

HHSC Health IT Strategic Plan Summary

The Texas Health and Human Services Commission (HHSC) Health Information Technology (Health IT) Strategic Plan is a requirement of the Texas 1115 Healthcare Transformation and Quality Improvement Program Waiver, Special Terms and Conditions (STC) 39. Unlike the transition plan for the Delivery System Reform Incentive Payment (DSRIP) program, there are not financial penalties associated with STC 39. The deadline to submit the plan to the Centers for Medicare & Medicaid Services (CMS) is March 31, 2020.¹

The plan consists of strategies and milestones related to Health IT adoption and health information exchange (HIE) in Texas, which will benefit stakeholders served by the 1115 waiver. The plan describes and complements Texas' existing Health IT environment and Medicaid initiatives.

The plan focuses on three Health IT/HIE strategies stemming from the Texas Health Information Exchange Implementation Advance Planning Document (HIE IAPD):

1. **Strategy 1: Medicaid Provider HIE Connectivity** – This strategy assists Local HIEs with connecting to ambulatory providers and hospitals in their service regions.
2. **Strategy 2: Texas Health Information Exchange (HIE) Infrastructure** – This strategy aids in building connectivity between the Texas Health Services Authority (THSA), which has a statutory charge to facilitate HIE statewide, and the state's Local HIEs.
3. **Strategy 3: Emergency Department Encounter Notification (EDEN) System** – This strategy promotes connection between Local HIEs' information technology systems and hospitals to exchange Admission, Discharge, and Transfer (ADT) messages.

The Health IT Strategic Plan also defines milestones, as follows, related to Health IT adoption by Medicaid services providers and plans for the exchange of clinical health information related to Texas Medicaid clients.

¹ While STC 39 specifies that HHSC will aim to submit the HIT plan to CMS by October 1, 2019, HHSC negotiated an extension with CMS until March 31, 2020 to allow for a stakeholder comment process.

HHSC Health IT Strategic Plan Summary

Health IT/ HIE Strategy	Service or Application	Measure	FFY 2020/2021 Milestones
HIE IAPD Strategy 1	Connections	Number of Medicaid providers connected to Local HIEs by this project, with capability to transfer C-CDA and/or ADT-based clinical data	Goal is two hundred (200) Medicaid providers (including hospital and ambulatory providers) connected to Local HIEs as an outcome of this project
HIE IAPD Strategy 2	Onboarding Local HIEs to THSA	Number of HIEs connected to the THSA by this project	Goal is eight (8) HIEs connected to THSA as an outcome of this project
HIE IAPD Strategy 2	Master Patient Index	Implementation of Master Patient Index	Master Patient Index implemented
HIE IAPD Strategy 3	Medicaid Emergency Department Encounter Notification	Number of HIEs contributing hospital emergency department ADT data	Goal is eight (8) HIEs contributing hospital emergency department ADT data as an outcome of this project
Initiative	PULSE	Program Planning and Implementation	Develop Plan and PULSE Application. Test and Launch PULSE Application and Implement Program



TEXAS
**Health and Human
Services**

Health Information Technology (Health IT) Strategic Plan

November 2019

Submitted to:

Centers for Medicare and Medicaid Services

Submitted by:

Texas Health and Human Services Commission

Contents

Executive Summary	3
Texas HHS Vision and Mission and Medicaid Health IT Goals	4
Healthcare Transformation and Quality Improvement Program Waiver Background	5
Medicaid Managed Care Expansion	5
Delivery System Reform Incentive Payment (DSRIP) Program	6
Strategic Plan Development Activities	7
<i>1115 Health IT Toolkit</i> Health IT Topic Discussion	8
Overview of Health IT Topics.....	8
Health IT Topic: The Use of Standards in Health Information Technology Procurement	9
Health IT Topic: Leveraging the Texas Health IT Ecosystem.....	11
Health IT Topic: Accountable Oversight and Rules of Engagement for Health IT and Health Information Exchange (a.k.a. Governance)	15
Health IT Topic: Identity Management, Provider Directories and Attribution	18
Health IT Topic: Promoting and Funding Provider Health IT Adoption and Use	19
Health IT Topic: Advancing the Use of Health IT to Support Quality Measurement.....	23
Health IT Topic: Health IT and Service Delivery	26
Goals/Milestones.....	34
Conclusion.....	35
Appendix A – Timeline of Health IT Legislation in Texas	37
Appendix B – Texas Medicaid Value-Based Initiatives.....	38
Appendix C – Public Health Collaborations Advancing Health IT	41

Executive Summary

The Centers for Medicare & Medicaid Services (CMS) approved the renewal of the Texas Medicaid 1115 Healthcare Transformation and Quality Improvement Program demonstration waiver on December 17, 2017. Special Terms and Conditions (STC) 39 of the waiver renewal requires the Texas Health and Human Services Commission (HHSC) to develop a Health Information Technology (Health IT) Strategic Plan related to activities in the demonstration that will “link services and core providers across the continuum of care to the greatest extent possible” using Health IT initiatives and strategies.

In Texas, the 1115 waiver governs the Uncompensated Care and Delivery System Reform Incentive Payment (DSRIP) programs. The waiver also represents the authority for most Texas Medicaid managed care, which is the service delivery model for about 93 percent of Texas Medicaid clients. As such a large purchaser of healthcare, Texas Medicaid has the unique opportunity to contribute to a global Health IT approach for the state. Texas Medicaid supports the Texas Health Information Exchange (HIE), five active community-based Health Information Exchanges (Local HIEs) and the health provider community by providing governance and infrastructure to ensure greater interoperability within the state. The Health IT Strategic Plan outlined in this document is designed to implement capabilities complementary to Texas Medicaid and the state’s Health IT ecosystem.

Texas is working to increase access to health data across the healthcare continuum, through improvements in provider technologies, such as electronic health record (EHR) systems and strategic use of limited resources to develop methods for establishing interoperability. Access to Medicaid client information supports decision-making by a wide range of entities, including patients, healthcare workers, government agencies and others.

The following three Health IT/HIE strategies detailed in the Texas Health Information Exchange Implementation Advance Planning Document (HIE IAPD) provide the foundation and building blocks for bringing this Health IT Strategic Plan to fruition:

1. **Strategy 1: Medicaid Provider HIE Connectivity** – This strategy is intended to assist Local HIEs with connecting the ambulatory providers and hospitals in their respective areas.
2. **Strategy 2: Texas Health Information Exchange (HIE) Infrastructure** – This strategy aids with building connectivity between the Texas Health Services Authority (THSA), which has a statutory charge to facilitate HIE statewide, and the state’s Local HIEs.
3. **Strategy 3: Emergency Department Encounter Notification (EDEN) system** – Texas statewide Health Information Exchange Plan promotes Local HIEs connecting hospitals to their information technology systems and exchanging Admission, Discharge, Transfer (ADT) messages.

This Health IT Strategic Plan discusses how Medicaid managed care can be leveraged to inform the transition to value-based care as a growing proportion of managed care organization (MCO) contracts with providers embrace alternative payment models (APMs). As Medicaid MCO payment models change, health information sharing across the state’s Health IT ecosystem becomes more relevant. Texas Medicaid also has several managed care oversight initiatives underway that relate to information sharing, such as a focus on continuous organizational improvement and increasing transparency between providers and members.

Through this Health IT Strategic Plan, HHSC demonstrates compliance with STC 39. STC 39 requires the Health IT Strategic Plan to describe the state’s existing Health IT environment and develop an approach to support the following capabilities in furtherance of the programmatic objectives of the demonstration:

1. **C-CDA Format** - Electronic exchange of clinical health information via Consolidated Clinical Document Architecture (C-CDA), when multiple providers provide coordinated care to a client.
2. **Master Patient Index** - Access to a comprehensive enterprise master patient index that supports the programmatic objectives of the demonstration.
3. **Provider Directory** - A comprehensive Medicaid service provider directory strategy that supports the programmatic objectives of the demonstration.
4. **Care Coordination** - Improved coordination and integration between Medicaid behavioral health, physical health, home and community-based services providers and community-level collaborators through the adoption of provider-level Health IT infrastructure and software.
5. **Care Quality** - A comprehensive Health IT enabled quality measurement strategy that supports the collection of data necessary for Texas to monitor and evaluate the demonstration's programmatic objectives.

This Health IT Strategic Plan defines achievable milestones relating to Health IT adoption by Medicaid service providers, plans for the exchange of clinical health information related to Medicaid clients statewide and advances the standards identified in the "Interoperability Standards Advisory—Best Available Standards and Implementation Specifications" (ISA). Such efforts will be undertaken in alignment with critical initiatives advanced by the 21st Century Cures Act (H.R. 34, 114th Congress, 2016) to enhance interoperability, prohibit information blocking and provide patients with easier access to their electronic health data.

This plan provides background information, including detailing Texas Medicaid's Health IT goals, providing an overview of the Healthcare Transformation and Quality Improvement Program Waiver and detailing the strategic plan development activities. This plan then highlights the findings from using CMS' "1115 Health IT Toolkit,"¹ as directed by STC 39, in conducting an assessment of seven key Health IT topic areas. Finally, the plan includes goals and milestones for Health IT in furtherance of the programmatic objectives of the demonstration.

Texas HHS Vision and Mission and Medicaid Health IT Goals

Texas HHS' vision is: "Making a difference in the lives of the people we serve" and the mission is: "Improving the health, safety and well-being of Texans with good stewardship of public resources."

The Health IT Strategic Plan supports this vision, mission and goals of the Texas Health and Human Services agencies as well as those of the Medicaid and CHIP Services Department. The plan provides a roadmap for improving the health and well-being of our citizens by identifying actions and capabilities using information from the Texas Health IT ecosystem. The plan focuses on increasing the adoption of certified EHR systems, particularly among providers not included in previous federal incentive programs; connecting Texas providers to Local HIEs and leveraging clinical and non-clinical data, data analytics, telemedicine and telehealth to facilitate improved outcomes and care coordination.

Texas Medicaid has developed the following Health IT goals specific to the 1115 Waiver:

1. Incorporate Health IT as a foundational component for the Medicaid managed care delivery model, procurement and HHSC contract oversight efforts.

¹ CMS, in coordination with the Office of the National Coordinator (ONC) for Health IT, has created a series of toolkits and resources for Medicaid focused on health information exchange, Health IT and interoperability. "1115 Health IT Toolkit" materials accessed July 17, 2019 at: <https://www.healthit.gov/topic/advancing-interoperability-medicaid>

2. Support the development and maintenance of a coordinated care delivery system by facilitating the timely exchange of clinical, health risk and other data among Texas Medicaid stakeholders.
3. Support transition to value-based models across managed care and providers by:
 - a. Expanding the use of metrics that integrate administrative, clinical, relevant health risk and other data.
 - b. Improving the timely availability of actionable information for decision making by patients, providers and payers.
 - c. Translating Health IT best practices from the DSRIP program into managed care programs.
4. Promote MCOs' use of Health IT to manage member healthcare and related needs, with an emphasis on prevention.
5. Promote Medicaid provider connectivity to the overall Texas Health IT ecosystem.

Healthcare Transformation and Quality Improvement Program Waiver Background

In December 2011, Texas received approval for a Section 1115 Medicaid demonstration waiver to expand existing Medicaid managed care programs statewide while preserving certain safety net provider funding and promoting health system transformation. The Healthcare Transformation and Quality Improvement Program Waiver successfully enabled Texas to expand the STAR and STAR+PLUS Medicaid managed care programs statewide and established the following two funding pools:

1. The Uncompensated Care Pool, which allowed for payments for the unreimbursed costs of services, provided to Medicaid clients and uninsured individuals.
2. The DSRIP Pool, which initially enabled providers participating in 20 Regional Healthcare Partnerships (RHPs) to receive incentive payments for projects, and was designed to promote healthcare infrastructure development and implement program innovation and redesign.

In December 2017, CMS approved an extension of the demonstration for five years through September 30, 2022. Texas' objectives for the demonstration renewal are to:

- expand risk-based managed care to new populations and services;
- support the development and maintenance of a coordinated care delivery system;
- improve health outcomes while containing cost growth; and
- transition to quality-based payment systems across managed care and providers.

The demonstration extension represents an evolution from the initial waiver terms as Texas Medicaid managed care now includes:

- additional programs and services;
- a narrowing of the definition of uncompensated care to charity care only; and
- a shift in the focus of the DSRIP program from individual provider projects to more strategic efforts aimed at provider system-level performance measurement and improvement.

The following information provides a brief history on the elements of the demonstration with the closest ties to Health IT – the Medicaid managed care expansion and DSRIP.

Medicaid Managed Care Expansion

Over the past 25 years, Texas has gradually transitioned Medicaid from fee-for-service reimbursement to a managed care system that holds health plans accountable for producing value. Under the managed care system, HHSC contracts with MCOs competing within 13 service delivery areas and pays a per

member per month rate, called a capitation rate or premium, to coordinate care and reimburse providers for health services provided to Medicaid or CHIP members enrolled in their plan.

Texas Medicaid managed care includes the following statewide programs covering the noted populations:

- STAR – children, newborns, pregnant women and some parents with low incomes;
- STAR+PLUS – adults who have disabilities, are age 65 or older or have breast and/or cervical cancer;
- STAR Health – children and youth who receive Medicaid because they either currently are or formerly were in the conservatorship of the state;
- STAR Kids – children and youth age 20 or younger who have disabilities; and
- Children’s Medicaid Dental Services – most children and youth under age 21.

The managed care model has become the centerpiece of the state’s strategy to promote value-based care in Medicaid. As of November 2018, about 93 percent of Texas Medicaid and CHIP clients received services through risk-bearing MCOs, making Texas a national leader for delivering healthcare through a value-based model to people with low income or disabilities.

Delivery System Reform Incentive Payment (DSRIP) Program

Since 2012, 300 healthcare providers in Texas have earned over \$16 billion (all funds) through DSRIP for increasing access to care, piloting care innovations and improving health outcomes. DSRIP providers include public and private hospitals, community mental health centers, local health departments and physician practices - mostly affiliated with academic health science centers.

In demonstration years one through six, DSRIP providers earned funds by achieving process and outcome measures related to projects they chose from an approved “menu” of initiatives, designed to either develop infrastructure or test healthcare innovations. The most common focus points of DSRIP projects over the first six years of the program were:

- behavioral healthcare (mental health and substance use care);
- primary care (expansion/redesign/Patient-Centered Medical Homes);
- patient navigation/care coordination/care transitions;
- chronic care management; and
- health promotion/disease prevention.

An early success of the DSRIP program was the establishment of 20 Regional Healthcare Partnerships (RHPs) covering the state, which led to increased local collaboration to identify and address priority community healthcare needs. Activities are underway in many regions to further connect MCOs and DSRIP providers to better coordinate their efforts. These sorts of connections among healthcare providers and between healthcare providers and MCOs either benefit from the current use of Health IT or could be further enhanced through future utilization of Health IT, including standards-based health information exchange.

The DSRIP funding pool was extended in the latest waiver renewal under a model that shifts the focus of delivery system transformation from individual provider projects to more strategic efforts aimed at provider system-level performance measurement and improvement. The current DSRIP funding ends October 1, 2021. Transition planning is under way to further develop delivery system reform efforts after DSRIP ends. This Health IT Strategic Plan is a crucial component to identify areas where Health IT is already supporting the objectives of the demonstration as well as additional opportunities for advancing care coordination and other quality improvement efforts.

Strategic Plan Development Activities

The development of the Health IT Strategic Plan began with review and consultations regarding the Texas State Medicaid Health IT Plan (SMHP), SMHPs from other states and the 2015 Texas Medicaid Information Technology Architecture (MITA) State Self-Assessment (SS-A). The next Texas MITA SS-A is in progress as of the development of this plan.

Additional early information-gathering activities included meetings and discussions in 2018 with a broad range of Texas Health IT stakeholders and HHSC leadership and staff. Input was received from HHS advisory groups, Health IT stakeholders, MCOs, providers and HHS staff. In June 2019, an overview of draft milestones was provided at a public meeting of the HHSC e-Health Advisory Committee (eHAC), where committee members provided preliminary feedback. Further discussions regarding the information presented were held with workgroup members of eHAC.

Changes resulting from these eHAC discussions were incorporated into the draft Health IT Strategic Plan that was posted to HHSC's website on October 11th, 2019, giving the public an opportunity to comment through November 9th, 2019. Stakeholders interested in Health IT efforts, along with those on the distribution list for DSRIP and the broader 1115 waiver, were sent emails notifying them that the draft plan had posted.

HHSC received substantive comments from 17 respondents. Many comments were supportive of various aspects of the plan. Some of the responses were programmatic questions or suggestions that will be considered by operations staff. Other comments discussed topics not under the authority of Texas HHS or that would suggest changes to the scope of the HIE IAPD, which includes parameters already agreed upon with the federal government.

In response to stakeholder comments, HHSC made several changes to this plan, including defining Local HIEs, adding further detail about 21st Century Cures Act requirements, noting provider types not eligible for federal incentive funds for EHR adoption and emphasizing that Health IT can support delivery of services related to social drivers of health. The updated plan also clarifies that providers would only connect directly to HIETexas if they do not have the capability to connect directly to a Local HIE.

HHSC recognizes strong collaboration is required to increase the flow of clinical data in the state. Internally as well as in HHSC discussions with healthcare stakeholders about Health IT in Texas, a consistent theme in stakeholder feedback was the limited exchange of health information. Additional concerns included the items listed below:

- The low percentage of Medicaid ambulatory providers that are connected to health information networks;
- Lack of trust among providers and payers;
- Lack of standardized processes for connectivity;
- Lack of standardized approaches to value-based purchasing;
- The low percentage of long-term care, behavioral health and home and community-based service providers using electronic health records and connected to health information networks; and
- The cost and administrative barriers providers face regarding participation in the Health IT ecosystem.

Texas HHS agencies have aligned in their pursuit of strategies to advance Health IT, improve care coordination and reduce provider burden. This includes several connectivity strategies, modernization of HHS' infrastructure interfaces to its Health IT information systems, implementation of a provider

management and enrollment system, ongoing enterprise data governance efforts building patient and provider master indices, updating of the registry systems supporting clinical data exchange with providers and using clinical data to provide HHS staff with additional tools to aid and support program innovation.

1115 Health IT Toolkit Health IT Topic Discussion

This strategic plan used the seven Health IT topics outlined in the CMS “1115 Health IT Toolkit”.² to assess Health IT considerations. This section of the strategic plan provides an overview of the considerations for each Health IT topic followed by the results of HHSC’s assessment for each topic area.

Overview of Health IT Topics

This section provides a brief overview of considerations for each Health IT topic identified in the “1115 Health IT Toolkit.” Texas has considered the principles and guidelines outlined in the CMS toolkit to align with the Health IT Strategic Plan.

The Use of Standards in Health Information Technology Procurement:

Contracts with providers, vendors and other healthcare entities should require the use of messaging and data standards specified in the ISA maintained by the Office of the National Coordinator (ONC) for Health IT.

Leveraging State Health IT Ecosystem:

Where practical, new or expanded services using Health IT should leverage previous investments in health information technology. For example:

- No unnecessary duplicative networks should be established;
- Where practical and appropriate back-up systems exist, health information exchanges should be leveraged to facilitate data exchange; and
- Technology standards for telemedicine should be standard across programs to facilitate re-use of equipment.

Accountable Oversight and Rules of Engagement for Health IT and Health Information Exchange (a.k.a. Governance):

Governance of health information exchanges, selection of standards for exchange and quality standards must be managed in as transparent a manner as possible, in alignment with applicable federal regulations and policies developed by ONC and CMS. Collaboration in governance-related activities should be promoted.

Identity Management, Provider Directories and Attribution:

Health IT can be used to manage individual patients’ identities. Accurate patient identification and matching across disparate systems is critical to minimize patient risk and improve the efficiency of healthcare delivery, inclusive of care coordination. Provider directories can be established and used to facilitate data exchange and reporting, payment services and assisting patients in identifying potential care providers. Using a provider directory enables longitudinal tracking of provider behavior as well as facilitates matching provider-related records across information systems.

² “1115 Health IT Toolkit” materials accessed July 17, 2019 at: <https://www.healthit.gov/topic/advancing-interopability-medicaid>

Promoting and Funding Provider Health IT Adoption and Use:

Appropriate technical and financial assistance for healthcare providers helps to promote the adoption and use of Health IT. Examples of relevant activities include, but are not limited to:

- providing funding supporting the adoption and use of Health IT, including EHR technology;
- providing grants for purchasing/using technologies supporting telehealth/telemedicine;
- conducting programs focused on encouraging providers to use health information technology; and
- a provider public relations team assisting to educate and drive adoption.

Advancing Use of Health IT to Support Quality Measurement:

The use of health information technology should support improved quality measurement. This includes the exchange of quality measures between providers and other parties and the transparency of quality measure data to the public. Quality measures may be used by providers, payers and patients to understand, select and improve healthcare options.

Health IT and Service Delivery:

Ultimately, effective Health IT must deliver services that improve the patient experience of care, improve the health of individuals and communities, lower costs and be valued by patients as well as the professionals and organizations accountable for providing and coordinating their care. Beyond traditional healthcare, Health IT can also support the coordination of services that address social drivers of health, such as food insecurity, housing and transportation issues.

Examples of successful Health IT services include, but are not limited to, providing the following:

- An interoperable health registry to reduce administrative activities while facilitating compliance with applicable law;
- An interoperable health registry that supports bi-directional flow of information to facilitate the coordination of care;
- Near real-time alerts on meaningful healthcare events such as patient admissions, discharges and transfers involving hospital emergency and inpatient departments;
- Technology-based tools that enable providers and/or patients to better manage an individual's health;
- Closed-loop referral systems to community-based organizations that address the social drivers of health;
- Computer-based support for decision-making by healthcare providers; and
- A patient portal, messaging support or Fast Healthcare Interoperability Resources (FHIR)-based platform to enable patients to access their own health records.

Health IT Topic: The Use of Standards in Health Information Technology Procurement

HHS agencies have a long history of using systems that support standards-based interoperability with trading partners. A combination of federal laws, state laws and regulations have shaped the Health IT infrastructure. Both HHSC and the Department of State Health Services (DSHS) have implemented technologies in response to national directives, whether it was a highly choreographed revision of all healthcare stakeholder systems for compliance with *International Classification of Diseases, 10th Revision* (ICD-10) or the implementation of commercially available, off-the-shelf software provided by the Centers for Disease Control and Prevention. Texas HHS strategically recognizes Health IT as foundational to advances in many of its business areas and that a standard-based approach maximizes

interoperability with the Certified EHR Technology (CEHRT) technologies used across the Health IT ecosystem.

House Bill 2641, 84th Legislature, Regular Session, 2015 (HB 2641) requires that information systems planned or procured on or after September 1, 2015 and used by a Texas Health and Human Services agency to send or receive protected health information to and from healthcare providers, use applicable standards and be interoperable with each other. HB 2641 aligns with federal legislation and promotes the use of certified electronic health record technology as well as requires the use of standards such as those included in the ISA.

Modernization procurements associated with Medicaid Management Information Systems (MMIS) must adhere to use of standards in Health IT platforms for all secure web services, file and data transmission. The same requirements apply to Health IT systems related to a distributed Service Oriented Architecture, which is essentially a collection of services that communicate with each other. The communication can involve either simple data passing, or two or more services coordinating some activity and Electronic Data Interchange (EDI), which is the electronic interchange of business information using a standardized format.

HHS' Current MMIS EDI System

The current Texas Medicaid EDI system is a Council for Affordable Quality Healthcare CORE-compliant, standards-based gateway for receiving, validating, tracking and routing transactions. The system is composed of reusable business and technical services, with business processes orchestrating the flow. Common file tracking services are used across all subsystems and common reprocessing and alerts are configured for all business processes.

Use of Common Standards in Healthcare

Some common standards used in healthcare today are: Health Level 7 (HL7); Fast Healthcare Interoperability Resources (FHIR); Digital Imaging and Communications in Medicine; and North American Association of Central Cancer Registries Version 15. All these standards are included in the ISA. HHSC addresses standards in a biennial report on interoperability as required by HB 2641. *Interoperability for Texas: Powering Health 2016*³ identifies some of the national and international standards development organizations involved in standards used in healthcare.

The HL7 standard is structured to accommodate various types of message transfers using different implementation guides. There are different HL7 structures for a broad range of purposes, including electronic laboratory reporting and exchanging immunization data. Even though these HL7 message types differ, the healthcare industry understands the different subtypes as parts of a broader system. HL7 is leading a project known as the HL7 Da Vinci Project with vendors, providers and payers to promote industry-wide standards and adoption through the development of unique solutions to improve care. One area of focus is automating support for prior authorizations. The goal is to standardize the information exchange required between payers and providers for payer authorizations.

The FHIR standard is a new specification from HL7, based on emerging industry approaches, but informed by years of lessons around requirements, successes and challenges from previous experience

³ *Interoperability for Texas: Powering Health 2016*. HHSC. Accessed July 18, 2019 at: <https://hhs.texas.gov/sites/default/files/documents/laws-regulations/reports-presentations/interoperability-texas-powering-health-2016.pdf>.

with standards. FHIR can be used as a stand-alone standard or can be used in conjunction with other standards. FHIR is easy to implement compared to most standards presently used in the healthcare industry. The ONC notably included FHIR in proposed interoperability rulemaking as the standard for application programming interfaces (APIs) for patient and population services.⁴ The use of FHIR for patient platforms enables patients to access and share specific content from their medical records easily.

As the state's public health agency, DSHS operates numerous public health registries that contain valuable clinical information used to understand, plan for and manage health services and needs across Texas. Each of the registries use standardized messages, usually in formats specified by federal partners, HL7 or other national standards development organizations. Data for several systems are received via implementations of Orion gateway services. In other cases, data may be exchanged through standard messages directly between providers' EHRs and DSHS' receiving systems or through web-based data entry. More information regarding DSHS may be found in Appendix C.

Health IT Topic: Leveraging the Texas Health IT Ecosystem

This Health IT Strategic Plan fully leverages Health IT infrastructure already built and in use by internal state and external healthcare entities. The 1115 demonstration is building on the existing Health IT infrastructure and initiatives, including findings of the MITA state self-assessment, state SMHP and active IAPDs. An example of one such initiative, and referenced subsequently in this document, is the Medicaid Electronic Health Record Incentive/Promoting Interoperability (PI) Program established via the Health Information Technology for Economic and Clinical Health (HITECH) Act. The EHR Incentive/PI Program has allowed HHSC to deliver more than \$864 million in federal EHR incentive funding to more than 10,000 providers and hospitals since the inception of the program in 2011. This approach ensures Texas' tax dollars are judiciously spent and invested, and that Federal Medical Assistance Percentages (FMAP) funds are used in accordance with CMS rules and regulations. Texas adopts national and state best business practices and leverages systems and experience from other states who also use FMAP funds. Policy and standards adopted in Texas are commonplace in the healthcare industry. Specific examples of how this works include:

- Many state and local for-profit and nonprofit HIEs that support bi-directional exchange across providers are currently operational and committed to the statewide exchange of clinical data and ADT data;
- MCOs, as Medicaid payers charged with facilitating care coordination for their members, work directly with hospitals and providers to provide funding and technical assistance for connectivity to HIEs and EHR interoperability for added value services related to health data exchange;
- HHSC, the state's designated entity for agreements with the Office of the National Coordinator and the state's Medicaid agency, signed a contract in May 2019 with THSA to build infrastructure to connect Texas' HIEs; and
- National networks (e.g., CommonWell, eHealth Exchange, etc.) with products that support interoperability or certified EHR technologies are motivated to leverage existing data connections to propagate and share data.

Texas' Health IT ecosystem consists of a combination of public and private payers, professional entities, providers, associations and HIEs at various stages of maturity and connectivity. Since 2006, the Texas Legislature has passed laws supporting Texas Medicaid and other health agencies strengthening the use

⁴ 84 FR 7424 available at: <https://www.federalregister.gov/documents/2019/03/04/2019-02224/21st-century-cures-act-interoperability-information-blocking-and-the-onc-health-it-certification>

of Health IT and aligning with federal initiatives. Appendix A of this plan provides a chronology of Texas legislation supporting health information exchange.

Health IT Exchange Barriers

Like other states, Texas has challenges with data sharing across the healthcare provider community. The lack of interoperability across the varying CEHRT products used by providers makes true data sharing an ongoing challenge. Providers continue to feel overburdened by quality reporting requirements in the Promoting Interoperability Program as well as other CMS quality programs.

Other barriers to provider participation include the costs to establish interfaces with trusted networks (HIEs), and the hesitancy of providers to share clinical data with payers and other providers. Some providers fear that the data they share could be used against provider and patient interests, such as fear over payer intervention in care decisions or that the information they share could influence patient premiums.

Trust can potentially be built among the provider community and payers by bringing value through provision of clinical data and ADT to automate payer processes, such as prior authorizations. This example underlines the improvements that can result from transparency and information sharing between provider and payer. Additionally, value-based payment models could shift providers' view of claims data and lessen the reticence to payer participation in HIE.

Multiple federal initiatives designed to enhance interoperability and overcome concerns over trust and other barriers resulted from passage of the 21st Century Cures Act. Initiatives included prohibitions on information blocking and development of the Trusted Exchange Framework and Common Agreement (TEFCA). TEFCA outlines a common set of principles, terms and conditions to support the development of a Common Agreement that would help enable nationwide information exchange across disparate networks and ensure that HIEs, healthcare providers, health plans, public health agencies and individuals have secure access to electronic health information when and where it is needed.⁵

Health IT Ecosystem Strategies

Some of the strategies Texas is pursuing to address obstacles include working around the cost barriers of connectivity (see the following discussion of HIE IAPD Strategy 1: HIE Connectivity) and building incentives for data sharing through Medicaid managed care requirements for alternate payment models between health plans and providers. With the passage of the 21st Century Cures Act in FFY 2017, there has been a succession of federal rules strengthening the interoperability requirements of Health IT products and services. Current and proposed rulings promote CEHRT product offerings and information exchange capabilities that make interoperability accessible for a wider reach of healthcare providers. Texas' Health IT strategies align with federal laws and rules, enabling the state to fully benefit from these recent advances in interoperability.

Texas recognizes that public and private Health IT proponents must strategically focus and collaborate to ensure the state has not transitioned from paper to electronic silos. Texas also recognizes that it is important to continue to promote the benefits of information sharing in healthcare.

⁵ <https://www.healthit.gov/topic/interoperability/trusted-exchange-framework-and-common-agreement>

State of Health IT and HIE opportunity in Texas

Texas has multiple Health Information Exchanges (HIEs) that are national, state, local or aligned based on EHR products. Professional participants in HIEs are primarily hospitals or large provider groups. Texas has a statewide framework for exchange, THSA, that supports connectivity to the national HIE networks. Texas' plan to implement electronic HIE statewide is market-based and community-driven. To foster HIE growth and adoption across the state, THSA provides ongoing strategic support to Local HIEs. THSA has made available a set of shared services through HIETexas. Some of the most significant benefits of joining HIETexas are the HIE-to-HIE connectivity between authorized HIEs in Texas, the use of the EDEN system and the development of a platform that may facilitate connectivity to the nationwide eHealth exchange, which allows for connectivity with other states' HIEs, as well as federal government agencies such as the Department of Veterans Affairs and the Department of Health and Human Services.

During Hurricane Harvey, there was a need to offer query-based HIE to assist in the recovery efforts by allowing patients' health information to be available to provide services to those in mass shelters. This access to data proved to be invaluable during the disaster response activities.

Discussion of the strategies within the HIE IAPD that follow demonstrate how THSA will play a major role in services that are essential for ensuring the delivery of health information, such as routing ADT messages for Medicaid members and supporting updates to clinical registries.

HIE IAPD Strategy 2: HIE Infrastructure

This strategy aids with building connectivity between THSA and the state's Local HIEs⁶ and other authorized entities. Funding is used to implement systems to benefit Medicaid's goals of supporting Medicaid client data collected by the Local HIEs. These activities continue with the THSA contract.

This strategy teams HHSC and THSA to develop and implement projects that make HIE services available statewide and continue to enhance state-level shared services. Projects include, but are not limited to:

- implementation of an HL7 integration engine;
- implementation of a Master Patient Index related to HIE;
- implementation of an audit and logging system to monitor all data flow pertaining to Medicaid's HIE IAPD Strategies 1 and 3, regarding provider connectivity and EDEN;
- implementation of an Administrative User Interface and statistical dashboard for Medicaid to monitor data flows pertaining to HIE IAPD Strategies 1 and 3;
- configuration of implemented systems supporting Medicaid's HIE IAPD Strategies 1 and 3;
- maintenance of systems implemented in support of Medicaid's HIE IAPD Strategies 1 and 3, for the term of this IAPD;
- integration required with Local HIEs to assist them in connecting to THSA in support of Medicaid's HIE IAPD Strategies 1 and 3; and

⁶ "Local HIE" with respect to the HIE IAPD strategies uses the definition at (Texas) Government Code, Sec. 531.901(4): "Local or regional health information exchange" means a health information exchange operating in this state that securely exchanges electronic health information, including information for patients receiving services under the child health plan program or Medicaid, among hospitals, clinics, physicians' offices, and other health care providers that are not owned by a single entity or included in a single operational unit or network.

- integration work necessary to deliver required data to Medicaid.

This project supports fundamental, statewide infrastructure necessary for exchange of HL7 v2 and CDA-based documents. This functionality promotes the following Promoting Interoperability measures:

- Lab results;
- Transitions of care;
- Immunization registry reporting;
- Electronic laboratory results reporting to public health;
- Syndromic surveillance; and
- Reporting to specialized registries.

HIE IAPD Strategy 3: Emergency Department Encounter Notifications (EDEN)

This strategy establishes the EDEN system, which provides the ADT processing infrastructure to be used by hospital systems to exchange ADT data between HIEs connected to each other via THSA. If a hospital cannot be served by a Local HIE, they may connect directly to HIETexas. Using EDEN, Medicaid clients' admission, discharge or transfer status will be transmitted to Texas Medicaid and MCOs. EDEN will evolve to support the exchange of patient information with primary care physicians (PCPs) and other care team members. Information about hospital admissions, discharges and transfers are of great value to PCPs for care coordination.

Current emergency department (ED) information systems do not always allow ADT messages/notifications to be exchanged outside the hospital's system (i.e., with MCOs or with a patient's primary care provider). Diagnosis and admissions data is valuable to care coordination and can be used by MCOs to automate prior authorizations, which is a key benefit for both MCOs and hospitals. HHSC intends to increase the exchange of ADT messages by reducing the cost burden for hospitals connecting to their Local HIEs, and establishing ADT processing infrastructure at the statewide level, which can be utilized by all the state's HIEs and other entities connected to THSA's hub.

Once THSA receives an ADT message, it will utilize its integration engine to create a standardized notification message comprised of core data elements such as the patient's name, hospital providing service and date/time of when the admission, discharge or transfer occurred. These notifications will then be forwarded to Texas Medicaid, MCOs and/or to HIEs that have partnered with Medicaid to use notification data for care coordination activities.

Texas Medicaid will direct funding toward obtaining timely encounter notifications via HL7 ADT data streams from hospitals. Other states have shown beneficial effects of providing alerts to PCPs and other care team members when a patient enters an ED. Texas Medicaid seeks to reduce inappropriate ED use, by educating patients on non-emergent ED alternatives, and provide improved follow-up care to reduce the need for individuals to re-visit an ED. Gathering timely ADT data from EDs and publishing alerts to care team members will facilitate these goals.

HHSC aims to build ADT processing infrastructure complementing HIE notification systems, but on a standardized, statewide scale. The systems implemented by THSA will act solely as a data brokerage, supplying encounter notifications based upon patient matches found in ADT data-streams submitted by hospitals.

This EDEN strategy is complemented by the HIE IAPD Strategy 1, which provides funding for Local HIEs to connect hospitals, enabling the exchange of HL7 clinical data feeds necessary for EDEN.

Clinical Data and the Integration and Data Exchange Center of Excellence

DSHS, in partnership with HHSC, has been exploring a strategy to establish an Integration and Data Exchange Center of Excellence (iCoE) technology service as a primary point of exchange between Texas' state-level health and human services agencies and healthcare providers, MCOs and other entities. Incorporating a commercial-off-the-shelf integration engine, the iCoE currently supports the exchange of select public health data, such as syndromic surveillance, and will evolve to support the exchange of data for a broad range of systems operated by Texas' health and human services agencies, including data from the EDEN system at THSA, data from the state's local mental health authorities and data for additional registries and information systems operated by DSHS. The intention of the iCoE is to be flexible, enabling the exchange of data either through HIEs or directly between healthcare providers and state agencies. The system allows state staff to route messages to the appropriate receiving system(s), transforming messages into the appropriate formats and supporting real-time FHIR-based connections.

THSA is a primary connection point for the iCoE, supporting HHSC's receipt of statewide clinical data from Medicaid providers linked to HIEs that are connected to HIETexas. HHSC may leverage the capabilities of the iCoE for anticipated large volumes of clinical data transmitted from Medicaid providers including ADT data, other clinical data and lab reports for Medicaid clients.

DSHS is transforming its information systems to use the iCoE. As each DSHS system that relies on data exchange with external systems is replaced or undergoes a major overhaul, the iCoE is reviewed as part of the IT governance process. Concerns about using the iCoE include funding and the time required to modify commercial-off-the-shelf systems to use its service. Some systems are not modular and may be complicated to integrate with the iCoE.

Health IT Topic: Accountable Oversight and Rules of Engagement for Health IT and Health Information Exchange (a.k.a. Governance)

Health IT governance facilitates the appropriate use and secure exchange of health information in Texas. Enacted through policies, processes and practices, the state has instituted a set of governance bodies that offer guidance, establish standards and provide oversight for public and private entities operating in the Health IT space. The following section describes the roles and responsibilities of these organizations.

Texas Health Services Authority

THSA, established by the Texas Legislature, with Chapter 182 of the Health and Safety Code, operates a set of shared services called HIETexas, has a governance structure that enables trusted and secure connections between it and the Local HIEs and may connect to national networks such as the e-Health Exchange, Carequality and/or Commonwell. It requires its participant members to operate in accordance with privacy and security rules that are aligned with Health Insurance Portability and Accountability Act (HIPAA) and other relevant federal and state statutes and rules. THSA's governor-appointed board is responsible for decision-making with regards to the policies and operations of the shared services THSA provides to its members. The board intends to regularly review performance and utilization reports to ensure services align with the needs of the Texas Health IT ecosystem. The Local HIEs, HHS agencies and members of the healthcare community are represented on the THSA board. The THSA Texas State HIE Plan details more about the THSA structure, plan and HIETexas.⁷

⁷ *Texas State HIE Strategic Plan* accessed July 18, 2019 at: <http://www.thsa.org/hie/state-hie-plan/>

For statewide activities, HHSC and DSHS are active participant members on the board of the THSA. The HHS system has an internal policy for the exchange of clinical data to use when applicable national standards are identified by the ONC, ensuring compliance with state and federal laws and rules. Internal HHS policy also permits information systems procured, planned or built after September 1, 2015 that exchange clinical data with providers to enable pathways through state and Local HIEs, minimizing the number of connections a provider is required to use for exchanging data with HHS agencies.

The Local HIEs also have a governance structure. Each of the Local HIEs are overseen by a board that approves their policies and procedures and reviews their operations. Participant users must also demonstrate and agree to abidance of privacy and security rules.

This governance structure is critical as Texas navigates toward the U.S. Core Data for Interoperability (USCDI) and its proposed expansion process aims to achieve the goals set forth in the 21st Century Cures Act by specifying a common set of data classes that are required for interoperable exchange and identifying a predictable, transparent and collaborative process for achieving those goals.

The 21st Century Cures Act contains several requirements aimed at improving interoperability in healthcare and information exchange. As the use of the Trusted Exchange Framework and Common Agreement (TEFCA) expands, more states have the opportunity of working together to meet national interoperability initiatives and standards. As states join into interoperability partnerships, governance becomes more critical as the foundation for decision making and strategic direction.

e-Health Advisory Committee

In 2009, the Texas Legislature established the Electronic Health Information Exchange System Advisory Committee to implement HIEs in Texas (HB 1218, 81st Legislature, Regular Session). In 2015, after an agency-wide restructuring of advisory committees, the eHAC was established to advise HHS leadership on activities that could advance Health IT adoption and use in Medicaid. Members of eHAC include healthcare stakeholders from the academic, industrial and medical professions, as well as other state agencies, health information exchanges and professional associations.

A key objective of eHAC is to ensure Medicaid Health IT is interoperable with broader statewide infrastructure. To this end, eHAC counsels HHSC on the development and implementation of the HIE system and related issues, including: data to be included, presentation of data, useful measures for quality of services and patient health outcomes, federal and state laws regarding privacy of private patient information, incentives for increasing adoption and use and data exchange with HIEs.

Past eHAC recommendations include the following:

- Incorporate the ONC's Patient Unified Look-up System for Emergencies (PULSE) into the state's disaster response protocols;
- Use of the HIETexas platform, when applicable, to communicate and collaborate with trading partners and HIEs to increase Health IT adoption and use among providers;
- Enable provider access to the state's prescription drug monitoring program through HIEs to help combat the opioid epidemic,⁸ and

⁸ In Texas, the Prescription Monitoring Program (PMP) is managed by the Texas Board of Pharmacy.

- Adopt additional communication methods based on stakeholder surveys and research of the constituent groups' messages.

HHSC's internal governance structure also considers eHAC input in the decision-making process regarding Health IT products, including telemedicine, telehealth and home telemonitoring.

The Office of eHealth Coordination (OeHC)

OeHC was established in 2010 to serve as the single point of contact in HHS for health information policy and state funding opportunities under the HITECH Act.

Currently, OeHC coordinates health technology initiatives that exchange protected health information across the HHS system and promotes the use of CEHRT in discussions across the state with healthcare stakeholders.

HHS Enterprise Data Governance

HHS agencies follow a data governance policy implemented by the Chief Data and Analytics Officer (CDAO). The CDAO leads the Center for Analytics and Decision Support and resides within the Office of Performance division. In addition to being responsible for general data and analytics strategies implemented at HHS, the CDAO runs the Enterprise Data Governance (EDG) program, which identified five project tracks to implement Medicaid-focused data governance solutions.

The following table lists and describes the various tracks:

EDG Track	Purpose
Data and information management (DIM)	The DIM track is to implement an enterprise master data management (MDM) system for use across the Health and Human Services (HHS) system.
Data quality and standards (DQS)	The DQS track, which includes claims, encounter and clinical data, ensures that the HHS system can measure the data quality within key HHS systems and make necessary recommendations to improve data quality through the creation of data standards.
Metadata and reference data management (MRDM)	The MRDM track alleviates challenges arising from different standards, definitions and reference codes by collecting information from disparate source systems and storing that information in a centralized repository.
Data architecture	The data architecture track ensures key Medicaid-focused data domains are identified, defined and managed appropriately within the HHS system.
Data and information controls (DIC)	The DIC track is responsible for the identification, definition, creation and implementation of various controls and metrics. It also identifies and monitors various data controls like data security and data access.

Texas HHS also partners with academic institutions, such as Dell Medical School to leverage expertise available to help expand HHS's ability to analyze data.

Health IT Topic: Identity Management, Provider Directories and Attribution

The ability to accurately and irrefutably identify the Medicaid community – both providers and members – is essential to ensuring the right services are delivered to the right individual at the right time. Denying an individual Medicaid services because of inaccurate information presents risks and unnecessary hardships to those the state is committed to serve. Additionally, the availability of location and contact information for Medicaid services providers is essential to all facets of care delivery.

The Texas HHS strategy to mitigate these risks is to make the best information easily accessible on member eligibility and provider locations on platforms and media used by Medicaid clients and healthcare providers.

Eligibility as a Service

Eligibility as a Service (EaaS) is a web service implemented at the Texas Medicaid claim administrator's, Texas Medicaid Healthcare Partnership (TMHP), website. This near real-time Medicaid eligibility service enables MCOs' and providers' systems to obtain access to a Medicaid member's current eligibility status. Access to eligibility information ensures MCOs' and providers' decisions are based on the most current eligibility information available. This minimizes the likelihood of a client being incorrectly denied services and assures providers reimbursement for the services provided to a client. The EaaS service is also interfaced with the TMHP client portal, TexMed Client Portal, which enables members to obtain access to their history and eligibility information in near real-time. Providers also use this portal to obtain access to clients' claims data, which is helpful when dentists or physicians are seeing patients for the first time and require relevant history prior to performing tests or procedures.

The EaaS web services uses the Texas Integrated Eligibility Redesign System data to produce a HIPAA compliant X12 standard-based client eligibility query and response electronic data interchange. HHS is using the near-real time accuracy of the data to incentivize its stakeholders to use the web services instead of older format, legacy eligibility information which is updated less frequently. To date, many of the high-volume users, including the behavioral health system used by many of the state's providers, have converted to the EaaS web service. HHS continues to work with its stakeholders as they adapt their systems to the EaaS format.

EaaS is also used by the HHS/DSHS Data Integration and Exchange Platform. Using EaaS, DSHS can identify the state laboratory's test results belonging to Medicaid-eligible clients. The results are sent to Medicaid and used to update the appropriate health information records.

Provider Directories

HHSC is in the process of implementing a Provider Management and Enrollment System (PMES) for provider enrollment and management. PMES is fully compliant with all state and federal laws, including but not limited to the Patient Protection and Affordable Care Act; 42 Code of Federal Regulations (CFR) 455; SB 200, 84th Texas Legislature, Regular Session, 2015, requiring the state to consolidate and streamline its provider enrollment and data management processes; the 2016-17 Texas General Appropriations Act (HB 1, 84th Legislature, Regular Session, Article II, HHSC, Rider 95); and SB 760, 84th Texas Legislature, Regular Session, 2015, regarding provider credentialing and monitoring.

The implementation of a PMES modernizes, streamlines, consolidates and advances the Provider Enrollment and Provider Management activities and supports electronic signatures and attachments. PMES is a cornerstone of the MMIS modernization process. The PMES solution replaces multiple paper and online enrollment applications with a single online application and provides the ability to manage,

correspond, track, monitor and report on all aspects of provider enrollment, disenrollment, re-enrollment, revalidation, inquiry and maintenance of Medicaid providers and any additional non-Medicaid providers currently within the scope of operations supported by the Medicaid program. The system will utilize the National Provider Identifier fully. Implementation includes an Online Provider Directory with information on HHSC Medicaid providers classified by type, specialties, credentials, demographics and service locations. The system is scalable and can be expanded to include attributes and information needed to support the management of providers across the HHS system in the future. Other benefits include:

- Lowers provider frustration by offering one place to enroll in all HHS programs;
- Improves the accuracy of provider location information and network adequacy metrics;
- Provides the capability to access comprehensive data needed to effectively monitor providers;
- Delivers a centralized provider repository that aligns with the ongoing data governance provider efforts and streamlines provider enrollment and management processes; and
- Secures efficient and effective business functionality and processes in support of Texas providers, clients and medical, dental and pharmacy benefit programs.

PMES will serve as the authoritative Medicaid provider information source for the master provider index under development by the Enterprise Data Governance project. Future PMES deployments will integrate the remaining HHS provider groups with the implementation of additional HHS program requirements.

Patient and Provider Master Indices

HHS currently has an IAPD with CMS to implement master data, metadata improvement and data quality controls. HHS has already implemented a Medicaid provider and member master data system to resolve identities across a variety of HHS systems.

As standards-based clinical data sources from provider EHRs are made available through the iCoE, these mastered records will be updated to assist in matching clinical records. Master records will also assist data analytics teams in creating connections to services data for ad hoc analytic uses. They are also foundational for development of future analytics architectures that could be capable of longitudinal views or aggregate groupings of the data (e.g. by care episodes or cohort types).

A Medicaid master provider record has been published for enterprise consumption in Fiscal Year 2019. These mastered records are easily extensible for use in managing clinical records as they arrive at HHS. A Medicaid master member record has also been implemented and is scheduled to be published for internal use in Fiscal Year 2020. These mastered records can also be extended for use as a master patient index to coordinate consumption of electronic health records or messages, as those become available to HHS.

Health IT Topic: Promoting and Funding Provider Health IT Adoption and Use

The Health IT adoption strategies build on Texas' Health IT ecosystem by increasing the number of connected Medicaid providers, expanding the HIE network and establishing a single state-designated connection point for the secure exchange of clinical data with Texas HHS, MCOs and national networks. It is critical to solidify a pathway that can be shared across the state and with Medicaid for the receipt of clinical data.

Medicaid MCO and Dental Contractor HIE Participation

In August 2016, HHSC polled the 19 Medicaid MCOs and two Medicaid dental contractors about their participation in health information exchange. With respect to health information exchange, 4 of the 19 healthcare MCOs, or 21 percent, indicated they exchanged member health information with a health information organization. Among the 79 percent who did not exchange member health information, several gave reasons including concerns over privacy and HIPAA compliance. Other responses included that the MCO lacked exchange access in their service area or that the limited functionality of the exchange in their service area did not warrant participation.

Seven of the 19 healthcare MCOs, or 37 percent, responded that they or their network providers receive or share patient encounter alerts or raw HL7 ADT messages upon which these are based. Five of the 19 healthcare MCOs, or 26 percent, indicated their network providers receive alerts after patients are admitted to hospital emergency departments.

The two dental contractors did not participate in HIEs.

DSRIP Provider Health IT Adoption and Use

As part of DSRIP semi-annual reporting in 2017, DSRIP providers were required to respond to questions relating to the extent to which they participated in health information exchange with other providers and organizations, the types of information shared and factors impacting their participation. Of the 297 DSRIP providers, 55.6 percent indicated they exchanged data, such as claims and clinical information, related to their DSRIP projects. However, about 17 percent of all DSRIP providers indicated that they used manual data exchange processes (e.g., fax and email). Only 22.6 percent of DSRIP providers indicated they participated in a formal HIE related to their DSRIP projects. Of those, 56.7 percent participated in one of the public, Local HIEs. The remaining 43.3 percent either participated in a private (e.g., hospital system HIE) or an interoperable vendor HIE that allows all providers using the same EHR vendor platform to exchange information.

The most common obstacle the providers identified to participating in the exchange of health-related information was lack of technology. Many of the providers operate in the “white space” where no HIE is available. The second most common obstacle was the cost of technology. Additionally, several providers indicated there were “other” barriers, with the most common “other” challenge being a lack of compatibility and interoperability across HIE systems.

Medicaid Electronic Health Record Incentive / Promoting Interoperability (PI) Program

In Texas, EHR use has climbed to rates close to those of national levels. The Texas Medical Association reports that over 85 percent of physicians are using EHRs in their daily practice.⁹

Texas’ Medicaid EHR Incentive/PI Program is a federal program administered by HHSC which provides incentives to eligible professionals and eligible hospitals participating in Medicaid. The incentive payments, via 100 percent federal funds, are provided for the adoption and subsequent meaningful use of CEHRT. Providers report on PI/meaningful use and clinical quality measures established by CMS. One

⁹ Texas Medical Association 2018 Survey of Texas Physicians: Research Findings. Accessed September 26, 2019 at: https://www.texmed.org/uploadedFiles/Current/2016_Advocacy/2018_Final_Survey_Report_v2_3_14_19_et_FINAL.pdf

limitation of the program cited by providers is that certain provider types were not eligible for the incentive funds per federal regulations.

Texas' EHR Incentive/PI Program has provided almost 11,000 Medicaid providers with financial resources to implement electronic systems. Projected outcomes include:

- more accurate and complete information about a client's health, which allows them to deliver more quality care;
- decreases in fragmented care across care coordination teams, which is important for managing chronic and serious medical conditions;
- secure information sharing with clients electronically, allowing for more client engagement in decisions regarding their health; and
- timely information to help diagnose health problems sooner, reduce medical errors and provide safer care at potentially lower costs.

As of September 1, 2019, the program had disbursed over \$864 million federal incentive dollars to 10,472 eligible Medicaid professionals and 343 hospitals. Texas providers have attested to 200 different CEHRT products. The top 20 CEHRT products nationwide are used by 77 percent of Texas program participants.

Eligible Professionals and Eligible Hospitals Achieving Meaningful Use Stage 1 (MU1) and Incentives Paid as of September 1, 2019

	Provider Count	Provider Count Achieving MU1	MU1 Achievement Percent	Incentives Paid
Eligible Professional	10,472	5,160	49.3%	\$332,554,171
Eligible Hospital	343	313	90.5%	\$532,081,350
Total Incentives Paid				\$864,635,521

HIE IAPD Strategy 1: Medicaid Provider HIE Connectivity

HIE IAPD Strategy 1 is intended to assist Local HIEs with connecting to ambulatory providers and hospitals in their respective areas, including by reimbursing Local HIEs for connectivity costs incurred during the connection process. This strategy will build the critical mass of connected providers needed to create meaningful exchange of clinical data across Texas.

This HIE Connectivity strategy enables Local HIEs to transmit data through a set of state-level shared services made available to each local network by the Texas HIE platform. This model enables electronic exchange of clinical data among providers as well as with Texas Medicaid for better care coordination benefiting Medicaid patients.

HHSC recently concluded an open enrollment process to solicit Local HIEs for participation in this program. These activities continue through federal Fiscal Year (FFY) 2021. Funding allocated to Local HIEs through the enrollment process is a deliverable-based model, with the deliverables demonstrating

connections result in active transfer of CDA-based.¹⁰ or ADT-based clinical data to state Medicaid and between Medicaid providers.

Funds are targeted toward offsetting the cost HIEs absorb when establishing new connectivity for providers, are paid on a per provider basis and are based upon the type of connectivity for which a Local HIE requests reimbursement. Providers are responsible for their ongoing costs.

Responses to the open enrollment will include each Local HIE's average cost of connecting providers and hospitals to their HIE for the purposes of this program. Costs provided by the Local HIEs must be approved by HHSC prior to awarding contracts for connectivity implementation. Local HIEs must demonstrate the costs presented are comparable to their existing connectivity cost model and are aligned with current industry norms.

HIEs must demonstrate their technical readiness to establish EHR connectivity, including the capability of delivering CDA Transition of Care (CDA ToC) documents to Medicaid and the capability of enabling query-based exchange of those Transition of Care documents across the network to other Medicaid providers.

Local HIEs accepted into this program conduct business with Texas Medicaid by submitting the Medicaid Practice Onboarding Form for each Medicaid provider the HIE proposes to connect. This onboarding form provides Medicaid with the ability to ensure the provider for which connectivity is being proposed meets the eligibility criteria of the program. The Onboarding Form provides assurance that the HIE has the capability to connect the provider in a manner that meets the technical standards and program timelines set forth for the program. To ease the burden of HIEs in financing the expenditures involved in connecting providers, HIEs may elect on the Onboarding Form to apply for up-front payment of 20 percent of the approved cost of connecting the provider. HIEs will invoice HHSC per connection.

Incenting Provider HIE Participation through Low-Cost Connection Model

Texas Local HIEs are working to address the barriers faced by all levels of providers in connecting to the Health IT ecosystem. In El Paso, the Paso Del Norte Health Information Exchange (PHIX) is working one-on-one with providers to get their CEHRT connected. El Paso has many veterans whose visits to the U.S. Department of Veterans Affairs (VA) require them to provide their health histories. If PHIX HIE was connected to their PCP, this information could be provided to the VA using a database query. Without these connections, veterans are required to bring a paper copy of their health histories.

With PHIX's HIE vendor, each new connection required significant upfront costs for both the provider and HIE, as well as significant ongoing costs for providers. This is especially true for small practices. PHIX researched options for obtaining vendor integration services at more reasonable pricing. In 2018, PHIX concluded that using an open-sourced version of MIRTH to connect to the front-end of their HIE and using PHIX staff to solution the secure infrastructure and connectivity was the most economical approach. This solution, priced on a sliding scale based on the size of the practice, implements routine transmissions of standards-based clinical data C-CDA transactions to PHIX. To date, this solution has worked for three Federally Qualified Health Centers and one Local Mental Health Authority. Plans are in

¹⁰ "CDA-based clinical record" is defined as the C-CDA Transition of Care document referenced in Promoting Interoperability and 2015 EHR Certification Final Rule published by CMS, conforming to the requirements and standards referenced at 45 CFR §170.315(b)(1)(iii)

the works to expand this solution to 10 additional provider locations with less than 5 physicians by January 2020.

This interoperable information exchange between healthcare providers serving the same veteran has improved services for patient, payer and provider with costs at a fraction of commercial prices. This approach is being shared among the HIEs in Texas as way to overcome the cost barrier.

Model for Data Exchange with Community-Based Providers

HHSC has been selected for CMS' Maternal Opioid Misuse Model (MOM) grant program, which requires the ability to exchange EHRs across a participant's caregiver community that includes both Medicaid and non-Medicaid services. The HIE Connectivity Project, Strategy 1 of the HIE IAPD discussed in the prior section, provides the data exchange capabilities needed for Texas Medicaid to participate in innovative care models like the MOM program.

Community-based caregivers connected to a HIE can access and update patient records for services provided outside of the typical healthcare setting. The clinical data in combination with the claims and encounter data Medicaid already receives would enable data analytics teams to identify and assess member populations' healthcare costs and outcomes required for program oversight and reporting needs. This not only meets the requirements for the grant participation but serves as a model that can be extrapolated across the state.

Health IT Topic: Advancing the Use of Health IT to Support Quality Measurement

The ability of the Texas Medicaid Managed Care Program to transition to value-based payment and pursue meaningful healthcare quality improvement goals depends crucially on the availability of performance metrics that can reliably and consistently measure progress across all aspects of the program. These measures should leverage established data standards and consensus specifications to advance the aims endorsed by the National Academy of Medicine (formerly the Institutes of Medicine) in *Crossing the Quality Chasm*.¹¹ that care should be safe, effective, patient-centered, timely, efficient and equitable. Within the Texas Medicaid managed care program, all major initiatives focused on improving quality and building value begin with data and center on measurement (see Appendix B for a description of the Texas Medicaid Value-Based Initiatives).

Despite this commitment to data driven decision-making, Texas Medicaid, like nearly all healthcare organizations, has opportunity for improvement. A recent review by the state's Value-Based Payment and Quality Improvement Advisory Committee, a multi-disciplinary panel of experts and healthcare industry leaders established by the Executive Commissioner of HHSC to help shape the direction of the APMs and other value-based initiatives in Medicaid, found that a significant amount of data is potentially available to support healthcare quality. This panel, however, found "that doesn't mean that HHSC, its contracted health plans and their network providers always have the information necessary to provide high-value, coordinated care. HHSC must have informative data — both clinical and administrative — to guide the program, and health plans and providers must have access to timely, trusted information as a foundation for engaging in value-based payment arrangements."¹² Ultimately, according to the advisory

¹¹ *Crossing the Quality Chasm: A New Health System for the 21st Century*. Institute of Medicine (US) Committee on Quality of Health Care in America. Washington (DC): National Academies Press (US); 2001.

¹² Texas Value Based Payment and Quality Improvement Advisory Committee (2018). *Recommendations to the 86th Texas Legislature: Opportunities to Advance Value-Based Payment in Texas*. Accessed July

committee, to fully implement effective value-based and quality improvement initiatives, the HHS System and Medicaid Program will need an informatics strategy that enables near real-time learning and incorporates both clinical and administrative data into robust measures of performance. These next generation informatics tools increasingly will guide decisions at every level, from state policy maker to clinician to individual patient.

To support this emerging emphasis on analytics, best practice and patient empowerment, HHS is working to bring analytics that include both clinical and administrative data to the forefront of healthcare quality measurement and improvement. Clinical data refers to the information derived from the medical interaction between a provider and a patient, including: medications, allergies, problem list, physical examination findings, laboratory and results from other diagnostic testing. Integrating this data with existing administrative or claims data submitted to document healthcare reimbursements promises to broaden the possibilities for successful value-based payment and quality improvement initiatives.

Over the past two decades, analytics based on administrative data have evolved to more reliably measure fidelity to recommended processes of care, i.e., whether a patient received appropriate services. However, in a value-based environment, measures used for decision making, quality improvement and payment must look beyond process to consider outcomes, the prevention and control of disease, as well as environmental and behavioral risks for poor health.

For example, as value-based payment and quality improvement systems become more advanced, indicators recommended by experts through organizations such as the National Quality Forum to identify high achievement in a field such as diabetes care generally look something like the following:

- A patient's most recent HbA1C in the measurement period has a value < 8.0;
- The most recent blood pressure in the measurement period has a systolic value of < 140 and a diastolic value <90; and
- The patient is currently a nonsmoker.

While claims are suitable for identifying a population of individuals with diabetes and some basic measures of quality, clinical and health risk data such as blood pressure control and tobacco use are needed to truly understand and improve the effectiveness of care delivery. Moreover, the near real time availability of electronically exchanged clinical data will significantly accelerate the time horizon for clinical and evaluative decision-making, expanding the possibilities for rapid-cycle improvement approaches.

Ultimately, individuals and the public will benefit from the timely computation, analysis and reporting of enhanced quality indicators based on combined clinical and administrative data because it paves the way to a more accountable, learning healthcare system.

HHSC began assessing payment methodologies between MCOs and providers beginning in 2012. These early reviews indicated that while MCOs received capitated premiums from HHSC and generally operated in a value-based environment, they still predominantly reimbursed providers using a fee-for-service approach, thus maintaining incentives for volume over value in the payment model.

To help promote transformation to a Medicaid system that rewards the achievement of good patient outcomes at lower cost, HHSC created contractual targets for MCOs to link a portion of provider

18, 2019 at: <https://hhs.texas.gov/sites/default/files/documents/about-hhs/communications-events/meetings-events/vbpqi/jan-2019-vbpqi-agenda-item-6.pdf>

payments to value using APMs starting in calendar year 2018. APMs are value-based contracting models where providers assume increased accountability for both quality and total cost of care. The term is often used synonymously with value-based payment (VBP) but may also refer to a more systematic approach to VBP where APMs exist along a continuum with progressively greater emphasis on the management of a population (e.g. shared savings, bundled payments and capitation). MCOs must meet targets both for overall value-based payment and for risk-based APMs. If an MCO fails to meet the APM targets or certain allowed exceptions for high performing plans, the MCO must submit a corrective action plan and HHSC may impose contractual remedies, including liquidated damages.

APM Contract Targets with Providers

Year	Overall Target	Risk Based Target
2018	25% of medical expense in a VBP model for MCOs and dental contractors (DCs)	10% of medical expense in a risk based VBP model for MCOs; 2% for DCs
2021	50% of medical expense in a VBP model for MCOs and DCs	25% of medical expense in a risk based VBP model for MCOs; 10% for DCs

The APM initiative, which aligns with the nationally recognized framework established by the Health Care Payment Learning and Action Network,¹³ has already seen some initial progress at aligning payment with value. As of the beginning of 2018, even before the effective date of initial contractual targets, about 40 percent of MCO payments to providers for medical services has migrated to a value-based model.

Electronic clinical quality measures (eCQMs) help to measure and track the quality of healthcare services, based on data generated by a provider's EHR. The availability of clinical metrics will strengthen opportunities for MCOs and providers to adopt more powerful APMs that move closer to population-based payment. The state also sees potential for these measures to help reduce any administrative complexity associated with the changing payment model.

Administrative complexity lowers provider productivity, satisfaction and diverts energy and resources that otherwise could go toward improving patient care. The Value-Based Payment and Quality Improvement Advisory Committee plans to devote a significant portion of its upcoming work on ideas to harmonize VBP approaches, including by recommending common outcome measures for use in APMs. Standardized eCQMs will be considered as part of these deliberations and should support administrative simplification related to the APM initiative.

Federal and state law for Medicaid Managed Care require ongoing reporting on MCO performance, as well as continuous quality improvement. The electronic exchange of data and availability of robust clinical quality measures will invigorate these current efforts. The state's External Quality Review Organization (EQRO) routinely assesses quality, timeliness and access to healthcare for Texas Medicaid and CHIP

¹³ Health Care Payment Learning & Action Network. *Alternative Payment Models (APM) Framework*. July 11, 2017. Accessed July 18, 2019 at: <https://hcp-lan.org/apm-refresh-white-paper/>

recipients.¹⁴ Metrics reported by the EQRO are used for several critical purposes to promote quality improvement and value, including the development of report card ratings for individual health plans. In addition, the EQRO plays a central role in facilitating MCO Performance Improvement Projects (PIPs). Each health plan is required to conduct two, two-year PIPs per Medicaid program.

At least one of these projects must be collaborative, involving another MCO, DSRIP providers and/or community-based organizations. PIPs typically follow a recognizable quality improvement (QI) cycle encompassing root cause analysis, baseline measurement, intervention, remeasurement and assessment.

Recent projects have covered priority QI topics such as improving control of asthma and high blood pressure and reducing potentially preventable hospital and emergency department admissions, all areas that intersect with eQMs.

Health IT Topic: Health IT and Service Delivery

Health IT presents the opportunity to improve service delivery through a variety of mechanisms. It is a major tool to facilitate improved coordination and integration between Medicaid providers, including physical health, behavioral health and home- and community-based services providers. Beyond coordinating delivery of traditional healthcare services, Health IT can facilitate engagement of community-based organizations that deliver services addressing the social drivers of health, such as food insecurity, housing and transportation issues. Obtaining measurable, actionable data is at the heart of value-based care models. Quantitative and qualitative data analysis to assess performance against meaningful outcome measures identifies where the health system can deliver value. Further, tools such as telehealth and telemedicine are critical in supporting health system goals, such as achieving provider network adequacy in Texas' vast rural regions.

Care Coordination under the Managed Care Delivery System

To address their care needs comprehensively, patients often require multiple touchpoints within a single provider's care team or must be seen by multiple provider types across the spectrum of physical health, behavioral health and home- and community-based services providers. Further, as the complexity of a patient's needs increases, so does the potential for medical errors, duplication of services and unnecessary tests. To compound this complexity, the ability of a patient to achieve optimal health outcomes may be intertwined with medically relevant non-clinical factors, such as access to adequate housing, transportation and social supports.

One of the promises of Medicaid managed care both in Texas and across the nation is to optimize care coordination. The long-term pathway to the most effective care coordination would include providers using EHR technology to integrate all relevant patient care information and distribute that information effectively among authorized providers.¹⁵

¹⁴ Institute for Child Health Policy (2018). *Summary of Activities and Value-Added Services State Fiscal Year 2018: Quality, Timeliness, and Access to Health Care for Texas Medicaid and CHIP Recipients*. Accessed July 18, 2019 at: <https://hhs.texas.gov/sites/default/files/documents/laws-regulations/reports-presentations/2019/eqro-summary-of-activites-report-contract-yr-2018.pdf>

¹⁵ <https://www.healthit.gov/topic/health-it-basics/improve-care-coordination>

Findings of a study directed by the 2018-19 Texas General Appropriations Act,¹⁶ which required that HHSC conduct a review of the agency's contract management and oversight for Medicaid managed care contracts, further supports the role of Health IT in care coordination. The Rider 61 report acknowledged that the HIE Connectivity Project was introduced with “the primary objectives of advancing care coordination through increased HIE adoption and use by Texas Medicaid providers and creating additional capacity in Texas that can support that use and adoption.”¹⁷

Consistent with Rider 61, HHSC developed several focused initiatives for improving Medicaid managed care oversight, including an initiative to make improvements related to service and care coordination within managed care. HHSC's Managed Care Oversight Improvement Initiative related to care coordination and service management intends to:

- analyze other state Medicaid programs to assess best practices for care coordination within Texas' managed care programs;
- address any state-level barriers that hinder MCO delivery of care coordination services;
- simplify terminology and clarify definitions of service coordination and service management activities across product lines; and
- identify possible improvements to ensure service coordination and service management is consistent within HHSC contract requirements.

Within these initiatives is the opportunity to assess how Health IT and HIE can overcome barriers to care coordination and service management and identify opportunities for improvement in the contract requirements within Texas' Medicaid managed care models. For example, there could be an assessment of the clinical information exchanged between HHSC, MCOs and Medicaid providers and requirements for how information is conveyed from MCOs to their staff who serve care coordination functions.

Medicaid MCO and Dental Contractor (DC) Portals

MCO and DC portals present the opportunity to empower providers with information to effectively coordinate member care and provide members with the information to understand their health and better advocate for their needs.

In August 2016, HHSC polled the 19 Medicaid healthcare MCOs and two Medicaid dental contractors about their portal capacity. MCOs were asked about the data that network providers could access as well as the types of data that MCO members could access. More MCOs made health data about members available to network providers than to the MCO members themselves. Only 8 of the 19 MCOs made data about the primary categories of health data about which the MCOs were polled (claims-based data, prescription history and clinical data) available to MCO members. These portal poll results follow:

¹⁶ SB 1, 85th Legislature, Regular Session, Article II, HHSC, Rider 61(b)

¹⁷ HHSC. *Rider 61: Evaluation of Medicaid and CHIP Managed Care*, August 17, 2018. Accessed July 18, 2019 at: <https://hhs.texas.gov/sites/default/files/documents/laws-regulations/reports-presentations/2018/sb1-rider61-evaluation-medicaid-chip-august-2018.pdf>

Information Accessible to MCO Network Providers about their Clients via MCO Portal

Response	Claims-based Data (e.g., diagnosis and procedures)	Prescription History	Clinical Data (e.g., lab results and immunizations)
Yes	84%	32%	32%
No	16%	68%	68%

Information Accessible to MCO Members about their Health Data via MCO Portal

Response	Claims-based Data (e.g., diagnosis and procedures)	Prescription History	Clinical Data (e.g., lab results and immunizations)
Yes	11%	42%	16%
No	32%	0%	26%
N/A	58%	58%	58%

Both DCs had a portal that enabled network providers to see their clients' claims-based data, but not prescription history or clinical data. Also, neither of the DCs had a member portal that shared health data as of August 2016, though one of the DCs indicated they were about to launch their member portal that would enable members to view their claims, including which procedures they had.

Advances in the sophistication of MCO and DC portals has occurred since 2016, presenting an opportunity to reassess current portal capabilities and identify if any improvements could be made to portal-related managed care contract requirements.

Health IT in DSRIP

Many of the most transformative types of DSRIP projects, including integrating physical and behavioral healthcare, patient-centered medical homes, chronic care management and patient care navigation, fundamentally benefit from the timely exchange of accurate health data. DSRIP has incentivized providers to implement Health IT tools and build local data-sharing relationships that enhance care transitions, care coordination and health system navigation. Further, DSRIP has motivated providers to build internal Health IT infrastructure as well as connect to external data sources to elevate data-driven decision-making, conduct more meaningful performance measurement and engage in continuous quality improvement. Finding ways to sustain and expand upon the successful use of Health IT in DSRIP is a critical component of DSRIP transition planning for when program funding ends October 1, 2021.

Emergency Department Encounter Notification System

HHSC's EDEN system, discussed in greater detail in this plan's Health IT Ecosystem section, implements a major tool for handling care transitions with the transmission of ADT information to MCOs, providers and the state. This is the first step in Texas Medicaid's use of clinical data to facilitate care coordination.

EDEN is implemented utilizing push technology which is recognized as the preferred method for sending electronic notifications. Push technology is a recently added exchange modality in the TEFCA proposed by the ONC.

Telemedicine/Telehealth

Telemedicine and telehealth are part of the larger Texas strategy to deliver services in a more efficient, innovative way and enhances network adequacy, including in rural areas. Telemedicine services are defined in Texas law as healthcare services delivered remotely to a patient by a physician, or other healthcare professional under physician delegation and supervision.

It has the potential to offer convenient access to routine care for Medicaid clients who might otherwise be unable to receive in-person services. Using telemedicine, physicians and other healthcare providers can receive supervision and guidance on patient care from specialty-care physicians. Telemedicine can improve both the access and quality of care.

Telehealth services are defined in state law as healthcare services delivered remotely to a patient by a healthcare practitioner who does not deliver telemedicine services. In practice, this means that telehealth services are non-physician delivered services. Licensed professionals such as counselors, midwives and dietitians can deliver telehealth services.

The number of Texas Medicaid clients using telemedicine and telehealth services grew 30 percent from Fiscal Year 2016 to Fiscal Year 2017. The number of providers offering these services increased 32 percent during that same period. Texas Medicaid's spending on telemedicine, telehealth and telemonitoring services nearly doubled, from \$9.6 million in Fiscal Year 2016 to \$18.4 million in Fiscal Year 2017. The spending increase is primarily due to a significant uptick in the use of home telemonitoring services. Home telemonitoring services, also referred to as remote patient monitoring, are the scheduled review of a client's transmitted clinical data. Types of clinical data include blood pressure and blood glucose measurements.

Telemedicine and Network Adequacy. State and federal laws require that MCOs meet travel time and distance standards, which measure access to care on a quarterly basis for 35 provider types in all 254 counties in the state. Medicaid is considering how to count telemedicine and telehealth services toward meeting travel time and distance standards.

Telemedicine in Rural Areas. Texas' strategy to address rural healthcare shortages includes telemedicine. Among Texas' 254 counties, 189 counties, in mostly rural areas, are at least partially designated as a primary care Health Professionals Shortage Area (HPSA).¹⁸ Finding efficient, patient-centered approaches to deliver high-quality healthcare services to underserved rural regions is a critical issue for Texas. Telemedicine programs can enhance the viability of rural hospitals through the provision of specialized medical services.

Over the course of several legislative sessions, Texas has been expanding the options for Texas providers to engage in telemedicine in ways that address access concerns in rural areas. For example, in 2017, the Texas Legislature created a new pediatric tele-connectivity grant program to provide funding to non-urban healthcare facilities to obtain telemedicine services from pediatric specialist physicians (HB 1697, 85th Legislature, Regular Session, 2017). The grant program will enable facilities that lack

¹⁸ Health Resources & Services Administration. Health Professional Shortage Areas (HPSAs). <https://bhw.hrsa.gov/shortage-designation/hpsas>

advanced neonatal intensive care unit capabilities to make appropriate and rapid medical decisions for the care of their newborns. In 2019, the Texas Legislature passed legislation enabling satisfaction of physician requirements for Level IV trauma facility designation in counties with populations less than 30,000 using telemedicine (HB 871, 86th Legislature, Regular Session, 2019). Also, in 2019, legislation was passed to further clarify the array of Medicaid services available for telemedicine reimbursement under Medicaid managed care (SB 670, 86th Legislature, Regular Session, 2019).

HIE and Emergency Medical Services

Texas HIEs have also explored methods for enhancing service delivery. The Harlingen, Texas based Trauma Regional Advisory Council asked their HIE, the Rio Grande Valley Health Information Exchange (RGVHIE), to identify a method for improving communications between EMS 911 providers (EMS) and hospital EDs. RGVHIE developed three approaches for improving communications:

1. **EMS Data-hub.** The EMS Hub integrates with a wide range of EMS Electronic Patient Care Reporting (ePCR) software serving as a conduit for health information exchange by storing “run reports” and making them available via a Provider Portal. Run Reports are required from an EMS organization within 12-24 hours after a patient is delivered to an emergency room. Run reports were typically delivered via fax or paper. The process was fraught with inefficiencies and timeliness issues. Hospital and EMS personnel now have real-time access to run reports stored in the EMS data hub using the HIE-based web portal.
2. **EMS App and Hospital Notifications System.** This service allows for EMS to send a pre-notification alert to a receiving hospital about an individual’s status directly onto a dashboard in the Hospital Emergency Department to provide decision support and prepare for an individual’s arrival—especially for conditions requiring time-sensitive treatment or therapy—such as trauma, heart attack or stroke. The EMS App is a tool for paramedics on the field responding to 911 emergency calls to capture patient information and send real time to Hospital Emergency Room personnel.
3. **EMS access to real time patient information at the point of care.** There was consensus across RGVHIE EMS stakeholders that access to patient information would be beneficial at the point of care. Since most of the ePCRs did not have integration capabilities, RGVHIE initially solutioned this with an EMS app external to the EMS workflow. There was minimal participation and difficulty with the patient identification process. RGVHIE is continuing to work through these challenges and others.

RGVHIE learned that while it is beneficial to have maximum patient information available, the system must account for workflow adoption and variations in infrastructure standards. RGVHIE surveyed their customers and had a 77 percent response rate. A resounding 80.5 percent of respondents indicated it is extremely useful for them to be able to retrieve patient information from other hospitals, EDs and physician practices through HIE. One hundred percent of participants noted that the most important function of HIE will be obtaining mental health diagnoses and pathology reports.

Disaster Response - PULSE

PULSE is a nationwide Health IT disaster response platform that can be deployed at the city, county or state level to authenticate and assist disaster healthcare volunteer providers.

PULSE allows disaster workers to query and view patient documents from all connected healthcare organizations. To ensure the maximum amount of medical information is electronically available about Texans during a disaster, HHSC is proposing to implement PULSE in partnership with THSA. In 2017, the THSA’s query-based HIE services were scheduled to terminate as THSA was in the process of converting

HIETexas, the THSA's state-level HIE network, from query-based exchange services to an alerts-based care coordination platform. However, THSA delayed that transition after Hurricane Harvey hit Texas and there was a need to continue offering query-based HIE to assist in the recovery efforts by allowing patients' health information to follow them.

During the response to Hurricane Harvey, Texas HIEs set up access in select shelters and provided patient look-up services to medical teams operating in those environments. Although several successful information hits resulted, the process needs to be scaled and standardized across the state.

PULSE, initially developed by the State of California with ONC grant funding (2015-2017), is a non-proprietary, open-source software solution operated for California by Audacious Inquiry (Maryland) and hosted by The Sequoia Project. PULSE was designed to be expandable to all parts of the United States.

PULSE represents a significant improvement over the HIE involvement during the Hurricane Harvey response. It provides emergency healthcare workers direct access to broader sources of critical health information. Texas is proposing to implement PULSE through IAPD funding requested to leverage and expand the state-level services, HIE and provider connectivity included in all the strategies of the previous IAPD.

During disasters, Texas' large and highly complex healthcare delivery system performs as a health information exchange model with HIEs that have limited interoperability across the state. An interoperable model is required to support meaningful coordination of care as services are delivered in shelter sites. It is essential that the most clinically relevant information be available to support individuals involved in disaster situations. The access and use of health information is critical to patient quality of care during these times of crisis.

The project is based on a use case that incorporates interoperable health information technology tools and services that support disaster response activities in shelter locations. It will incorporate national standards that facilitate health information exchange and build upon the HIE work already accomplished in Texas.

Behavioral Health

Behavioral health has been a priority focus for Texas over the last several years as demonstrated through significant policy-making, strategic planning and legislative funding commitments. Texas Medicaid and CHIP has been working on several initiatives to improve outcomes and reduce costs for providing services to individuals with Behavioral Health (BH) diagnoses. The capacity for providers to coordinate care through the sharing of health information will help Texas Medicaid achieve these initiatives, which are as follows:

- Implementation of federal and state mental health parity standards, which require that individuals do not experience more barriers accessing mental health and substance use disorder services than they do accessing medical and surgical services;
- The creation of managed care requirements around integrating behavioral and physical healthcare at the MCO and provider levels;
- Evaluation of a pilot program studying integrated behavioral and physical healthcare led by behavioral health clinics and including the implementation of alternative payment methodologies in integrated care clinics;
- Implementation of a peer support benefit for individuals with mental health and substance use disorder conditions; and

- Improving access to medication assisted therapy and other evidence-based treatments for substance use disorders.

The Health IT approach to behavioral health cross-cuts many Health IT topics, which necessitates the comprehensive discussion that follows.

Prevalence of BH diagnoses in Texas Medicaid

More than 290,000 Texas Medicaid and CHIP clients had a diagnosed serious emotional disturbance (SED) or serious mental illness (SMI) in state Fiscal Year 2016. The most common SED/SMI diagnoses are major depression, schizophrenia and bipolar disorder. A much larger number of clients experience mental health conditions that do not rise to the level of a SED/SMI but do impact daily life, such as anxiety disorders. Still others have diagnosed substance use disorders, such as opioid use disorder or alcoholism.

Health IT's potential for physical and behavioral health integration

Care coordination across physical and behavioral health is of sentinel importance to ensuring good outcomes. Behavioral health conditions are associated with significant physical comorbidities, which can increase the cost of care and result in poor health outcomes. Individuals with mental illness are also more likely to develop chronic medical conditions and become physically debilitated earlier in life, increasing acute and long-term costs. Behavioral health conditions are associated with 22 percent of Texas Medicaid managed care potentially preventable admissions and 46 percent of potentially preventable readmissions. Almost 66 percent of Texas Medicaid clients with three or more ED visits and two or more admissions in a year have a chronic behavioral health condition. According to a national study, significant numbers of nursing facility residents had a primary diagnosis of mental illness, with 25 percent being younger than age 65. Some medications required to manage the symptoms of serious mental illness can increase the risk of chronic physical conditions, such as metabolic disorders (e.g., diabetes).

When health information, such as medical history, lab results, medication lists and treatment plans for physical and behavioral health is not electronically exchanged, providers may prescribe treatment that compromises the person's safety, disrupts their recovery or otherwise negatively affects their overall well-being. In cases where people with more severe conditions must see multiple providers, the risk that they will receive fragmented and inconsistent episodic care increases (e.g., people with depression are three times more likely to be noncompliant with their medical treatment regimens), which contributes to a shorter life expectancy.

The ability for behavioral and physical health providers to electronically share data on conditions and treatments enhances coordination of care, reduces/prevents adverse health events and improves outcomes of care.

Without connectivity to the Health IT ecosystem, the state must rely on its medical benefits claims processing system (Compass21) and outpatient pharmacy claims processing system (OS+, which is managed by Conduent) to manage whole-person care in individuals with behavioral health conditions. These systems are not connected and, as an example: a client could receive the buprenorphine implant (J0570) in a physician's office or outpatient hospital as a medical benefit (Compass21) and also receive an outpatient prescription by a different provider (i.e., pharmacy claims processed by OS+) that would interact negatively with the buprenorphine without either provider being aware, which could result in serious complications for the client.

Behavioral health providers have been working to use EHRs. This has been an issue for both behavioral and physical health providers who are working to integrate care within their practice, as many EHRs are not built to accommodate the needs of an integrated provider and require technical modifications. In addition, behavioral health providers are beginning to enter APMs with some MCOs, which often require EHR modification for quality measure data. These types of modifications can assist providers in addressing the needs of individuals with co-occurring conditions, but can be expensive and cost prohibitive. Assistance to providers will be necessary to support advances in an integrated care model.

HHSC maintains an electronic data system known as Clinical Management for Behavioral Health Services (CMBHS). CMBHS serves as an EHR for contracted providers of substance use disorder (SUD) services, and it serves as a data reporting system for contracted providers of mental health services.

For SUD services, CMBHS captures clinical documentation at a detailed level, including such things as client profile, screening, assessment, service type, treatment, progress notes, lab results, medication administration and service authorization. CMBHS also supports submitting claims to TMHP both for block-grant-funded SUD services and for a limited set of Medicaid-funded SUD services. Entering data for SUD services is currently only supported through a web-based interface in which providers directly enter the data. SUD providers who maintain their own electronic health record have the option of exporting their data, so it may be imported into their local systems.

For mental health services, CMBHS primarily serves as a data reporting system. It captures client profile, diagnosis, assessment, service authorization and it supports submitting claims to TMHP for certain Medicaid mental health programs. The system is primarily used by the Local Mental Health Authorities (LMHAs) and by other Medicaid providers of mental health case management and mental health rehabilitation services. Data for mental health services may be entered directly through the web interface, but LMHAs, with their own electronic health records, may submit information through an electronic data exchange.

Although CMBHS supports a variety of nationally-recognized vocabulary standards including the Diagnostic and Statistical Manual, ICD-10, and the National Drug Code, at the time of development there were no available national data standards that sufficiently addressed the medical and care delivery needs for patients with serious mental illness. This was recognized by HL7, which, at the time, had a workgroup on community-based collaborative care. To enable the LMHAs to extract data from their local EHRs and submit it electronically to CMBHS, the state worked with the primary EHR vendors of the LMHAs (Cerner, iServe, & Netsmart) as well as IT directors from the LMHAs to develop a set of standards and data definitions which are still in use today. All 39 of the LMHAs in Texas engage in some form of data exchange with CMHBS; but 35 of them utilize all the data exchange functions. The other four use a combination of data exchange and direct entry.

CMBHS is planned to be the system of record for commitment information, which is currently captured in various systems. Outpatient community center commitments are captured in CMBHS. State hospital commitments are captured in the Avatar systems maintained by the state hospitals, but it is also transmitted to the legacy mental health system, known as CARE. Current plans are to migrate remaining CARE functions to CMBHS when funding becomes available.

CMBHS could play an effective role in integrating behavioral health services into a care coordination system, but not without enhancements to its data exchange process. As CMBHS currently only supports the exchange of behavioral health data using custom interfaces, further development work would be required to make CMBHS compliant with ONC proposed national standard for USCDI and to meet the HL7 C-CDA standards. Making these enhancements in CMBHS and having our contracted users make

the same enhancements to their local systems would allow CMBHS to be interoperable, exchange behavioral health data and receive other forms of health data in a meaningful way.

The state's and MCOs' ability to effectively manage the Medicaid system to achieve good outcomes for Medicaid and CHIP members with behavioral health conditions can also be enabled through improvements, standardization and connectivity to the Health IT ecosystem.

Connection of BH provider EHRs and CMBHS

Once behavioral health provider EHRs and CMBHS are connected to the Health IT ecosystem, MCOs and state staff would be able to access clinical data on member characteristics that would aid in the identification of specific needs. These denotations include certain behavioral health diagnoses for whom MCOs are contractually required to provide high levels of care coordination, and members enrollment in specific waiver programs with whom MCOs are contractually required to coordinate in creating service plans and authorizing medically necessary services. This information could also assist the state in data analysis to identify common diagnoses on which policies or programs to improve outcomes may be focused, and to ensure that members are not enrolled in more than one waiver program at a time.

Connectivity to provider EHRs would also enable access to information on court-ordered psychiatric services and would assist MCOs and the state to ensure that all court-ordered services are delivered and reimbursed, and that members who have been court-ordered into services get needed supports as court orders expire to prevent further criminal justice involvement and reduce emergency department use and hospitalizations.

As non-medical clinically necessary information is integrated into CEHRT, provider EHRs would also indicate when a member is experiencing a non-healthcare need that impacts health, such as housing instability or interaction with the criminal justice system. This would allow MCOs to identify members with further care coordination needs and would allow the state to work with other state-level systems such as the Texas Department of Housing & Community Affairs and the Texas Commission on Jail Standards to coordinate needs of Medicaid and CHIP participants.

Goals/Milestones

While this Health IT Strategic Plan details many important initiatives that advance Health IT, the milestones described in the table that follows represent core activities to services and providers across the continuum of care. HHSC considers this plan a living document that may be adapted to meet evolving needs.

Health IT/ HIE Strategy	Service or Application	Measure	FFY 2020/2021 Milestones
HIE IAPD Strategy 1	Connections	Number of Medicaid providers connected to Local HIEs by this project, with capability to transfer C-CDA and/or ADT-based clinical data	Goal is two hundred (200) Medicaid providers (including hospital and ambulatory providers) connected to Local HIEs as an outcome of this project

Health IT/ HIE Strategy	Service or Application	Measure	FFY 2020/2021 Milestones
HIE IAPD Strategy 2	Onboarding Local HIEs to THSA	Number of HIEs connected to the THSA by this project	Goal is eight (8) HIEs connected to THSA as an outcome of this project
HIE IAPD Strategy 2	Master Patient Index	Implementation of Master Patient Index	Master Patient Index implemented
HIE IAPD Strategy 3	Medicaid Emergency Department Encounter Notification	Number of HIEs contributing hospital emergency department ADT data	Goal is eight (8) HIEs contributing hospital emergency department ADT data as an outcome of this project
Initiative	PULSE	Program Planning and Implementation	Develop Plan and PULSE Application. Test and Launch PULSE Application and Implement Program

Conclusion

The primary objectives of this Health IT Strategic Plan are to establish a Health IT or HIE model that achieves better health outcomes for Texas Medicaid clients and to bring increased value to healthcare providers, institutions and community partners to best serve the Texas Medicaid population. Our intent is to develop a pragmatic, achievable and meaningful strategy that motivates state agencies and healthcare providers to adopt interoperability and Health IT infrastructure in support of achieving better health outcomes for the people we serve. Meaningful health data collection strengthens understanding of the relationship between social drivers of health and healthcare use across diverse populations, allowing the state to develop solutions to better connect patients to much needed services.

Propagating the transmission of ED ADT data will demonstrate the value to PCPs and healthcare providers of participating in data exchange. This is a first step in the use of clinical data for care coordination, but we must take subsequent steps beyond ED data notifications. Push technology is one way of exchanging information, but not the only one and not for all use cases. The ability to ask for information that is needed for care is another widely used method to support APMs. This Health IT Strategic Plan demonstrates an initial pathway, but Texas must also scale the solution beyond ED data to enabling push notifications between healthcare providers and payers. True care coordination will happen with information exchange among all care providers on the care team throughout the care continuum.

Not all healthcare providers and Medicaid payers will swiftly adopt the idea of connecting to HIEs to transmit data to other providers, other HIEs or state HHS entities. Many of the reasons for this reluctance are described in this plan. Large hospitals, provider groups and MCOs may recognize the most value in client data transmission and with their more robust resources are likely to adopt and implement HIE. However, it is unrealistic to expect 100 percent adoption from the healthcare community. Rural providers and practices that treat a small population of patients are likely to be the last to adopt HIE due to resource constraints.

Texas HHS must diligently work directly with HIE networks, THSA, provider associations, healthcare providers and MCOs to communicate the HIE value proposition and assist with bringing value to their respective organizations. Every organization strives to improve health outcomes for their patients, but how to achieve this vastly differs among organizations as the approach is governed by entity-specific priorities. Over the last five years, providers have encountered great expense and dedicated a significant amount of resources toward adopting and implementing EHR technologies. Their primary purpose is to provide high-quality services to the patients they serve, and Texas HHS can play a significant role in shaping a Health IT landscape that advances this objective.

The buildout of Health IT and HIE infrastructure is a critical component of furthering Texas HHS' vision of "Making a difference in the lives of the people we serve" and the mission of "Improving the health, safety and well-being of Texans with good stewardship of public resources."

Appendix A – Timeline of Health IT Legislation in Texas

Legislative action has been a significant driver for the advancement of Health IT in Texas. In 2005, the Texas Legislature created a multi-agency Texas Health Care Policy Council (Council) that was charged, among other directives, with “promoting the use of technology in health care to decrease administrative costs and to increase and improve the quality of health care.”¹⁹ In 2006, Governor Rick Perry established the Texas Health Care System Integrity Partnership, which recommended mechanisms for operationalizing the state-level recommendations of the Council.

In 2007, the Texas Legislature enacted Chapter 182 of the Health and Safety Code, which established the THSA. THSA is “a public-private collaborative to implement the state-level health information technology functions” and is intended to serve “as a catalyst for the development of a seamless electronic health information infrastructure to support the healthcare system in the state and to improve patient safety and quality of care.”²⁰

HHS agencies serve as ex officio representatives on the THSA board of directors. Texas HHS agencies work with THSA, HIEs and other stakeholders to advance the use of standards to support interoperability. Currently, the THSA is focused on:

- 1) expanding connectivity;
- 2) emergency department notifications;
- 3) support for statewide disaster response; and
- 4) public health reporting.

The Electronic Health Information Exchange System Advisory Committee was established to advise HHSC on issues regarding the development and implementation of the electronic health information exchange system in accordance with HB 1218, 81st Legislature, Regular Session, 2009. The committee was chaired by a member of the healthcare provider community and offered valuable stakeholder insight regarding HHS Health IT and HIE activities.

In 2010, HHS established the OeHC to serve as a single point of contact in HHS for health policy information, coordinate state level activities with THSA and serve as the State Health IT Coordinator and the central Health IT coordinator within the Texas HHS agency system.

In 2015, SB 200, 84th Legislature, Regular Session removed over 20 advisory committees from statute, including the Electronic Health Information Exchange System Advisory Committee, and HHSC subsequently created the eHAC to advise HHS agencies on strategic planning, policy, rules and services related to the use of Health IT, health information exchange systems, telemedicine, telehealth and telemonitoring services.

HB 2641, 84th Legislature, Regular Session, 2015 required that information systems planned or procured on or after September 1, 2015 and used by a Texas Health and Human Services Agency to send or receive protected health information to and from healthcare providers use applicable standards and be interoperable with each other. HB 2641 aligns with federal legislation and promotes the use of certified electronic health record technology as well as requires information systems to follow the ONC’s ISA.

¹⁹ House Bill 916, 79th Legislature, Regular Session, 2005

²⁰ House Bill 1066, 80th Legislature, Regular Session, 2007

Initiative	Description	Quality and/or Efficiency Measures	Benefit from Improved Health IT/HIE
<p>Transition from Fee-for-Service to Managed Care</p>	<p>Over 90 percent of Medicaid and CHIP clients receive services through risk bearing MCOs and DCs. The transition to managed care has occurred in carefully planned stages over a 24-year period.</p>	<p>Federal and state law require several quality related activities including routine reporting on evidence-based measures of MCO and DC performance.</p>	<p>Care coordination is a foundation of the MCO service delivery model. The state’s Health IT strategy will establish a reliable pathway for the expeditious exchange of high-quality data with MCOs and across providers engaged in the care of an individual. The availability of clinical data will also improve the relevance of program performance measures, including eCQMs.</p>
<p>MCO Pay for Quality (P4Q)</p>	<p>Budget neutral program that creates incentives and disincentives for MCOs and DCs. Health plans that excel on specified quality metrics are eligible for additional funds above their existing premium payments; health plans that do not meet their measures can lose funds.</p>	<p>P4Q includes industry recognized process and outcome measures within a model that: 1) is easy to understand; 2) allows health plans to track performance and improvement; 3) rewards both high performance and improvement; and 4) promotes transformation and innovation.</p>	<p>Improved HIE will allow for more timely assessment of MCO performance using the most meaningful metrics possible, including metrics showing clinical outcomes and that are appropriately adjusted for clinical and social risk.</p>

Initiative	Description	Quality and/or Efficiency Measures	Benefit from Improved Health IT/HIE
Hospital Quality Based Payment Program for Potentially Preventable Readmissions and Complications	Provides incentives and disincentives to hospitals to reduce potentially preventable readmissions and complications. MCOs pass incentives and disincentives to hospitals based on a hospital's overall performance for Medicaid clients as calculated by HHSC.	Potentially Preventable Readmissions and Potentially Preventable Complications.	Real time exchange of health information is crucial for care transitions that reduce preventable events. Admission, discharge and transfer data has been demonstrated to reduce preventable hospital admissions and readmissions.
MCO Performance Improvement Projects (PIPs)	Two-year projects designed to follow a common quality improvement cycle. Projects should demonstrate significant improvement sustained over time for clinical and non-clinical care that has a favorable effect on health outcomes and client satisfaction.	HHSC, with the EQRO, determines topics for PIPs based on improvement goals. MCOs create a PIP plan, report on progress annually and provide a final report.	HIE will reduce data lag, promoting the integration of rapid-cycle improvement approaches into the PIPs. Wider use of electronically exchanged clinical data/metrics will expand the range of viable QI projects, particularly collaborative projects.

Initiative	Description	Quality and/or Efficiency Measures	Benefit from Improved Health IT/HIE
<p>Quality Incentive Payment Program (QIPP)</p>	<p>Incentivizes nursing facilities to improve quality and innovation in the provision of services using the CMS five-star rating system as a basis.</p>	<p>Performance measures include: 1) high-risk residents with pressure ulcers; 2) percent of residents who received an antipsychotic medication; 3) residents experiencing one or more falls with major injury; and 4) residents who were physically restrained.</p>	<p>Nursing homes maintain data in electronic format but may not participate in electronic health information exchange with other providers, despite the complex medical backgrounds of their residents. Real time data exchange involving nursing homes is crucial for optimal care coordination and, in particular, will promote better transitions across care settings and higher performance on both nursing home and hospital metrics.</p>
<p>MCO Value-Based Contracting (or Alternative Payment Models) with Providers</p>	<p>HHSC, through contract, requires MCOs to develop value-based payment models with providers.</p>	<p>HHSC has established overall and risk-based targets for the level of MCO reimbursement to providers through value-based payments relative to a plan's total medical expenses.</p>	<p>More clinically relevant data, metrics and data sharing across providers, MCOs and agency programs is needed for the state to fully transition to a value-based Medicaid program.</p>

Appendix C – Public Health Collaborations Advancing Health IT

The Department of State Health Services (DSHS) is Texas' state-level public health agency and is an important component of Texas' Health IT ecosystem. DSHS receives health data from healthcare providers, including general practitioners, specialty care providers and hospitals across the state and uses it to advance DSHS' goals:

- Improve health outcomes through public and population health strategies, including prevention and intervention.
- Optimize public health response to disasters, disease threats and outbreaks.
- Promote the use of science and data to drive decision-making and best practices.

DSHS recognizes the value in using Health IT and health information exchange to reduce provider burden in reporting information to the state. It also recognizes the value in transforming the data it receives into timely, accurate, actionable information that supports providers in their delivery of high-quality care to patients.

DSHS is continuously investing in its technology systems that support the state's Health IT ecosystem. Key services DSHS provides that rely on the exchange of health information with providers include:

- Operating the State Laboratory, which performs a variety of tests, including newborn blood spot testing.
- Operating the state's immunization registry, which allows healthcare providers and other authorized users to use ImmTrac2 to access immunization histories and vaccination forecasts for children and adults who have consented to have their information included in the immunization registry.
- Disease investigations conducted by the state and local health departments using DSHS' implementation of the National Electronic Disease Surveillance System (NEDSS).
- The Texas syndromic surveillance system, which collects information from hospitals and urgent care centers and makes that information available to local health departments across the state.
- The Texas Cancer Registry, which collects patient-level information from healthcare providers who diagnose and treat cancer. This data can be used to help coordinate patients' care, conduct cancer research and investigate cancer clusters in communities across the state.
- The newborn hearing screening program, which focuses on early detection of hearing issues in newborns and appropriate follow-up care.
- Managing HIV services funded through the Ryan White grant program.

DSHS-run information systems supply actionable information to providers, DSHS program staff, local health departments and other entities. DSHS and its partners use data from these systems to target preventative and early intervention services intended to minimize the health impacts and manage the costs of detected diseases or conditions.

DSHS and HHSC share the same information technology services team, core system architecture requirements, data center and internal IT project approval and governance processes. This sharing eases coordination and helps align resources to meet core needs such as data exchange between the agencies and external partners. This collaboration includes sharing plans and technologies to connect with health information exchanges (HIEs) and other trading partners.

Both DSHS and HHSC will benefit from the improved connectivity for providers and HIEs described in the HIE Implementation Advanced Planning Document. The connection established to support the Emergency Department Encounter Notifications system messages (described in this Plan) between the Texas Health Services Authority's HIETexas and HHSC can also be used to support the exchange of data with DSHS' registries and information systems.

The capabilities provided through the Medicaid provider directory system index being implemented can be extended to serve DSHS' registry systems, reducing duplicative activities by providers and improving DSHS' ability to link information from disparate systems together. Similarly, access to a master patient index will be of use to DSHS programs as they match patient records from different systems.

DSHS is working to improve its implementation of NEDSS. Modernizing NEDSS and its affiliated tools will improve providers' ability to submit data, including support for electronic case reporting. The transition to electronic case reporting will reduce manual activities currently required of providers, by enabling direct reporting of conditions from providers' electronic health records (EHRs), leveraging the Reportable Condition Knowledge Management System or similar technologies.

DSHS continues to improve its IT systems, complying with interoperability standards requirements from House Bill 2641, 84th Legislature, Regular Session, 2015, with an aim to provide actionable data to decision-makers at the local, state and national levels. Funding to implement technology changes comes from general revenue, the Centers for Disease Control and Prevention, other grant-making entities and through partnerships with HHSC to implement projects funded through the Advanced Planning Document process.

DSHS recognizes the importance of governance in managing internal systems, the state's Health IT ecosystem, as well as at the national level including both exchange networks and messaging standards. Representatives from DSHS are active in all levels of governance and work to ensure that public health's needs, as well as the services it can provide, are recognized.