Interoperability for Texas: Powering Health 2024

As Required by
Texas Government Code, Section 531.0162(f)

Texas Health and Human Services
December 2024

TEXAS
Health and Human Services

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Executive Summary

Texas Government Code, Section 531.0162(f) requires:

- That not later than December 1 of each even-numbered year, the executive commissioner reports to the governor and the Legislative Budget Board on the commission's and the health and human services agencies' measurable progress in ensuring that information systems are interoperable with one another and meet the appropriate standards; and
- The report to include an assessment of the progress made in achieving commission goals related to the exchange of health information, including facilitating care coordination among the agencies, ensuring quality improvement, and realizing cost savings.

This is the fifth biennial report submission to the Legislative Budget Board and the Office of the Governor regarding interoperability of information systems maintained by the Texas Health and Human Services (HHS) agencies, including the Health and Human Services Commission (HHSC) and the Texas Department of State Health Services (DSHS), fulfilling the statute's reporting requirements. The *Interoperability for Texas: Powering Health 2024* report:

- Summarizes policy and programs impacting interoperability requirements at the state and federal level since the release of the *Interoperability for Texas: Powering Health 2022* report.
- Updates HHS's interoperability goals and describes the agencies' progress towards achieving these goals.
- Describes information systems that exchange protected health information (PHI) and electronic health information (EHI) between HHS agencies and health care providers, within each HHS agency, and between HHS agencies.
- Provides updates to program and service plans to improve interoperability and describes additional progress made to support interoperability since the 2022 report.

Introduction

Interoperability, the ability to exchange and use EHI without special effort on the part of the user and in a way not constituting information blocking,[1] can have significant impact on improving the delivery and management of health care and public health services at both the person and population levels. The ability for patients, health care providers, hospitals, payers, researchers, and public health staff to securely and efficiently access, share, and use patients' health care information creates many benefits. Health information may include patients' health histories, clinical observations, medication, laboratory results, radiological images, and information collected from home-use monitoring systems. Access to patients' medical histories allows providers to better understand and collaborate with the patient to manage a person's health, enabling both providers and patients to make more informed decisions. Interoperability also aids in the development of new medicines and treatments and may reduce or eliminate public health risks.

Interoperability reduces the burden on patients by decreasing the need to provide the same information to multiple entities. The exchange of test orders and results can accelerate access to treatment and can reduce or eliminate repetitive, unnecessary, and expensive testing. Interoperability reduces the burden on providers by enabling access to PHI, often in real time. Automated interoperability requires fewer human resources than manually gathering, assembling, and interpreting data.

Access to data from a wide range of locations can enable consultations with experts outside of the patient's immediate region, which is beneficial to rural Texans. Data users may use support systems such as prescription drug monitoring programs and immunization registries with forecasting services to analyze data, comparing one patient's data with best practices and others' anonymized data to develop individualized care plans. Interoperability between health care providers' systems and public health systems enables improved reporting and control of highly infectious diseases, improved understanding and control of other population-level health risks, and data to inform research for cures and treatments.

[1] Information blocking is a practice likely to interfere with the access, exchange, or use of EHI, except as required by law or specified in an information block.

Background

Interoperability allows for the efficient and secure exchange of PHI across health care organizations including providers, payers, and health departments. It enhances care coordination and health care services, controls or reduces costs, aids in research, and enables quicker identification of and response to public health concerns. It allows patients to access their data and facilitates their involvement in their health care. Key focus areas include building and maintaining infrastructure as well as modernizing and adopting technology that promotes interoperability, adoption of national standards, engaging stakeholders, increasing electronic data exchange, and using data for informed decision making.

Both HHSC and DSHS have collaborated on interoperability plans and projects to facilitate the interagency alignment of goals and resources. This report meets the requirements of Texas Government Code, Section 531.0162(f) to develop a biennial report detailing the measurable progress towards HHS agencies' goals related to the exchange of health information, facilitating care coordination among the agencies, ensuring quality improvement, and realizing cost savings.

HHS agencies' current interoperability goals align with HHSC's *Health Information Technology (HIT) Strategic Plan* and the final *Texas State Medicaid HIT Plan* submitted to the Centers for Medicare & Medicaid Services (CMS). The interoperability goals include:

- Updating or replacing health information systems to use current, applicable data standards, improve efficiency and effectiveness, and maintain the security of information systems and data.
- Using interoperability capabilities to reduce 1) burdens on patients' and providers' access to data; 2) administrative and technical burdens on providers' exchange of data with Texas HHS agencies; and 3) support improved quality of care, better patient outcomes, lowered costs, enhanced fraud detection, and improved public health.
- Expanding health information exchange (HIE) capabilities in the state, with focus on Medicaid and public health services.
- Fostering collaboration across the HHS system and between its agencies and stakeholders to bridge gaps and improve interoperability in Texas.

- Promoting telemedicine, telehealth, and telemonitoring to increase access to value-based health care, especially for rural communities.

The 2024 report details standards used in Texas for exchanging PHI. The following sections refer to updates to federal and state policies and programs, and how HHS supports specified standards.

State and Federal Changes

Texas' legislative and executive branches have focused on interoperability as an important health policy for the last two decades. The federal government has also been active in advancing interoperability, both with the development and adoption of policies promoting the exchange of health information, and the investment of billions of dollars. In Texas, there has been a wide range of legislation, informed by the work of numerous task forces, work groups, and committees that, coupled with the federal regulatory action, have established a firm foundation upon which interoperability can be advanced. Over the last decade, there has been substantial improvement in technological capabilities to exchange data, realizing the policy development activities that were undertaken in the decade prior.

Below are key state and federal program changes related to interoperability since the 2022 report.

Broadband Internet in Texas

In 2020, the Governor's Broadband Development Council published its first annual report. The Council is tasked with researching barriers to establishing broadband in unserved areas; studying solutions to overcome them; and analyzing how statewide access would benefit Texas, including for emergency preparedness and delivery of health care services. The 2021 report noted that the Council's recommendations were included in House Bill (H.B.) 5, 87th Legislature, Regular Session, 2021, which required a statewide broadband plan within 12 months of bill signing.

In March of 2022, the Texas Broadband Development Office launched the Texas Broadband Listening Tour to hear broadband experiences directly from Texans. In addition to the Texas Broadband Listening Tour, surveys, analysis of results, and recommendations were used to create the Texas Broadband Plan. In April 2024, the Broadband Development Office launched the Texas Digital Opportunity Hub.

National Interoperability Landscape

The national landscape supporting interoperability and HIE continues to undergo significant transformation. The current approach relies upon both technology and policy. Recent activities include work related to the Trusted Exchange Framework

and Common Agreement (TEFCA), CMS' Quality Payment Programs and Inpatient Prospective Payment Systems (IPPS), Information Blocking regulations promulgated under the 21st Century Cures Act, and additional federal regulations. The CMS Interoperability and Prior Authorization Final Rule (CMS-0057-F), released in 2024, includes requests for information that may guide additional actions intended to improve interoperability. See Appendix A for additional information.

National Data and Exchange Standards

Data and exchange standards development have continued at a national level. HHSC staff are active in a variety of standards development and review organizations, facilitating the inclusion of Texas' needs into the national standards landscape, including those used for laboratory orders and results reporting. A significant development is the broad adoption and expansion of the Fast Healthcare Interoperability Resources (FHIR) standard, developed by Health Level Seven (HL7).[2] FHIR is a set of rules and specifications serving as both a content and exchange standard, built upon HL7's past work in developing the Clinical Data Architecture standard and HL7 Version 2.x (V2) and V3 messaging. FHIR supports real-time exchange of distinct data elements (fields), allowing each exchange of data to be "customized" to the purpose of that specific exchange.

The federal government has developed a regularly updated catalog of data elements, the United States Core Data for Interoperability, which supports FHIR. Data elements in the United States Core Data for Interoperability are required by the 21st Century Cures Act to be supported by Certified Electronic Health Record Technology (CEHRT). United States Core Data for Interoperability V5 was published by the Assistant Secretary for Technology Policy (ASTP)[3] in July 2024.

[2] HL7 is a not-for-profit standards development organization for the exchange, integration, sharing, and retrieval of EHI.
[3] ASTP is the former Office of the National Coordinator for Health Information Technology. The office was renamed in July 2024.

Program and Service Updates

Health and Human Services

The federal MyHealthEData initiative was launched in March 2018 to meet the CMS Interoperability and Patient Access Final Rule (CMS-9115-F) that supported Executive Order 13813 (2017). HHS followed CMS' initiative by creating a similar project with the same name. Both initiatives aim to empower patients by ensuring access to their health information by using an application programming interface (API), enabling multiple computer programs to communicate. The patients can decide how their data is used, while keeping it safe and secure. Shared goals included eliminating barriers to patient access of EHI from a device or application of their choice.

The HHS MyHealthEData had two major deliverables:

- Patient Access API: Fee for service claims; encounter, clinical, and formulary data.
- Provider Directory API: Available provider names; provider addresses, phone numbers, and specialties.

The project leveraged the FHIR standard as its key technology. Technology applications use FHIR to improve data sharing between systems and make access to patient health data seamless for providers, patients, and administrators. HHS continues to engage stakeholders on further deployment of FHIR.

Development work and initial testing of the MyHealthEData application has concluded. However, it has not yet been deployed. Changes at the federal level impacted timelines. The current vendor is reviewing infrastructure; engaging in any necessary additional development; and reviewing the API ecosystem. New federal requirements will continue to impact the project and guide new projects in the upcoming biennium.

Internal Collaboration

HHSC's Office of e-Health Coordination (OeHC) coordinates and supports implementation of HIT and HIE initiatives across HHS. The OeHC facilitates collaboration across both agencies and multiple divisions, focusing on HIT and HIE

policy and technology to improve health outcomes. Since the 2022 report, OeHC has continued these efforts as well as management of the HHSC e-Health Advisory Committee (eHAC). The OeHC has coordinated submittal of several eHAC HIE and HIT recommendations to the agency and facilitated the committee's input on the implementation of certain legislative requirements, per agency request.

Provider and Stakeholder Engagement

The eHAC, established under Title 1, Texas Administrative Code, Section 351.823, and supported by OeHC, advises HHS agencies on interoperability, behavioral health, telemedicine, telehealth, and home telemonitoring.

Since the 2022 report, eHAC has made several recommendations to HHSC. In the 2023 *Informational Briefing Document* submitted to HHSC, eHAC recommended adoption of a set of clinical quality measures (CQMs) and electronic clinical quality measures (eCQMs) for use across HHSC. These CQMs and eCQMs aid in understanding the quality of service provided under its programs and reduce administrative burdens on providers. The eHAC recommended the adoption of:

- A shared catalog of health care quality measures, focusing especially on the adoption of CQMs and eCQMs;
- A shared method of reporting quality measures; and
- A coordinated schedule for reporting quality measures to the appropriate entities.

Other recommendations being considered by eHAC include: the adoption of system-wide standardized person naming conventions; adherence to Project US@ patient address standards to support improvements in patient matching; and educational efforts for telemedicine, telehealth, and telemonitoring providers. Recommendations will be included in eHAC's 2024 biennial report to the agency, due in December 2024.

Additional stakeholder engagement continues with HHS' participation in an *ex officio* capacity on the board of the Texas Health Services Authority (THSA). HHS program areas engage with stakeholders regarding interoperability and data access and use. Examples include collaboration between HHSC and the Local Mental Health Authorities and DSHS' participation in the Public Health Funding and Policy Committee and the Newborn Screening Advisory Committee.

Health and Human Services Commission

Digital Quality Measurement

Both CMS and the National Committee for Quality Assurance have committed to fully transition to digital quality measurement by 2030. To comply with digital quality measurement requirements, HHSC and managed care organizations (MCOs) will need broad access to electronic health data, including individuals' assessments, screenings, service plans, lab test results, and other health care information. These data will need to follow standardized, digital formats. This is a significant shift from the reliance on claims data for quality measurement that will ultimately result in reduced provider burden, enhanced ability to evaluate health outcomes, and more real-time data to support quality improvement efforts. HHSC is working with Texas' external quality review organization and Medicaid MCOs to identify gaps in available electronic health data and to develop options for the effective use of this data in meeting National Committee Quality Assurance reporting requirements.

Health Information Exchange Data Connectivity

The HIE Connectivity Project consists of three strategies to increase HIE use by Medicaid providers, create new HIE capacity in Texas, and bring data into Texas Medicaid to improve care and health outcomes for Medicaid clients. These strategies are funded through a combination of state and federal funds. Below are updates to the three strategies since the 2022 report.

Strategy One: Medicaid Provider Health Information Exchange Connectivity

Strategy one, now solely funded by the state's General Revenue Fund, assists three of the state's five local HIEs with connecting to Medicaid ambulatory providers and hospitals by offering funds to offset the costs of establishing new connectivity.[4] These local HIEs include C3HIE (San Antonio), Greater Houston Healthconnect, and Connected Care Exchange (Rio Grande Valley). This strategy has increased the number of Texas providers and hospitals getting connected and exchanging Medicaid clients' health data across the state.

[4] The three HIEs elected to participate in Strategy one as part of an open enrollment process in 2019.

Strategy one success is measured by the number of Medicaid providers onboarded through local HIEs. As of September 2024, 579 providers from 143 ambulatory practices and 54 hospitals were onboarded, surpassing the 2022 goal of 350 Medicaid providers.

Strategy Two: Texas Health Information Exchange Infrastructure

Strategy two, supported by state and federal funds, maintains Texas' HIE infrastructure to support connectivity with Texas Medicaid via local HIE connections to THSA's state-level shared services platform, HIETexas. This infrastructure supports delivery of HL7v2 admission, discharge, and transfer (ADT) and Consolidated Clinical Document Architecture (C-CDA) documents to Texas Medicaid, as well as data exchange between Medicaid providers, hospitals, and MCOs. Data transmitted includes lab results, transitions of care, immunization registry reporting, Electronic Laboratory Reporting (ELR) to public health, syndromic surveillance, and reporting to specialized registries.

Strategy Three: Emergency Department Encounter Notification System

The Emergency Department Encounter Notification (EDEN) system, which is also supported by state and federal funding, is implemented using push technology and provides near real-time emergency department (ED) ADT notifications via HIETexas. Data (e.g., such as patient health concerns, demographics, insurance information, diagnosis codes and descriptions, attending physician, admit reason, and discharge-to location) is transmitted to Texas Medicaid, MCOs, and other subscribers, allowing for patients' care transitions to be smoother and providers to offer more timely and appropriate follow-up services. For example, access to this data could decrease repetitive and expensive testing and reduce unnecessary or excessive ED visits because notifications enable MCOs to improve management of members and direct patients to timely primary and follow-up care, which could also reduce inpatient readmissions.

Currently, C3HIE is the only local HIE that sends ADT data to the EDEN system. Since 2021, THSA has directly connected Texas hospitals to EDEN to receive ED ADT data. As of October 2024, a combined 932 hospitals and other facilities, including acute, behavioral health, and post-acute facilities, as well as urgent care centers, are sending ADT data through EDEN via connections with C3HIE and THSA.

An increasing number of entities are subscribing to receive EDEN alerts for people with whom they have care relationships. As of October 2024, 125 health care organizations have signed up to become EDEN subscribers and are now live.

HIETexas Patient Unified Lookup System for Emergencies

The HIETexas Patient Unified Lookup System for Emergencies (PULSE) is funded by state and federal funds. During declared disasters, PULSE provides verified users secure, remote access to EHI of people who are displaced in alternate care settings, such as pop-up shelters. PULSE primarily receives ADT data through the EDEN system and C-CDA data through the eHealth Exchange, which is the largest query-based national HIE in the United States. The eHealth Exchange sends data coming from its connections to hospitals, local and state HIEs, and other national networks. PULSE also can receive data from hospitals and providers connected to local HIEs that do not work with national networks, direct connections not affiliated with local HIEs, and through EDEN. Access to this data benefits three main use cases:

- Clinical care documents and medication history may be used to treat and improve health outcomes for displaced patients unable to access care from their usual providers.
- Clinical and shelter encounter information may be used to locate missing people to reunify them with their family or health care providers.
- Electronic capture of check-ins and check-outs improves disaster care coordination and central management of shelter populations.

In July 2024, PULSE was activated in response to Hurricane Beryl that made landfall to the Texas coast. Despite a small number of evacuated homes, health care facilities, locations without power, and shelters put in place, PULSE was not fully deployed due to limited sheltering in response to the storm. PULSE was also available in response to the 2024 wildfires in the Texas Panhandle. However, due to lack of evacuees in alternative care settings, it was determined not to be needed.

Performance Management Analytics System

HHSC's Performance Management Analytics System (PMAS) data engineering team completed the implementation of the Observational Medical Outcomes Partnership clinical data model. The Observational Medical Outcomes Partnership is an open community data standard, designed to standardize data types (e.g., medical conditions, procedures performed, medications, etc.), enabling efficient analytics.

The clinical data model was chosen as a proof of concept, using data from THSA. HHS receives two data types on Medicaid and CHIP clients through the HIE Connectivity Project: 1) ADT messages from the EDEN system, which routes notifications of ED visits to subscribed users; and 2) C-CDAs from local HIEs provider and hospital connections, via THSA. To date, HHSC has received over 7 million ADT messages and over 900,000 C-CDAs for Medicaid and CHIP clients.

PMAS continues efforts to improve the quality, and subsequently, the value of ADT messages and clinical documents from participating HIE organizations. PMAS has started work with HHSC Behavioral Health Services to report on ED visits of behavioral health clients to improve care coordination, as well as the integration of continuum of care measures to support the analytics of the Family Health Services program.

The Aligning Technology by Linking Interoperable Systems Program

The Medicaid Managed Care Aligning Technology by Linking Interoperable Systems for Client Health Outcomes Program (ATLIS Program) launched in September 2024. Under the authority of Title 42 Code of Federal Regulations Section 438.6(b)(2), this program offers incentive payments to MCOs that achieve milestones related to interoperability. These milestones, which begin with an assessment of current interoperability status and connectivity to HIE, including data sourcing to EDEN, are expected to build over a five-year period. Milestones, tracked on a semi-annual basis, focus on participating MCOs' success in implementing structures, processes, and use of client data electronically exchanged with their network providers. The goal of this increased interoperability is to improve client outcomes and implement, evaluate, improve, and mature alternative payment models for Medicaid beneficiaries.

Interoperability Center of Excellence

The Interoperability Center of Excellence (iCoE), launched in October 2022, consists of a team of health care subject matter experts and those with technical expertise in data sharing and interoperability. This group provides leadership, guidance, and advocates for data quality, best practices, and implementation of data-sharing and interoperability standards for HHS. Since the last report, the iCoE established recurring meetings to understand agency data sharing and interoperability needs. The iCoE is working on a library of agency-implemented data sharing and

interoperability technologies. This includes cataloguing each technology, documenting its purpose, how it is being used, and by whom.

In spring of 2023, the HHSC Behavioral Health Services program presented to the iCoE a need to acquire behavioral health data to determine HHSC's ability to deliver these services effectively. Technical community experts in the Chief Technology Office, Chief Data Architect Office, and PMAS engineering team subsequently designed and implemented a data architecture to more easily incorporate data that will inform solutions for program and business problems.

Behavioral Health Services

HHSC continues to promote interoperability between providers' systems for state and contracted behavioral health services. Due to limited national standards, HHSC, in collaboration with stakeholders, continues to look for ways to implement system enhancements with Texas-specific standards for the exchange of data from behavioral health evaluations.

Intellectual and Developmental Disabilities

Home and Community-based Services Program and Texas Home Living Program Interest Lists

Since the 2022 report, HHSC implemented several enhancements to the Community Services Interest List application for maintaining contact and preference information for people who are interested in receiving services through the Home and Community-based Services or Texas Home Living waiver programs. Additionally, HHSC made improvements to allow people who are on a waiver interest list or their primary correspondent to update their contact and preference information via the existing yourtexasbenefits.com website. HHSC also implemented system enhancements to the Texas Medicaid & Healthcare Partnership Long-term Care (LTC) Online Portal to improve form submission, processing, and timeliness for people who are enrolling in or are already enrolled in the Home and Community-based Services and Texas Home Living waiver programs.

Preadmission Screening and Resident Review

System enhancements are requested each fiscal year to improve current functionality to the LTC Online Portal regarding Preadmission Screening and

Resident Review (PASRR) requirements. Recent enhancements include adding the following alerts and notifications:

- Alerts to the nursing facility to convene inter-disciplinary team meetings and ensure that the local authority can attend (as well as notices to invalidate a previous inter-disciplinary team meeting if the local authority was not in attendance).
- Notifications to the local authority when a nursing facility resident on any active PASRR Level 1 Screening turns 21 years old so that a new PASRR evaluation can be completed and submitted on the Texas Medicaid & Healthcare Partnership LTC Online Portal.
- Alerts to the local authority and PASRR unit when a nursing facility certifies it is unable to serve the person on the PASRR Level 1 Screening so that the local authority can help the person find an appropriate setting.
- The PASRR Level 1 Screening and PASRR evaluation forms and workflows were updated to improve usability and add functionality so that qualified individuals are properly assessed, and appropriate specialized services are identified and recommended.

Electronic Interface Project

In 2022, HHSC began work on the Electronic Interface Project to establish an interface between the Local Intellectual and Developmental Disability Authority's electronic health record (EHR) systems and the LTC Online Portal for certain forms related to intellectual and developmental disability assessments and plan of care information. This will allow Local Intellectual and Developmental Disability Authorities to enter information into select forms housed in their EHR systems and send that data through an automated interface to the same forms built into the LTC Online Portal, minimizing duplication and inconsistencies across forms and data systems and supporting overall data and record integrity. The project is expected to be completed in 2025.

Telemedicine, Telehealth, and Telemonitoring

Interoperability is essential for the successful delivery of telemedicine, telehealth, and home telemonitoring, as well as improving outcomes for patients receiving these services. In 2022 and 2023, HHSC expanded teleservices through implementation of H.B. 4, 87th Legislature, Regular Session, 2021. H.B. 4 required

HHSC to expand services eligible to be delivered by telemedicine or telehealth in any program, benefit, or service HHSC determines to be cost effective and clinically appropriate. It also required HHSC to implement audio-only benefits for the behavioral health services program and authorized, but did not require, HHSC to implement audio-only benefits for other programs or services, if determined to be clinically appropriate and cost effective. H.B. 4 builds on Senate Bill 670, 86th Legislature, Regular Session, 2019, which authorized synchronous audio-visual telemedicine and telehealth services in Medicaid managed care.

Additional information detailing the current state of teleservices in the Texas Medicaid program may be found in HHSC's telemedicine, telehealth, and home telemonitoring report, which Texas Government Code, Section 531.0216(f) requires HHSC to publish not later than December 1 of every even-numbered year.

Department of State Health Services

Texas Health Care Information Collection

The Texas Health Care Information Collection (THCIC) system collects and distributes important patient-level claims data such as diagnoses, procedures, and charges. THCIC collects data and makes it available in a nationally used messaging standard. THCIC provides data to the Office of Public Insurance Counsel, local health entities (LHEs), state academic organizations, and other stakeholders. THCIC data allows for a greater understanding of the cost and quality of health care services. The data aids HHS in program design and management and is incorporated into research data sets by a variety of entities.

In 2023, DSHS updated guidance to establish penalties for reporters who failed to report patient race/ethnicity data for at least 75 percent of their quarterly submission to encourage improved data quality.

Local Health Entities and Data Exchange for Case Investigations and Reporting

DSHS works in collaboration with LHEs to provide public health services across Texas, including public health surveillance. LHEs are required to provide completed case investigations to DSHS for compilation, statewide analysis, and submission to the Centers for Disease Control and Prevention (CDC). DSHS utilizes an implementation of the National Electronic Disease Surveillance System (NEDSS)

technology platform, developed by the CDC. NEDSS stores and processes data from electronic case reporting (eCR) and ELR. LHEs across Texas have free use and access to NEDSS.

The LHE in which a patient resides is responsible for conducting the case investigation. The patient may have been treated in a hospital or by a provider outside the LHE's jurisdiction. Currently, there are systems and processes in place to collect relevant data anywhere in the nation and route it to the jurisdiction responsible for conducting and reporting on any investigation, reducing the burden on providers to identify exactly what jurisdiction needs to receive the data.

Several LHEs are using locally managed information systems to conduct case investigations instead of NEDSS. These local systems are not always fully interoperable with NEDSS, and the ability for these systems to electronically submit completed case reports to DSHS may be limited. DSHS is collaborating with the LHEs and the Public Health Funding Policy Advisory Committee to address interoperability gaps. See Appendix B for more information regarding the challenges. Sharing NEDSS services with LHEs reduces LHEs' need for, and expenses related to, independent information systems.

Electronic Laboratory Reporting

ELR is a shared service supporting case reporting and investigations, providing secure, electronic submission of laboratory test results by health care providers to public health entities using a nationally standardized data format. It supports several DSHS programs.

Medicare Promoting Interoperability (PI) participants, including most Texas hospitals, must submit test result data to DSHS using their CEHRT. The ELR interface routes data to the appropriate DSHS information system including, but not limited to, the Texas Cancer Registry (TCR) and NEDSS.

While DSHS strives to collect the highest quality data, ELR data can be challenging. First, the data standard in use for ELR does not include all data elements required by public health entities. Second, public health receives substantial ELR data from sample testing laboratories that do not have direct patient interactions and serve as intermediaries for some of the required data, which is necessary for a complete report to public health but not to process the sample. An example is information about a patient's travel history (for select diseases where travel history is needed to identify the disease origin and manage the potential spread of disease). A third

issue is that not all data submitters are required to use CEHRT to submit data, which makes interfacing and testing systems more difficult. There has been progress addressing all three challenges. New core data standards have been developed by HL7 and are currently in review. Once reviewed and approved by the HL7 Public Health Work Group, they may be incorporated into federal regulation by ASTP. In July 2024, ASTP released a proposed rule to use updated reporting standards that will have positive impacts on data. The proposed rule requires implementation in January 2028.

Electronic Case Reporting

ECR is the secure, electronic submission of standardized information about a reportable condition to public health. An eCR report may also include a laboratory test result. Hospitals are the initial focus for onboarding activities for eCR. DSHS is currently accepting data from other health care providers that share hospitals' EHR systems when the hospital submits eCRs to DSHS. DSHS has not "declared readiness" under the federal Medicare PI programs for non-hospital health care providers. DSHS can receive eCR data from any health care provider in the nation using the Association of Public Health Laboratories Informatics Messaging Service (AIMS) platform if the provider is participating in the service. DSHS does not charge providers to participate. Connectivity to the service is required, however; and some services may charge providers.

When DSHS receives a report from AIMS, it routes it to NEDSS for distribution to the appropriate LHE or DSHS local office. LHEs with case investigation systems independent of NEDSS may also retrieve data directly from the AIMS platform in addition to accessing it through NEDSS. Currently, transfers of cases between Texas LHEs are not routed through AIMS. An LHE must connect to NEDSS to retrieve referrals from other LHEs.

DSHS continues to expand the number of conditions reportable via eCR technology. The agency is the first jurisdiction in the United States to have successfully implemented eCR supporting several reportable birth defects. DSHS is reviewing the potential for expanded use of eCR services to additional program areas and conditions.

National Electronic Disease Surveillance System

NEDSS is a complex software system developed and supported by the CDC. NEDSS supports epidemiologists at DSHS' regional offices and LHEs in conducting case

investigations by serving as a repository of case data that includes patient and provider contact information, diagnosis, laboratory test results, and other relevant clinical information submitted by health care providers. NEDSS also supports the development of case reports and their submission to DSHS and the CDC.

To maximize usability and effectiveness, NEDSS:

- Resides in a cloud-hosted environment to increase reliability and enable expansion as necessary;
- Processes ELRs and eCRs from health care providers across Texas and, in some situations, nationwide;
- Receives data in nationally-utilized eCR and ELR formats from health care providers;
- Routes case notifications to the responsible jurisdiction, including LHEs or the appropriate DSHS public health region;
- Is available at no cost to LHEs statewide. DSHS provides accounts, training, and helpdesk services on request;
- Enables authorized users to download data for analysis; and
- Shares deidentified NEDSS data, as described in Appendix B.

Disease Reporting and Infection Disease Case Investigations

DSHS and LHEs monitor a wide range of health conditions by analyzing data. This data is securely exchanged between health care providers' information systems and public health agencies. Data is exchanged using nationally specified data standards and, in many cases, shared infrastructure. Recognizing that some providers may not produce a volume of data justifying extensive investment or have adequate resources, DSHS continues to provide web forms for some of its information systems, such as the Texas Immunization Registry (ImmTrac2).

The Texas Immunization Registry

ImmTrac2 is the state's secure and confidential immunization information system. ImmTrac2 is an "opt-in" registry, so participation is voluntary. Patients may sign up through their health care provider, who then submits consent information to DSHS. Providers use ImmTrac2 to submit or retrieve immunization data for participating

patients. Providers that do not have an EHR or another interoperable system can use the ImmTrac2 website to enter and retrieve patient data. Since the registry requires consent before data will be retained, modifications to the provider's ImmTrac2 interface are required. Providers must submit consent information for new participants before vaccination information will be retained. Immunization data sent to ImmTrac2 without consent previously submitted to the registry is rejected, pursuant to 25 Texas Administrative Code Section 100.4. See Appendix B for additional information regarding ImmTrac2.

Texas Syndromic Surveillance

Syndromic surveillance uses symptom data to detect abnormal health trends that could result in high morbidity and mortality, such as flu outbreaks, or other health risks, such as elevated illegal drug use. This data can provide context, assisting with public health investigations.

DSHS hosts the statewide implementation of syndromic surveillance, Texas Syndromic Surveillance (TxS2). More than 300 hospitals supply data to TxS2. They submit data in a federally specified format to DSHS.

Providers in Tarrant County and the city of Houston submit their data into separate syndromic surveillance information systems similar to TxS2. These interoperable systems exchange data with TxS2 using national standards. When these data are combined with TxS2 data, the result is a comprehensive, statewide view of data. DSHS, LHEs, and data providers use the TxS2 system. Since 2022, CMS began requiring all Texas hospitals participating in the IPPS program to share with Texas' syndromic surveillance system, including TxS2, Tarrant County, and the city of Houston, to receive credit for the PI public health exchange objective.

Participating providers can use TxS2's tools to analyze their institution's data. Participants can only see their own data to protect privacy. LHEs may only see detailed data from institutions within their jurisdiction.

Data from TxS2 has been used to explore the number of cases of sickle cell disease in Texas; monitor respiratory illnesses such as COVID-19, influenza, and respiratory syncytial virus; and for prevention efforts for near drowning events.

Case Management and Investigation System

DSHS continues to develop a case management and investigation system with some EHR-like functionality. The system will enable DSHS' regional offices to better manage client services and track interactions. This will help ensure that clients needing medical services receive necessary and appropriate care, including vaccination services. The system has been designed to be interoperable with other technology used by DSHS, such as ImmTrac2, using the same standardized interfaces that enable exchange with external entities. Integration with other DSHS technology, such as the state lab's information systems, and HIEs, is expected in the future.

Texas Cancer Registry

The TCR collects, maintains, and disseminates timely, complete, and accurate patient-specific cancer data from health care providers. TCR data are the foundation for measuring the prevalence and impact of cancer. It is also used to manage and track cancer control efforts, cancer-related health disparities, and progress in cancer prevention, diagnosis, treatment, and survivorship. By request, cancer care providers may receive secure, electronic copies of patient records from TCR.

Emergency Medical Services & Trauma Registries

The Emergency Medical Services and Trauma Registries are operated by DSHS and consist of four coordinated registries: the Emergency Medical Services (EMS) Registry; the Trauma Registry; the Traumatic Brain Injury/Spinal Cord Injury Registry; and the Submersion Registry. The Emergency Medical Services and Trauma Registries receive data from EMS providers, hospitals, justices of the peace, medical examiners, long term acute care facilities, and rehabilitation facilities through a secure web portal. The registries collect data from more than four million unique patient care records annually and contribute 9 percent of all EMS records into the National EMS Information System. This participation makes Texas an important part of the effort to improve patient care through standardization, aggregation, and use of point-of-care EMS data at the local, state, and national levels. Data is used to assess changing trends and improve the Texas emergency health care system.

General Data Sharing Services

DSHS provides aggregated data sharing services to stakeholders, making bulk data available for research and other purposes. These services are described in Appendix B.

Conclusion

HHS agencies continue to progress on their interoperability goals. In the past two years, HHSC has expanded PMAS's capability to ingest and analyze data from community HIEs for Medicaid quality improvement, launched a new iCoE program to lead and advocate for interoperability best practices and standards across HHS, and designed and implemented the ATLIS program to promote MCO investment in the exchange and use of EHI. Over the next two-years, HHSC plans to leverage this progress and expand the use of digital quality measures, completing an electronic interface project to facilitate electronic submission of assessment forms and plans of care for people with intellectual and developmental disability, and furthering the deployment of FHIR.

DSHS also has made significant efforts to modernize its information systems. Increased interoperability has enabled leaders, partners, and stakeholders to access health information critical for decision making and advancing the state's public health goals. In addition to participating in the consensus-based development of national data interoperability standards and infrastructure, DSHS is working to reduce administrative burdens on health care providers when engaging in HIE.

Going forward, collaboration across HHS agencies will remain paramount. By using shared resources and approaches, HHSC and DSHS will continue to pursue their interoperability goals to support efficient and effective public health and health care decision making at the individual and community levels while protecting sensitive patient information.

List of Acronyms

Acronym	Full Name
ADT	Admission, Discharge, and Transfer
AIMS	Association of Public Health Laboratories Informatics Messaging System
API	Application Programming Interface
ASTP	Assistant Secretary for Technology Policy
ATLIS	Aligning Technology by Linking Interoperable Systems
C-CDA	Consolidated Clinical Document Architecture
CDC	Centers for Disease Control and Prevention
CEHRT	Certified Electronic Health Record Technology
CMS	Centers for Medicare & Medicaid Services
CQM	Clinical Quality Measure
DSHS	Department of State Health Services
eCQM	Electronic Clinical Quality Measure
eCR	Electronic Case Reporting
ED	Emergency Department
EDEN	Emergency Department Encounter Notification
eHAC	e-Health Advisory Committee
EHI	Electronic Health Information
EHR	Electronic Health Record
ELR	Electronic Laboratory Reporting
EMS	Emergency Medical Services
FHIR	Fast Healthcare Interoperability Resources
GIS	Geographic Information Systems
H.B.	House Bill
HHS	Health and Human Services
HHSC	Health and Human Services Commission
HIE	Health Information Exchange
HIETexas	State-level services operated by the Texas Health Services Authority
HIT	Health Information Technology
HL7	Health Level Seven
HL7v2	Health Level Seven International Version 2
iCoE	Interoperability Center of Excellence
ImmTrac2	Texas Immunization Registry
IPPS	Inpatient Prospective Payment Systems
LHE	Local Health Entity
LTC	Long-term Care
MCO	Managed Care Organization
NEDSS	National Electronic Disease Surveillance System
OeHC	Office of e-Health Coordination

Acronym	Full Name
ONC	Office of the National Coordinator for Health Information Technology
PASRR	Preadmission Screening and Resident Review
PHI	Protected Health Information
PI	Promoting Interoperability
PMAS	Performance Management Analytics System
PULSE	Patient Unified Lookup System for Emergencies
SHARP	State Health Analytics & Reporting Platform
TCR	Texas Cancer Registry
TEFCA	Trusted Exchange Framework and Common Agreement
THCIC	Texas Health Care Information Collection
THSA	Texas Health Services Authority
TxEVER	Texas Electronic Vital Events Registrar
TxS2	Texas Syndromic Surveillance

Appendix A. Federal Information

Trusted Exchange Framework and Common Agreement

The Office of the National Coordinator for Health Information Technology (ONC), an office within the federal Department of Health and Human Services, has established TEFCA, as required by the 21st Century Cures Act. TEFCA establishes and relies upon an interconnected web of entities using a common set of data standards, interface guidelines, and security to exchange information. Key actors in the framework include ONC; the Responsible Coordinating Entity, which is responsible for managing the overall network; and several Qualified Health Information Networks, which serve as key anchor points for other entities (participants and sub-participants) to use to connect into the network. Qualified Health Information Network participants can include HIEs, health care providers, public health agencies, and other stakeholder entities. A new version of the core user agreement was released in April 2024. A goal for TEFCA is to reduce the administrative burden of participants entering into separate agreements with all other entities regarding data access and use. Challenges that remain to be addressed include data completeness, timeliness concerns, and data retention by parties between end points. As of December 2024, no Qualified Health Information Network is based in Texas.

Medicare Quality Payment Program/Promoting Interoperability

CMS, an agency within the federal Department of Health and Human Services, serves as a lead for the implementation of interoperability requirements for health care providers participating in Medicare. Built on the foundation of PI and quality reporting, CMS' Quality Payment Program, and its IPPS, require a wide variety of providers enrolled in Medicare to engage in a range of activities requiring the exchange and the availability of EHI using nationally identified standards.

Information Blocking

Under the authority provided by Congress in the 21st Century Cures Act, ONC promulgated rules limiting information blocking by health care providers and

developers of HITs. These rules focus on enhancing the availability of EHI to authorized health care providers involved in a patient's care. The rules provide exceptions where limiting access to information may be permissible. Exceptions include limiting sharing when the data may result in harm to a patient, protecting the privacy of the person whose information was requested, protecting the security of the information requested, when the release of the information would degrade the performance of the source system, when it is technically infeasible to deliver information in the requested format, if the requester refuses to pay reasonable fees or licensing for the data or requisite technology to access the data, or if the data is available via TEFCA.

Federal Regulation of Technology Systems

Currently, the federal Department of Health and Human Services specifies interoperability functions that must be included for HIT "modules" (EHR systems), including those that are certified as CEHRT. Medicare providers must use CEHRT when conducting activities included in Quality Payment Programs or IPPS programs, such as reporting data to public health data systems. The systems that public health has used to receive data have not had regulations requiring interoperability. Laboratory Information Management Systems, which are used by hospitals and independent laboratories to manage laboratory operations and exchange data with hospital and provider EHR systems and PHI systems, also have no current technical interoperability requirements. Providers participating in Quality Payment Programs and IPPS are required to report their interoperability to CMS or have Medicare reimbursements reduced in the future for noncompliance. Public health agencies, such as DSHS, provide support for providers participating in the federal program via the provision of documentation used to substantiate their activity with DSHS.

Appendix B. DSHS

Agency-wide Aggregate Data Sharing

In addition to exchanging data with health care providers through connectivity with information systems supporting DSHS programs, DSHS provides services to enable stakeholders to access and analyze de-identified public health data collected through exchange with health care providers and other entities. One gateway for this data, which includes visualization tools, is Texas Health Data.

DSHS supports research and may provide identifiable information to researchers, subject to applicable law, through data requests.

DSHS is developing improved methods to standardize and streamline its data sharing request and approval process; standardize data sharing agreements; enhance analytical and reporting capacity; enable better data quality; and develop technological capabilities to enhance data sharing with public health partners.

The DSHS Center for Health Statistics Geographic Information Systems (GIS) Services enhance the utility of DSHS data, through:

- Mapping: Includes the creation of static maps that can be used in reports, presentations, or printed posters.
- Geocoding: Adds locational data (such as geographic coordinates, census tracts, or counties). This allows these datasets to be mapped and analyzed.
- Web mapping: Involves the creation of interactive maps that can be public-facing or used by programs within DSHS. These web maps are interactive. The user can change settings, changing the map to show different levels of information (depending upon what data is available), zoom in or out for additional detail, and show trends over time.
- Maps allow the user to change layers on and off, query the data, zoom to locations of interest, and visualize trends and patterns.
- Spatial analysis: This is the process of exploring distributions and associations in spatial data.

The Center for Health Statistics GIS Team has also coordinated with the Regional and Local Health Operations GIS Team and other core GIS users to establish the GIS Users Group, which aims to connect members of the GIS community across

DSHS, HHSC, and the public health regions and to share tools, resources, and knowledge related to GIS. The group currently has 88 members, with approximately 50 attending regular quarterly meetings and 127 people attending the virtual GIS Day hosted in November 2023.

State Health Analytics & Reporting Platform

The State Health Analytics & Reporting Platform (SHARP) provides data governance and tools such as Tableau™ to analyze data from a variety of agency programs. Over the last two years, DSHS expanded both the volume and scope of data included in the platform. SHARP only allows authorized users to see and interact with data.

SHARP supports DSHS and "dashboards" by automatically updating information when source data changes. The ability to reuse and share dashboards and analytic approaches across users reduces the work needed to replicate analyses across jurisdictions and eliminates the need for repetitive processes by automating data validation rules.

While SHARP enhances data-driven decision making for DSHS programs, it also enhances data sharing with LHEs.

DSHS has enabled LHEs to use SHARP's production environment. Depending upon the data being requested and the specific user's credentials and authorization, individual patient data can be requested. Data can be analyzed using tools in the secure SHARP website. It can also be securely downloaded for use in other applications.

National Electronic Disease Surveillance System Interfacing Status Update

DSHS has been collaborating with LHEs that have developed or are developing their own, separate case investigation and management systems. It is critical that these systems are interoperable with DSHS' information systems. Key aspects of developing interoperability include:

- Some of the LHEs with local systems are requiring providers to "onboard" with the LHE as well as DSHS, creating additional work for the provider.

DSHS is working with the LHEs to develop an approach to reduce duplicative efforts by providers.

- DSHS has been collaborating with the LHEs on developing interfaces to receive completed reports. The LHEs are using different technologies for their local systems, extending the work needed to develop and test interfaces across multiple products. Additionally, each disease that is reportable has its own message format, with different fields required. Custom interfaces need to be developed both for the platform and for each condition that is reportable. Once developed, maintaining these interfaces on both ends may be costly to maintain.
- LHEs will be responsible for maintaining the interface on their systems, including keeping pace with changes in the DSHS information systems. DSHS will communicate changes in a timely manner.
- LHEs using separate systems will be responsible for retrieving cases transferred from other Texas jurisdictions to those LHEs within NEDSS.
- LHE using separate systems will be responsible for forwarding cases within other jurisdictions to those jurisdictions using NEDSS.

ImmTrac2 – Additional Detail

ImmTrac2 provides a systematic approach and provides the following functionality:

- Support the ability for providers to send patient data to ImmTrac2 and receive patient data from ImmTrac2 using a nationally adopted format.
- Tools that enable participating providers to test their system's ability to successfully exchange data with ImmTrac2. This reduces delay in successfully completing activities needed to allow the exchange of data with production systems.
- Support for providers participating in the federal PI programs. DSHS works with providers to identify and resolve issues such as:
  - Addressing potentially duplicative reporting of vaccinations.
  - Identifying and resolving an issue related to providers' EHR systems overwriting data that was previously sent by ImmTrac2, affecting what data was available to health care providers.

Texas Electronic Vital Events Registrar

DSHS uses the Texas Electronic Vital Events Registrar (TxEVER) as the electronic vital records system. TxEVER is interoperable with several internal systems. Data from TxEVER is shared with authorized external entities. A federal regulation proposed in July 2024 establishes a new data standard for exchanging data between CEHRT and public health systems such as TxEVER.