstration.
Benchmark	None

Notes. [1] DPPs operate on a State Fiscal Year (September 1-August 31) cycles. DSRIP=Delivery System Reform Incentive Payment; DPP=Directed Payment Program; SPP=Supplemental Payment Program; DY=Demonstration year, October 1-September 30; PHP-CCP=Public Health Providers Charity Care Pool; UC=Uncompensated Care; SFY=State fiscal year, September 1-August 31; DSH=Disproportionate Share Hospital; DTA=Descriptive trend analysis.

H8.2. The directed and supplemental payment programs support Medicaid provider operations and sustainability.

Measure 8.2.1	Participation in directed and supplemental payment programs
Definition	Self-reported participation in current directed and supplemental payment programs (e.g., DPPs, UC, PHP-CCP)
Study Population	DPP providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A – External evaluator will develop survey and/or interview guide
Technical Specifications	Providers will be asked to indicate which directed and supplemental payment programs they currently or previously participated in, as well as programs they plan to participate in.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Provider survey and/or interviews (to be developed by external evaluator)[1]
Comparison Group(s)/ Subgroup(s)	Respondent characteristics, where applicable Participating program (e.g., DPPs, UC, PHP-CCP)
Analytic Methods	• Descriptive statistics • Thematic content analysis
Interpretation	Responses will provide direct insight into how many Medicaid providers receive support directed and supplemental payment programs administered through the Demonstration.
Benchmark	None

Notes. [1] The external evaluator may supplement information gathered from the provider survey and/or interviews with administrative data (e.g., rosters of participating providers).
DPP=Directed Payment Program; SPP=Supplemental Payment Program; UC=Uncompensated Care; PHP-CCP=Public Health Provider-Charity Care Pool.

Measure 8.2.2	Need for directed and supplemental payment programs
Definition	Self-reported need for directed and supplemental payment programs (e.g., DPPs, UC, PHP-CCP).
Study Population	DPP providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A – External evaluator will develop survey and/or interview guide
Technical Specifications	Providers will be asked to describe how claims or costs eligible for rate enhancement or reimbursement under the directed and supplemental payment programs are incurred, and need for funds/payments received. Suggested questions include, but are not limited to: • What are typical sources of costs eligible for directed and supplemental payment programs (e.g., types of care and clients served)? • Has your organization experienced changes in costs eligible for directed and supplemental payment programs over time? If so, what were the changes? • What challenges do costs eligible for directed and supplemental payment programs present to your organization? • What impacts would your organization experience if directed and supplemental payment programs did not exist?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Provider survey and/or interviews (to be developed by external evaluator)
Comparison Group(s)/ Subgroup(s)	Respondent characteristics, where applicable Participating program (e.g., DPPs, UC, PHP-CCP)
Analytic Methods	• Descriptive statistics • Thematic content analysis
Interpretation	Respondent perspectives will provide direct insight into how directed and supplemental payment programs administered through the Demonstration support Medicaid providers in Texas.
Benchmark	None

Notes. SPP=Supplemental Payment Program; UC=Uncompensated Care; PHP-CCP=Public Health Provider-Charity Care Pool.

Measure 8.2.3	Perceived benefits and challenges of directed and supplemental payment programs
Definition	Perceived successes and challenges of directed and supplemental payment programs in supporting: • Provider operations • Provider sustainability
Study Population	DPP providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A – External evaluator will develop survey and/or interview guide
Technical Specifications	Providers will be asked to provide feedback on the successes and challenges of current and previous directed and supplemental payment programs (e.g., DSRIP, DPPs, UC, and PHP-CCP) in supporting provider operations and provider sustainability. Suggested questions include, but are not limited to: • How have directed and supplemental payment programs supported your organization? • Have directed and supplemental payment programs supported your organization's ability to serve different types of clients? If so, how? • Have directed and supplemental payment programs supported your organization's ability to deliver different services? If so, how? • Have directed and supplemental payment programs supported your organization's ability to continue serving Medicaid clients? If so, how? • What challenges remain despite payments your organization receives through directed and supplemental payment programs? • How could the directed and supplemental payment programs better support your organization?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Provider survey and/or interviews (to be developed by external evaluator)
Comparison Group(s)/ Subgroup(s)	Respondent characteristics, where applicable Participating program (e.g., DPPs, UC, PHP-CCP)
Analytic Methods	• Descriptive statistics • Thematic content analysis
Interpretation	Respondent perspectives will provide direct insight into successes and challenges of directed and supplemental payment programs in supporting Medicaid provider operations and sustainability.

Measure 8.2.3	Perceived benefits and challenges of directed and supplemental payment programs
Benchmark	None

Notes. DPP=Directed Payment Program; SPP=Supplemental Payment Program; UC=Uncompensated Care; PHP-CCP=Public Health Provider-Charity Care Pool.

Measure 8.2.4	Provider perspectives on state priorities and policy development
Definition	Provider perspectives on and recommendations for state priorities and policy development related to supporting to Medicaid providers in Texas.
Study Population	DPP providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A – External evaluator will develop survey and/or interview guide
Technical Specifications	Providers will be asked to share perspectives and recommendations for state priorities and policy development related to supporting Medicaid providers. Suggested questions include, but are not limited to: • How can HHSC better support your organization in serving Medicaid beneficiaries? • What successes from the directed and supplemental payment programs would you like to see HHSC continue or expand upon in the future? • What opportunities for improvement would you like to see HHSC incorporate in the future related to the directed and supplemental payment programs?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Provider survey and/or interviews (to be developed by external evaluator)
Comparison Group(s)/ Subgroup(s)	Respondent characteristics, where applicable Participating program (e.g., DPPs, UC, PHP-CCP)
Analytic Methods	• Descriptive statistics • Thematic content analysis
Interpretation	Respondent perspectives will provide direct insight into provider considerations for the directed and supplemental payment programs that support Medicaid providers in Texas.
Benchmark	None

Notes. DPP=Directed Payment Program; UC=Uncompensated Care; PHP-CCP=Public Health Provider-Charity Care Pool.

Evaluation Question 9: Did Texas's quality initiatives impact the development and implementation of quality-based payment systems?

H9.1. The implementation of APMs in Texas Medicaid will increase over time.

Measure 9.1.1	**Percentage of providers implementing APMs**
Definition	The percentage of providers implementing APMs.
Study Population	DPP Providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A
Technical Specifications	The percentage of providers self-reporting implementing at least one APM.
Exclusion Criteria	Providers not participating in MMC
Data Source(s)/Data Collection Methods	• Provider survey
Comparison Group(s)/ Subgroup(s)	Separated by the Health Care Payment Learning & Action Network APM categories and subcategories, if feasible. APM categories are accessible via: https://hcp-lan.org/apm-refresh-white-paper/ Provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA, including DY7-11 data, if feasible
Interpretation	This measure is a direct indicator of APM implementation among Medicaid providers.
Benchmark	None

Notes. APM=Alternative payment model; DPP=Directed Payment Program; PHP-CCP=Public Health Provider – Charity Care Program; UC=Uncompensated Care; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 9.1.2	Percentage of MCOs and providers implementing risk-based APMs
Definition	The percentage of MCOs and providers implementing risk-based APMs.
Study Population	MCOs; DPP Providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A
Technical Specifications	The percentage of MCOs and providers self-reporting implementing at-risk APMs.
Exclusion Criteria	Providers not participating in MMC
Data Source(s)/Data Collection Methods	• MCO APM reporting tool • Provider survey
Comparison Group(s)/ Subgroup(s)	Separated by the Health Care Payment Learning & Action Network APM categories and subcategories, if feasible. APM categories are accessible via: https://hcp-lan.org/apm-refresh-white-paper/ MCO and provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA, including DY7-11 data, if feasible
Interpretation	This measure is a direct indicator of APM implementation.
Benchmark	None

Notes. MCO=Managed care organization; APM=Alternative payment model; DPP=Directed Payment Program; PHP-CCP=Public Health Provider – Charity Care Program; UC=Uncompensated Care; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 9.1.3	Percentage of MCO payments made through APMs
Definition	The percentage of total MCO payments made to providers through APMs.
Study Population	MCOs
Measure Steward or Source	N/A
Technical Specifications	HHSC contractually requires MCOs to establish APMs with providers. By December 31, 2021, MCOs are expected to have at least 50 percent of total provider payments for medical and prescription expenses in APMs, and at least 25 percent in a risk-based model. MCOs are required to report on total provider payments in APMs and risk-based models by July 1, 2022. HHSC may establish new APM targets for MCOs after December 31, 2021.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• MCO APM reporting tool
Comparison Group(s)/ Subgroup(s)	Separated by the Health Care Payment Learning & Action Network APM categories and subcategories, if feasible. APM categories are accessible via: https://hcp-lan.org/apm-refresh-white-paper/ MCO and provider characteristics, where applicable
Analytic Methods	• Descriptive statistics • DTA, including DY7-11 data, if feasible
Interpretation	This measure is a direct indicator of APM implementation.
Benchmark	None

Notes. MCO=Managed care organization; APM=Alternative payment model; HHSC=Health and Human Services Commission; MMC=Medicaid managed care; DTA=Descriptive trend analysis; DY=Demonstration year, October 1-September 30.

Measure 9.1.4	Perceived benefits of implementing APMs
Definition	MCO and provider-identified benefits, or perceived successes, of implementing APMs within the Texas MMC delivery model.
Study Population	MCOs; DPP Providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A
Technical Specifications	Open-ended responses on perceived benefits of implementing APMs.
Exclusion Criteria	Providers not participating in MMC
Data Source(s)/Data Collection Methods	• MCO survey • Provider survey
Comparison Group(s)/ Subgroup(s)	MCO and provider characteristics, where applicable
Analytic Methods	• Content analysis • Thematic content analysis
Interpretation	Respondent perspectives will provide direct insight into successes of implementing APMs in Texas.
Benchmark	None

Notes. APM=Alternative payment model; MCO=Managed care organization; DPP=Directed Payment Program; PHP-CCP=Public Health Provider – Charity Care Program; UC=Uncompensated Care; MMC=Medicaid managed care.

Measure 9.1.5	Perceived challenges with implementing APMs
Definition	MCOs and provider-identified challenges, or perceived drawbacks, of implementing APMs within Texas MMC delivery model.
Study Population	MCOs; DPP Providers; PHP-CCP program providers; UC program providers
Measure Steward or Source	N/A – External evaluator will develop survey
Technical Specifications	Open-ended responses on challenges or perceived drawbacks to the implementation of APMs.
Exclusion Criteria	Providers not participating in MMC
Data Source(s)/Data Collection Methods	• MCO survey • Provider survey
Comparison Group(s)/ Subgroup(s)	MCO and provider characteristics, where applicable
Analytic Methods	Content analysis Thematic content analysis
Interpretation	Respondent perspectives will provide direct insight into barriers or drawbacks associated with implementing APMs in Texas.
Benchmark	None

Notes. APM=Alternative payment model; MCO=Managed care organization; DPP=Directed Payment Program; PHP-CCP=Public Health Provider – Charity Care Program; UC=Uncompensated Care; MMC=Medicaid managed care.

Appendix F. List of Acronyms

Acronym	Full Name
ADHD	Attention-Deficit/Hyperactivity Disorder
AHRQ	Agency for Healthcare Research and Quality
AI	Administrative Interview
AOD	Alcohol or Other Drug
APM	Alternative Payment Model
BP	Blood Pressure
CAHPS®	Consumer Assessment of Healthcare Providers and Systems
CDC	Comprehensive Diabetes Care
CHIP	Children's Health Insurance Program
CHIRP	Comprehensive Hospital Increased Reimbursement Program
CMHC	Community Mental Health Clinic
CMS	Centers for Medicare and Medicaid Services
CPT	Current Procedural Terminology Code
CPW	Case Management for Children and Pregnant Women
DAP	Office of Data, Analytics, and Performance
DMO	Dental Maintenance Organization
DPP	Directed Payment Program
DPP BHS	Directed Payment Program for Behavioral Health Services
DRTS	Demand Response Transportation Services
DSH	Disproportionate Share Hospital
DSRIP	Delivery System Reform Incentive Payment
DTA	Descriptive Trend Analysis
DY	Demonstration Year
ED	Emergency Department
EQRO	External Quality Review Organization
FFS	Fee-For-Service
FFY	Federal Fiscal Year
FSR	Financial Statistical Report
HbA1c	Hemoglobin A1c
HCAHPS®	Hospital Consumer Assessment of Healthcare Providers and Systems
HCBS	Home and Community-Based Services

Acronym	Full Name
HEDIS®	Healthcare Effectiveness Data and Information Set
HHSC	Texas Health and Human Services Commission
ICD-10-CM	International Classification of Diseases, 10th Revision, Clinical Modification Code
ICHP	Institute for Child Health Policy
IDD	Intellectual or Developmental Disability
IPSD	Index Prescription Start Date
ITS	Interrupted Time Series
LBHA	Local Behavioral Health Authority
LHD	Local Health Department
LMHA	Local Mental Health Authority
LTSS	Long-Term Services and Supports
MCO	Managed Care Organization
MEG	Medicaid Eligibility Group
MF	Medically Fragile
MLR	Multiple Linear Regression
MMC	Medicaid managed care
MTO	Managed Transportation Organization
NCI-AD™	National Core Indicators – Aging and Disabilities
NCQA	National Committee for Quality Assurance
NEMT	Nonemergency Medical Transportation
NPI	National Provider Identifier
P4Q	Pay-for-Quality
PIP	Performance Improvement Project
PCN	Patient Control Number
PDI	Pediatric Quality Indicator
PHD	Public Health District
PHP-CCP	Public Health Provider Charity Care Pool
PMPM	Per Member Per Month
PPA	Potentially Preventable Admission
PPC	Potentially Preventable Complication
PPE	Potentially Preventable Event
PPR	Potentially Preventable Readmission

Acronym	Full Name
PPV	Potentially Preventable Emergency Department Visit
PQI	Prevention Quality Indicator
QAPI	Quality Assurance and Performance Improvement
QIPP	Quality Incentive Payment Program
RAPPS	Rural Access to Primary and Preventive Services
RUCC	Rural-Urban Continuum Codes
SDA	Service Delivery Area
SFY	State Fiscal Year
SPP	Supplemental Payment Program
SQL	Structured Query Language
STC	Special Terms and Conditions
THLC	Texas Healthcare Learning Collaborative
THTQIP	Texas Healthcare Transformation and Quality Improvement Program
TIPPS	Texas Incentives for Physician and Professional Services
TMHP	Texas Medicaid and Healthcare Partnership
TNC	Transportation Network Companies
TPI	Texas Provider Identifier
UC	Uncompensated Care
UHRIP	Uniform Hospital Rate Increase Program
WOW	Without Waiver
WW	With Waiver

Appendix G. References

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Appendix H. CMS-Approved Demonstration Amendments

Table 20. Summary of CMS-Approved Demonstration Amendments Since January 2021

Amendment	Approval Date	Brief Description	Evaluation Components Impacted
NEMT Services	6/8/2021	Transitioned NEMT services to managed care and changed policies regarding demand response transportation services and transportation network companies.	HHSC included a NEMT component into the CMS-approved Evaluation Design (Evaluation Question 1).
Medically Fragile	11/16/2023	Allowed medically fragile individuals enrolled in STAR+PLUS HCBS to receive services beyond the individual cost limit through managed care.	A new measure (Measure 2.1.2) was added to the evaluation in response to this amendment. Existing measures under Evaluation Question 2 may also be impacted. This amendment may also impact existing measures under Evaluation Questions 3, 6, and 7, as medically fragile individuals are included in the populations for those measures. However, Evaluation Questions 3, 6, and 7 are focused on MMC programs or the THTQIP Demonstration at large, and only a small number of those individuals may receive additional services through the medically fragile amendment (no more than 150 at a time, which is less than 0.1% of the STAR+PLUS population). Therefore, any observed changes at the MMC program- or demonstration-level would not be attributable to the medically fragile amendment. Further, the sampling methodology for state-reported HEDIS and CAHPS measures prevents the state from isolating MMC program-level measures for the medically fragile population.

Amendment	Approval Date	Brief Description	Evaluation Components Impacted
CPW Services	11/16/2023[1]	Transitioned contracting and reimbursement for CPW providers delivering case management services to MCOs.	HHSC will execute a stand-alone evaluation of the CPW amendment, per CMS approval. The evaluation design for the CPW-specific assessment is provided in Appendix I. It is also possible this amendment may impact existing measures under Evaluation Questions 3, 6, and 7, but impacts, if any, would be limited given the relatively small number of individuals who receive CPW services (just under 10,000 per year, which is less than 0.5% of the STAR population[2]). Further, the sampling methodology for state-reported HEDIS and CAHPS measures prevents the state from isolating MMC program-level measures for individuals who receive CPW services.

Notes. [1] MCOs began overseeing CPW services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. HHSC submitted an amendment to CMS to allow CPW services to be delivered via managed care under the THTQIP Demonstration on May 5, 2022, and CMS approved the amendment on November 16, 2023. [2] The overwhelming majority of individuals receiving CPW services are enrolled in the STAR MMC Program. STAR+PLUS=MMC program serving aged and disabled clients; HCBS= Home and community-based services; CPW=Case Management for Children and Pregnant Women; MCO=Managed care organization.

Appendix I. Evaluation Design for Case Management for Children and Pregnant Women Amendment

Introduction

Case Management for Children and Pregnant Women (CPW) provides case management services to assist certain individuals in gaining access to needed medical, social, educational, and other services. CPW is available for children ages 20 and younger with a health condition or health risk and high-risk pregnant women of any age. Services include: 1) a face-to-face comprehensive visit with the client and their family to perform a family needs assessment and develop a service plan to address the client's unmet needs; and 2) a face-to-face or telephone follow-up visits to assist the client and their family with obtaining the necessary services until their needs are met. At the time of writing, CPW services are delivered through CPW providers who must be a licensed registered nurse or licensed social worker[30].

CPW services were previously provided via Fee-for-service (FFS), including for clients enrolled in Medicaid managed care (MMC), until September 1, 2022, when Texas Medicaid managed care organizations (MCOs) began contracting with and reimbursing CPW providers for billable case management services, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021. The transition of the CPW benefit under managed care encourages the maintenance of a coordinated care delivery system through coordination of case management services that are available to a client through MCOs and CPW providers.

Texas Health and Human Services (HHSC) submitted an amendment to CMS to allow CPW services to be delivered via managed care under the THTQIP 1115 Demonstration on May 5, 2022. CMS approved the amendment on November 16, 2023. As part of their approval, CMS outlined expectations for the state to accommodate this amendment within the evaluation design. Given the expansive scope of the CMS-approved Evaluation Design, paired with the focused nature of this amendment, HHSC elected to conduct a stand-alone evaluation on the transition of CPW to managed care, per CMS suggestion. HHSC's Office of Data, Analytics, and Performance (DAP) will execute the evaluation of the CPW services amendment. DAP is located under the Office of the Chief Policy and Regulatory Office, an organizational branch that is separate from the Medicaid program administration and oversight and has the necessary knowledge and experience to execute the evaluation. Additionally, DAP has experience evaluating Medicaid

[30]House Bill 1575, 88th Legislature, Regular Session, 2023, authorized doulas and community health workers to provide CPW services. HHSC submitted a state plan amendment to CMS on July 12, 2024, however, at the time of writing, CMS had not yet approved this change.

programs for both the state legislature and CMS, as CMS has previously approved DAP to conduct independent evaluations of 1915(b)(4) waivers.

Evaluation Questions and Hypotheses

To assess the transition of CPW services to MMC, Texas developed one evaluation question and two hypotheses.

- Evaluation Question 1: Did the carve-in of CPW services into MMC support care coordination for beneficiaries?
  - Hypothesis 1.1: Access to CPW-related case management will maintain or improve after the carve-in of CPW services into MMC.
  - Hypothesis 1.2: The carve-in of CPW services into MMC will support the development and maintenance of a coordinated care delivery system.

Evaluation Methods

This evaluation will rely on two study designs: a one-group pretest-posttest design, as well a one-group posttest only design. The one-group pretest-posttest study design will use consecutive population-based observations to describe changes in access to and utilization of CPW-related services before and after the transition to MMC. This portion of the evaluation will use a three-year pre-period (September 1, 2019 to August 31, 2022), and a three-year post-period (September 1, 2022 to August 31, 2025). The three year pre-and post-periods provide sufficient time to examine impacts of the transition of CPW-services to MMC, while ensuring aggregate results are not biased by noise (e.g., historical or environmental changes four or more years removed from the policy change which may influence aggregate pre- and post-period values).[31]

For the one-group posttest only design, MCOs will be surveyed to understand how CPW-related services connect individuals to necessary services, and the perceived benefits and challenges of transitioning CPW into MMC. The remaining sections provide additional details on the proposed measures, study populations, data sources, and analytic methods for the evaluation.

Evaluation Measures

Several measures have been identified to operationalize the two hypotheses. Table 21 on page 188 provides an overview of the proposed measures.

[31] DAP may extend the post period for no more than two additional years if unanticipated data challenges prevent DAP from executing the evaluation design as proposed while leveraging a three-year post-period.

Table 21. CPW Evaluation Hypotheses and Measures

Evaluation Hypothesis	Measure(s)	Study Population	Data Source(s) or Data Collection Method(s)	Analytic Methods
H1.1. Access to CPW-related case management will maintain or improve after the carve-in of CPW services into MMC.	1.1.1 Number of CPW requests submitted to MCOs 1.1.2 Number of CPW requests resulting in MCO-delivered service coordination 1.1.3 Number of MMC members receiving provider-delivered case management (CPW) 1.1.4 Average CPW sessions per person per year 1.1.5 Number of enrolled CPW providers 1.1.6 Number of active CPW providers	• MCOs • CPW recipients • CPW providers	• CPW MCO Frew Reporting • Client-level enrollment files • FFS claims and MMC encounters data • Provider-level enrollment files	• Descriptive statistics • Descriptive trend analysis • Interrupted time series • Subgroup analysis[1]
H1.2. The carve-in of CPW services into MMC will support the development and maintenance of a coordinated care delivery system.	1.2.1 Need for CPW, including services to which individuals are connected 1.2.2 Perceived benefits and challenges of CPW after the carve-in	• MCOs	• MCO survey	• Descriptive statistics • Content analysis

Notes. [1] Subgroup analysis will only be performed where applicable. CPW=Case Management for Children and Pregnant Women; MMC=Medicaid managed care; MCO=Managed care organization; FFS=Fee-for-service.

Study Populations

Populations of interest in this study will include MMC members receiving CPW services (children ages 20 and younger with a health condition or health risk, and high-risk pregnant women of any age), providers delivering CPW services, and MCOs offering CPW-related service coordination.

Data Sources

The evaluation will leverage administrative and primary data sources to evaluate the CPW amendment, as outlined below.

- **FFS claims and MMC encounters data.** FFS claims and MMC encounter data will be used to identify CPW services members received. These data are processed and housed by Texas Medicaid and Health Partnership (TMHP) and are finalized on an eight-month lag.
- **Client-level enrollment files.** The client enrollment files will be used to obtain information about a CPW client's age, sex, race/ethnicity, and county of residence. Enrollment data will be accessed using DAP's Data Repository that is finalized on an eight-month lag.
- **Provider-level enrollment files.** The provider enrollment files will be used to identify CPW providers who are authorized to provide CPW services, and to obtain information on providers who delivered CPW services.
- **CPW MCO Frew Reporting.** All contracted MCOs are required to report on CPW activities to HHSC. These reports will be used to tally the number of requests for CPW services MCOs received, the number of requests that resulted in MCO-delivered service coordination, and the number of requests that resulted in paid claims to a CPW provider.
- **MCO survey.** MCOs will be surveyed to understand how CPW-related services connect individuals to necessary services, and the perceived benefits and challenges of CPW services after the transition to MMC.

Analytic Methods

Quantitative and qualitative methods will be used for the evaluation of CPW services. This section describes the proposed analytic strategies for examining the measures presented in Table 21 on page 188. Analytic methods will incorporate subgroup analyses (e.g., by member or provider characteristics), where applicable, to strengthen the validity of observed outcomes. Additionally, DAP will attempt to account for or provide context for changes in CPW-related policies[32], historical programmatic factors, such as amendments to the Demonstration (see Appendix H), and environmental and historical confounds (e.g., the end of the COVID-19 pandemic), as applicable.

Descriptive and Inferential Statistics

All evaluation measures—except open-ended primary data collection questions—may be examined through a variety of descriptive statistics, including estimates of central tendency and dispersion. Potential inferential analyses include bivariate statistics, parametric tests (e.g., t-tests), and non-parametric tests (e.g., McNemar's test, Wilcoxon signed-rank test).

Descriptive Trend Analysis

For measures where there are insufficient observations to conduct more rigorous time series analyses, such as interrupted time series (e.g., annually calculated measures), DAP will implement descriptive trend analysis (DTA) to examine trends over time. DTA is an alternative approach to time-series analysis which plots and analyzes time-series data calculated at equally spaced intervals to explain patterns in selected measures over time. DTA typically focuses on identification and quantification of a trend through the use of correlation coefficients and ordinary least squares regression. For outcome measures using DTA, the basic regression model is:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 MMC\ transition + \beta_3 controls + \varepsilon_t$$

Where, $\beta_0$reflects the baseline level of the outcome at the beginning of the study period; $\beta_1 time$ estimates the trends in the outcome variable; $\beta_2 MMC\ transition$ reflects the impact of the MMC transition; and $\beta_3 controls$ reflects potential control variables, such as client- or provider-level characteristics, or programmatic and historical factors.

[32] The state has made, or plans to make, changes to CPW-related policies during the study period. These changes include the termination of prior authorization requirements (effective July 1, 2024), the inclusion of two new CPW provider types (pending CMS approval), and a new rule that requires MCOs to assess all pregnant women for non-medical needs (effective September 1, 2024). Findings for this evaluation will be assessed prior to and after these policy changes which directly or indirectly impact CPW services.

Interrupted Time Series

Interrupted time series (ITS) analysis uses aggregate data collected over equally spaced intervals before and after a policy change to measure changes in outcomes over time. A key assumption of ITS is that data trends before the policy change can be extrapolated to predict trends had the policy change not occurred. If the transition of CPW services to MMC impacted an outcome of interest, the post-transition trend will have a slope that is statistically different from the pre-transition trend. When properly executed, ITS is a valuable method to evaluate the success, failure, or unintended consequences of health care policy on outcomes (Lagarde, 2012).

For outcome measures using ITS, the basic segmented regression model with one intervention or change point examines the outcome of interest (Y_t) over time, before and after the policy change:

$$Y_t = \beta_0 + \beta_1 time + \beta_2 MMC\ transition + \beta_3 postslope + \varepsilon_t$$

From the basic statistical model, β_0 reflects the baseline level of the outcome at the beginning of the pre-period; β_1 estimates the trend before the MMC transition; β_2 estimates the immediate impact of the MMC transition; and β_3 reflects the change in trend after the MMC transition. To ease interpretation, ITS results are presented as: baseline level, trend before MMC service delivery change, level change after MMC service delivery change, and trend after MMC service delivery change.

Content Analysis

DAP will utilize content analysis to supplement or expand upon MCO survey results analyzed using descriptive statistics. Content analysis systematically examines documents to extract descriptive data that can be quantified in a structured dataset for statistical testing (Vaismoradi, Turunen, & Bondas, 2013).

Methodological Limitations

The evaluation of CPW services will include the entire population of individuals receiving, or providers/MCOs delivering, these services. While there may be a group of individuals eligible for, but not receiving CPW services, this group is not actively monitored by HHSC. Furthermore, because there are a broad range of conditions which may qualify an individual to receive CPW services, it is not feasible to determine individuals who may qualify for, but opt out of, CPW services. As a result, there is no viable comparison group for the evaluation. The evaluation will leverage pre- and post-period data, rigorous quasi-experimental designs, and subgroup analyses, where applicable. However, without a true comparison group, differences in outcomes may not imply causality.

Another limitation associated with the evaluation is the use of administrative data. These data have been designed and collected for billing purposes but are used in the evaluation to determine changes in access to CPW services. Nevertheless, most

measures derived from administrative sources are validated and widely used for evaluation purposes. In addition, TMHP performs internal edits for data quality and completeness to help ensure data reliability. Use of administrative data is also limited by data lags, which pose a challenge to measuring and reporting changes in a timely manner (Schoenberg, Heider, Rosenthal, Schwartz, & Kaye, 2015). Measures using FFS claims or MMC encounters require an approximate eight-month data lag for claims adjudication.

Similarly, there are limitations associated with the reliance on MCO-reported data. MCOs provide an array of service coordination activities, of which only a subset are specific to CPW. Fortunately, HHSC required MCOs to report on CPW-related service coordination after the transition into MMC, but these data were designed for administrative and oversight purposes, not for research, and are only available in the post-period. While the currently available data sources provide valuable information about CPW utilization, they do not provide insight into MCO perspectives on the transition of CPW services to MMC. To help address some of these limitations, the evaluation will develop and administer a survey to better understand MCO perspectives on the transition of CPW services into MMC. However, survey responses will be susceptible to common threats to validity, such as selection or sampling bias, and recall bias (especially since the survey will not be administered until approximately two years after the service change).

Lastly, study periods for this evaluation component overlap with the COVID-19 pandemic. The COVID-19 pandemic substantially impacted Medicaid enrollment and service utilization, which may impact evaluation results. DAP will leverage public use data files on COVID-19 confirmed cases and hospitalizations in Texas to better understand the impact of the pandemic on evaluation measures, where applicable.

Despite these limitations, the evaluation will provide insight into changes in CPW services following the transition to MMC and inform whether Texas has continued making progress towards expanding managed care to new populations and services.

Evaluation Timeline

Table 22 details the timeline for submission of evaluation report deliverables.

Table 22. CPW Evaluation Timeline

Date	Deliverable
April 29, 2024	HHSC submits Initial Evaluation Proposal to CMS
August 13, 2024	HHSC submits Revised Evaluation Design to CMS
March 31, 2027[1]	HHSC attaches CPW Evaluation Report as supplement to Interim Evaluation Report #2
September 30, 2029[1]	HHSC attaches CPW Evaluation Report as supplement to Interim Evaluation Report #3
March 31, 2032[1]	HHSC attaches CPW Evaluation Report as supplement to Summative Evaluation Report

Notes. [1] HHSC will attach the CPW Evaluation Report alongside all Demonstration deliverables, but DAP expects the CPW evaluation to be completed by Interim Report #2. HHSC=Health and Human Services Commission; CMS=Centers for Medicare and Medicaid.

Detailed Tables

Evaluation Question 1: Did the carve-in of CPW services into MMC support care coordination for beneficiaries?

Hypothesis 1.1. Access to CPW-related case management will maintain or improve after the carve-in of CPW services into MMC.

Measure 1.1.1	**Number of CPW requests submitted to MCOs**
Definition	The total number of unique CPW requests received by the MCO.
Study Population	MCOs
Measure Steward or Source	N/A
Technical Specifications	Total number of unique CPW requests received by the MCOs. MCOs report on CPW requests quarterly.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• CPW MCO Frew Reporting
Comparison Group(s)	Post Only: 9/1/2022 – 8/31/2025[1,2]
Subgroup(s)	The number of CPW requests received may be presented by MCO reported referral source (e.g., Maximus, DSHS, prior authorizations/approvals, or other referrals) and MMC program, if feasible.
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of the number of CPW-related referrals MCOs received after the carve-in of CPW services into MMC.
Benchmark	None

Notes. [1] MCOs began contracting with and reimbursing CPW providers for billable case management services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. CMS approved the amendment on November 16, 2023. Pre-and post-periods align with the service delivery change, rather than the CMS approval date. [2] The state has made, or plans to make, changes to CPW-related policies during the study period. Findings for this evaluation will be assessed prior to and after policy changes which directly or indirectly impact CPW services. CPW=Case Management for Children and Pregnant Women; MCO=Managed care organization; MMC=Medicaid managed care; DTA=Descriptive trend analysis.

Measure 1.1.2	Number of CPW requests resulting in MCO-delivered service coordination
Definition	Total CPW requests received by MCO that resulted in member being enrolled in MCO-delivered service coordination.
Study Population	MCOs
Measure Steward or Source	N/A
Technical Specifications	Total number of unique CPW requests received by the MCOs that resulted in: • The member receiving MCO-provided service coordination, or • The member receiving both MCO-provided service coordination and paid claims to a CPW provider. MCOs report on CPW requests quarterly.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• CPW MCO Frew Reporting
Comparison Group(s)	• Post Only: 9/1/2022 – 8/31/2025[1,2]
Subgroup(s)	The number of CPW requests received may be presented by referral source (e.g., Maximus, DSHS, prior authorizations/approvals, or other referrals) and MMC program, if feasible.
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of the number of CPW-related referrals that resulted in MCO-provided service coordination after the carve-in of CPW services into MMC.
Benchmark	None

Notes. [1] MCOs began contracting with and reimbursing CPW providers for billable case management services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. CMS approved the amendment on November 16, 2023. Pre-and post-periods align with the service delivery change, rather than the CMS approval date. [2] The state has made, or plans to make, changes to CPW-related policies during the study period. Findings for this evaluation will be assessed prior to and after policy changes which directly or indirectly impact CPW services. CPW=Case Management for Children and Pregnant Women; MCO=Managed care organization; MMC=Medicaid managed care; DTA=Descriptive trend analysis.

Measure 1.1.3	Number of MMC members receiving provider-delivered case management (CPW)
Definition	Unduplicated count of MMC members who received at least one provider-delivered CPW service.
Study Population	MMC members
Measure Steward or Source	N/A
Technical Specifications	Unique count of MMC members (Medicaid IDs) with a Medicaid-paid FFS claim or MMC encounter for a CPW service. The unique count of MMC members will be calculated monthly.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• FFS Claims Data • MMC Encounters Data
Comparison Group(s)	Pre-post comparison:[1,2] • Pre: 9/1/2019 – 8/31/2022 • Post: 9/1/2022 – 8/31/2025
Subgroup(s)	Member demographic and geographic characteristics, where applicable CPW service population (children with health risk, health condition, or high-risk pregnancy), and corresponding diagnoses, if feasible
Analytic Methods	• Descriptive statistics • ITS
Interpretation	This measure is a direct indicator of the number of members receiving provider-delivered CPW services prior to and after the carve-in of CPW services into MMC.
Benchmark	None

Notes. [1] MCOs began contracting with and reimbursing CPW providers for billable case management services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. CMS approved the amendment on November 16, 2023. Pre-and post-periods align with the service delivery change, rather than the CMS approval date. [2] The state has made, or plans to make, changes to CPW-related policies during the study period. Findings for this evaluation will be assessed prior to and after policy changes which directly or indirectly impact CPW services. MMC=Medicaid managed care; CPW=Case Management for Children and Pregnant Women; FFS=Fee-for-service; ITS=Interrupted time series.

Measure 1.1.4	Average CPW sessions per person per year
Definition	Average number of unique CPW services per member per state fiscal year.
Study Population	CPW recipients
Measure Steward or Source	N/A
Technical Specifications	**Numerator**: Count of all paid CPW services (FFS claims or MMC encounters) **Denominator**: Unique PCN count of MMC members with a paid FFS claim or MMC encounter for any CPW service **Rate**: Numerator / Denominator The rate will be calculated per state fiscal year.[1]
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• FFS Claims Data • MMC Encounters Data
Comparison Group(s)	Pre-post comparison:[2,3] • Pre: 9/1/2019 – 8/31/2022 • Post: 9/1/2022 – 8/31/2025
Subgroup(s)	Member demographic and geographic characteristics, where applicable CPW service population (children with health condition, or high-risk pregnancy), if feasible
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of the number of provider-delivered CPW services MMC members received of prior to and after the carve-in of CPW services into MMC.
Benchmark	None

Notes. [1] Prior to July 1 ,2024, CPW services were initially authorized for one year, and included one comprehensive visit and two follow-up visits. Additional services were provided as needed. The authorization requirement was removed on July 1, 2024. Average utilization per person will be calculated per year to reflect the standard authorization period of these services for the majority of the study period. [2] MCOs began contracting with and reimbursing CPW providers for billable case management services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. CMS approved the amendment on November 16, 2023. Pre-and post-periods align with the service delivery change, rather than the CMS approval date. [3] The state has made, or plans to make, changes to CPW-related policies during the study period. Findings for this evaluation will be assessed prior to and after policy changes which directly or indirectly impact CPW services. CPW=Case Management for Children and Pregnant Women; FFS=Fee-for-service; MMC=Medicaid managed care; PCN=Patient Control Number; DTA=Descriptive trend analysis.

Measure 1.1.5	Number of enrolled CPW providers
Definition	Total number of CPW providers enrolled in Medicaid.
Study Population	CPW providers
Measure Steward or Source	N/A
Technical Specifications	Unique count of CPW providers enrolled in Medicaid. The unique providers count will be calculated monthly.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• Provider-level enrollment files
Comparison Group(s)	Pre-post comparison:[1,2] • Pre: 9/1/2019 – 8/31/2022 • Post: 9/1/2022 – 8/31/2025
Subgroup(s)	Provider and geographic characteristics, where applicable
Analytic Methods	• Descriptive statistics • ITS
Interpretation	This measure is a direct indicator of the number of Medicaid providers eligible to provide CPW services prior to and after the carve-in of CPW services into MMC.
Benchmark	None

Notes. [1] MCOs began contracting with and reimbursing CPW providers for billable case management services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. CMS did not approve the amendment until November 16, 2023. Pre-and post-periods align with the service delivery change, rather than the CMS approval date. [2] The state has made, or plans to make, changes to CPW-related policies during the study period. Findings for this evaluation will be assessed prior to and after policy changes which directly or indirectly impact CPW services. CPW=Case Management for Children and Pregnant Women; ITS=Interrupted time series; MMC=Medicaid managed care.

Measure 1.1.5	Number of active CPW providers
Definition	Total number unique Medicaid providers listed on paid claims or encounters for a CPW service.
Study Population	CPW providers
Measure Steward or Source	N/A
Technical Specifications	Unique count of CPW providers (NPIs and/or TPIs) listed as billing provider on a Medicaid-paid CPW service. Unique counts of performing or rending providers may also be reported, based availability of that information. The unique providers count will be calculated monthly.
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• FFS Claims Data • MMC Encounters Data • Provider-level enrollment files
Comparison Group(s)	Pre-post comparison:[1,2] • Pre: 9/1/2019 – 8/31/2022 • Post: 9/1/2022 – 8/31/2025
Subgroup(s)	Provider and geographic characteristics, where applicable CPW service population (children with health condition, or high-risk pregnancy), if feasible
Analytic Methods	• Descriptive statistics • DTA
Interpretation	This measure is a direct indicator of the number of Medicaid providers providing CPW services prior to and after the carve-in of CPW services into MMC.
Benchmark	None

Notes. [1] MCOs began contracting with and reimbursing CPW providers for billable case management services on September 1, 2022, in accordance with House Bill 133, 87th Legislature, Regular Session, 2021, which mandated that HHSC implement a seamless transition of CPW services from FFS to managed care without any interruption in services. CMS did not approve the amendment until November 16, 2023. Pre-and post-periods align with the service delivery change, rather than the CMS approval date. [2] The state has made, or plans to make, changes to CPW-related policies during the study period. Findings for this evaluation will be assessed prior to and after policy changes which directly or indirectly impact CPW services. CPW=Case Management for Children and Pregnant Women; NPI= National Provider Identifier; FFS=Fee-for-service; MMC=Medicaid managed care; DTA=Descriptive trend analysis.

Hypothesis 1.2. The carve-in of CPW services into MMC will support the development and maintenance of a coordinated care delivery system.

Measure 1.2.1.	Need for CPW, including services to which individuals are connected
Definition	MCO-identified need for and service connections provided through CPW-related services.
Study Population	MCOs
Measure Steward or Source	N/A

Technical Specifications	MCOs will be asked to describe the types of services individuals referred to CPW services are most in need of, and how MCO-provided service coordination helps address those needs.
	
	Suggested questions may include, but are not limited to:
	• What are the most common types of needs individuals referred to CPW services have?
	  ○ Did the needs of members receiving CPW-related service coordination change after the carve-in of CPW services into MMC?
	• What are the most common types of services or supports individuals receiving CPW-related service coordination are connected to?
	  ○ Did these services or supports change after the carve-in of CPW services into MMC?

Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• MCO survey
Comparison Group(s)	None
Subgroup(s)	None
Analytic Methods	• Descriptive statistics • Content analysis
Interpretation	Respondent perspectives will provide direct insight into the perceived need for CPW services, and whether there were variations in need or provided connections after the carve-in of CPW services into MMC.
Benchmark	None

Notes. CPW=Case Management for Children and Pregnant Women; MCO=Managed care organization; MMC=Medicaid managed care.

Measure 1.2.2	Perceived benefits and challenges of CPW after the carve-in
Definition	MCO perceived benefits and challenges after the carve-in of CPW services into MMC.
Study Population	MCOs
Measure Steward or Source	N/A
Technical Specifications	MCOs will be asked to provide feedback on the successes and challenges of CPW services after the carve-in into MMC. Suggested questions include, but are not limited to: • How do CPW services help address members' needs? • Has the carve-in of CPW services into MMC improved your ability to address members' needs? If so, how? • Has the carve-in of CPW services into MMC introduced challenges to your ability to address members' needs? If so, how?
Exclusion Criteria	None
Data Source(s)/Data Collection Methods	• MCO survey
Comparison Group(s)	None
Subgroup(s)	None
Analytic Methods	• Descriptive statistics • Content analysis
Interpretation	Respondent perspectives will provide direct insight into the perceived benefits of CPW services, and benefits or challenges of the carve-in of CPW services into MMC.
Benchmark	None

Notes. CPW=Case Management for Children and Pregnant Women; MCO=Managed care organization; MMC=Medicaid managed care.