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Texas Department of State Health Services

Data Technology Improvements

Imelda Garcia, MPH
Associate Commissioner
Laboratory & Infectious Disease Services Division
Texas Department of State Health Services
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DSHS Data Technology Improvement Projects

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- Major Initiatives
  - National Electronic Disease Surveillance System (NEDSS) Improvements
  - Texas Immunization Information System – IMMTRAC2
  - Vaccine Allocation and Ordering System (VAOS)
  - State Health Analytics & Reporting Platform (SHARP)

NEDSS Improvements

- Upgraded NEDSS to latest version.
- Expedited processing and ingestion of electronic lab reports.
- Enhancing key areas of the NEDSS system, including performance, integration, and application enhancement.
- Implemented the infrastructure to import vaccination data for COVID patients in NEDSS.
  - Vaccine breakthrough indicator being displayed on the COVID case investigation page.
- Implemented monkeypox case HL7 reporting and investigation with lab and case line list reports.

Close Case Investigation Imports

- Work with jurisdictions that do not currently use the Texas National Electronic Disease Surveillance (NEDSS) Base System (NBS) for capturing their closed case reports.
  - City of Houston, Fort Bend County, Dallas County & Tarrant County
- Export completed investigation reports in the Jurisdiction's system and import those into NEDSS.

DSHS Electronic Case Reporting (eCR) Pilot Update

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- Phase 1
  - Add COVID-19 electronic initial case reports (eICRs) (nearly completed)
  - Automated the processing in of COVID eICRs to be added to matched case investigation
  - Provides additional tool for investigators to glean further data
  - Onboarding for two pilot facilities will be completed and pushed to production by October.
  - Training for NEDSS users on eICR
- Phase 2 being planned to add additional conditions including monkeypox.
- Expected go-live date is October 10, 2022

NEDSS Paper Labs Project Integrating Health Facility COVID Data

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- Initiated in August 2021 to help onboard Healthcare Facilities and allow them to submit electronic COVID-19 lab reports into NEDSS via HL7 or .csv files.
  - The number of facilities has grown from 232 to now 508 in August 2022 with more facilities being added weekly.
- The project currently offers 3 onboarding options to Healthcare facilities.
  - Greater Good Group LLC (GGG) - If the Facilities are challenged with continuous technology issues, they are referred to the recently added option.
  - USDS/SimpleReport - If the Facilities prefer a low-tech approach and have low volume of data, they are referred to the other recently added option United States Digital Service's
  - Direct to DSHS – If the Facilities submit medium to high volumes of lab reports and have familiarity with secure file transfer sFTP operations.

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ImmTrac2

ImmTrac2 Improvements

- Updated data exchange to latest HL7 2.5.1 Compliance standards
- Updated Client Benchmark Report for 18, 21-, 24-, 36- and 72-month intervals
- Updated data processes to reduce the number of duplicate records in the registry
- Updated National Drug Codes in the registry to match new NDC-10 codes for COVID and non-COVID vaccines
- Began development on ImmTrac2 Modernization project to enhance functionality and user experience

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Vaccine Allocation & Ordering System (VAOS)

VAOS Improvements

- Established a scalable, vaccine allocation and ordering system for both COVID and traditional Vaccines for Children and Adult Safety Net vaccines.
- Easy additions of new vaccines for response (i.e., JYNNEOS)
- Addresses CDC requirements for accountability and provider usage of vaccine doses.
- Implemented improved deployment tools to ensure maximum efficiency of system upgrades and enhancements.

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State Health Analytics & Reporting Platform (SHARP)

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- Collection of:
  - a data warehouse
  - data analytics and visualization tools
  - data governance tools
- Working together to:
  - integrate, store, and enable the analysis of public health data
  - produce reliable reports and analysis
- Does not replace the systems of record

Data in SHARP

1. Existing DSHS data sources
2. Copy of the data needed for reporting and analysis ingested into the platform
3. Only authorized people access data relevant to their role and/or jurisdiction
4. Data are locked down and secured – access granted by data set

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Curated Data Sets

Need:
Consolidated reports

- Data needed for reports are located in multiple source systems and constantly changing

SHARP:
Automated transformation and data quality

- Brings data sets together in one location
- Deduplicates records
- Applies data quality rules

Impact:
Curated data sets

- Curated data sets used for analytics and reporting
- Simplified creation of reports
- Reduced the burden of manually creating reports
- Improved timeliness of reports
- Improved consistency and less error-prone

Trusted data and governance

Reduced manual data processing

Actionable insights

Increased responsiveness

Enhanced Data Sharing

Need: Share data with partners

- Staff time spent pulling reports
- Inability to provide timely data
- Stress on data source systems

SHARP: Direct access to data

- Aggregate – Tableau dashboards
- Line-level – pull a report from SHARP through source system
- Line-level – Snowflake reader accounts

Impact: Increased access to data

- Partners able to access data they have never had before
- Robust access controls based on roles
- Insights gained through dashboards
- Reduced burden on source systems
- Eliminated extraction and transformation processes

Scalable solution

Reduced manual data processing

Enhanced data sharing

Actionable insights

Increased responsiveness

Next Steps

- Continue to build SHARP
  - Enable/enhance self-service analytics
  - Add additional data sets
- Expanded data governance
- Enhanced data sharing
  - Dashboard for public and public health partners
  - Standardized data sharing procedures and governance
- Enhanced training and communications

Other DSHS Data System Improvements

1. Tx Health Safety Network
2. EMS/Trauma
3. TB/HIV/STD surveillance
4. Inventory system for DSHS pharmacy
5. DSHS Website management system

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Questions?