TEXAS
Health and Human Services

Texas Department of State Health Services

ImmTrac2

The Texas Immunization Registry

Data Quality Enhancement

Introduction

- ImmTrac2 - Texas's IIS
  - Implemented in April 2017
  - Follows ImmTrac - April 1996
- Data Quality Enhancement (DQE) plan was developed and focused on several key areas
  - Current Data
  - New Data
  - New Data Sources

TEXAS
Health and Human Services

Texas Department of State Health Services

Enhancement

- What is meant by Enhancement?
  - Growing the Data set
  - Filling in gaps in the Data set
  - Improving the reliability of Data
  - Increasing the validity of the Data

TEXAS
Health and Human Services

Texas Department of State
Health Services

Texas's Strategy

- Automation
- Database focus
- Program side issue identification
  - We develop the query's that define the problem
- Data input improvement
- High prioritization of Data quality issues
  - Faster expected turnaround time from vendor
- Integration with multiple 3rd party sources

TEXAS
Health and Human Services

Texas Department of State Health Services

Automation

- Validation before submission
- Increase rate at which orgs submit electronically
- Merge process has been increasingly automated to include clients entered via the UI
- No new manual processes
- Deep analysis finds areas with variable entry quality

TEXAS
Health and Human Services

Texas Department of State Health Services

Database Focus

- Internal staff regularly query the database for Data quality issues
  - Identification of issues in total terms
  - Full issue correction and root cause analysis
- Metrics and quality performance broken down by organizations
- Visualization of Data quality
- Standardized queries over time

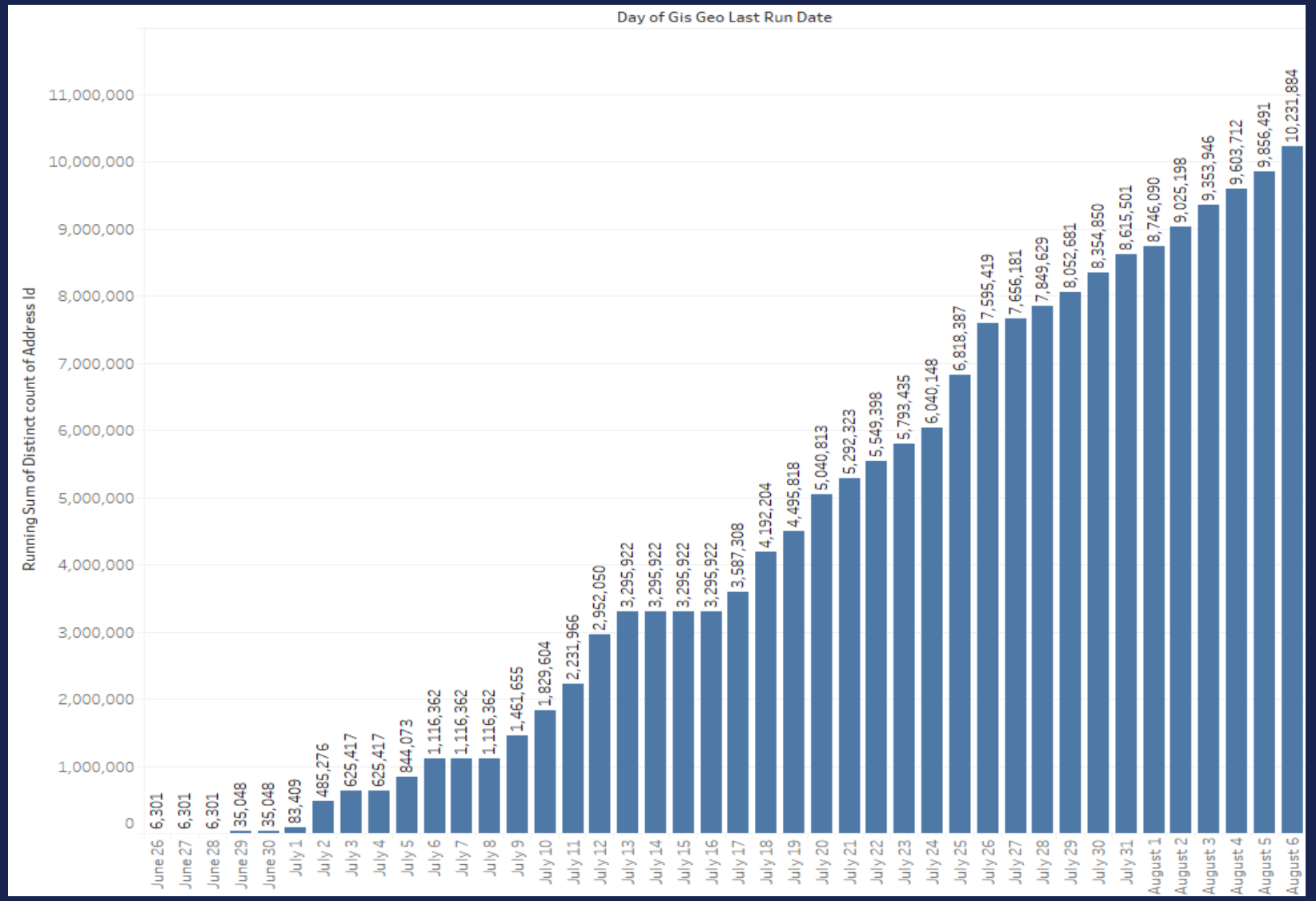
TEXAS
Health and Human Services

Texas Department of State Health Services

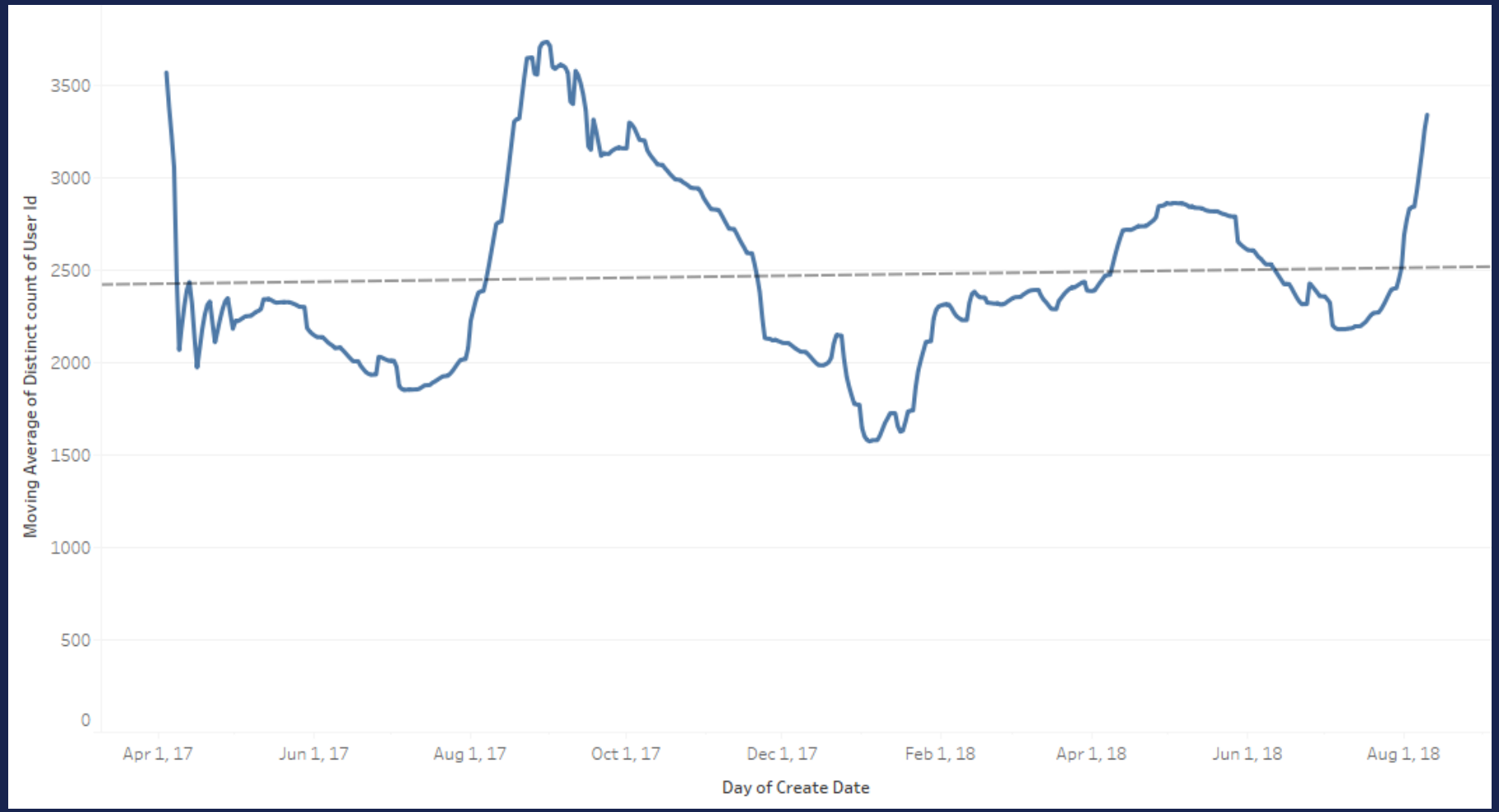
Address Cleansing Viz

TEXAS
Health and Human Services

Texas Department of State Health Services



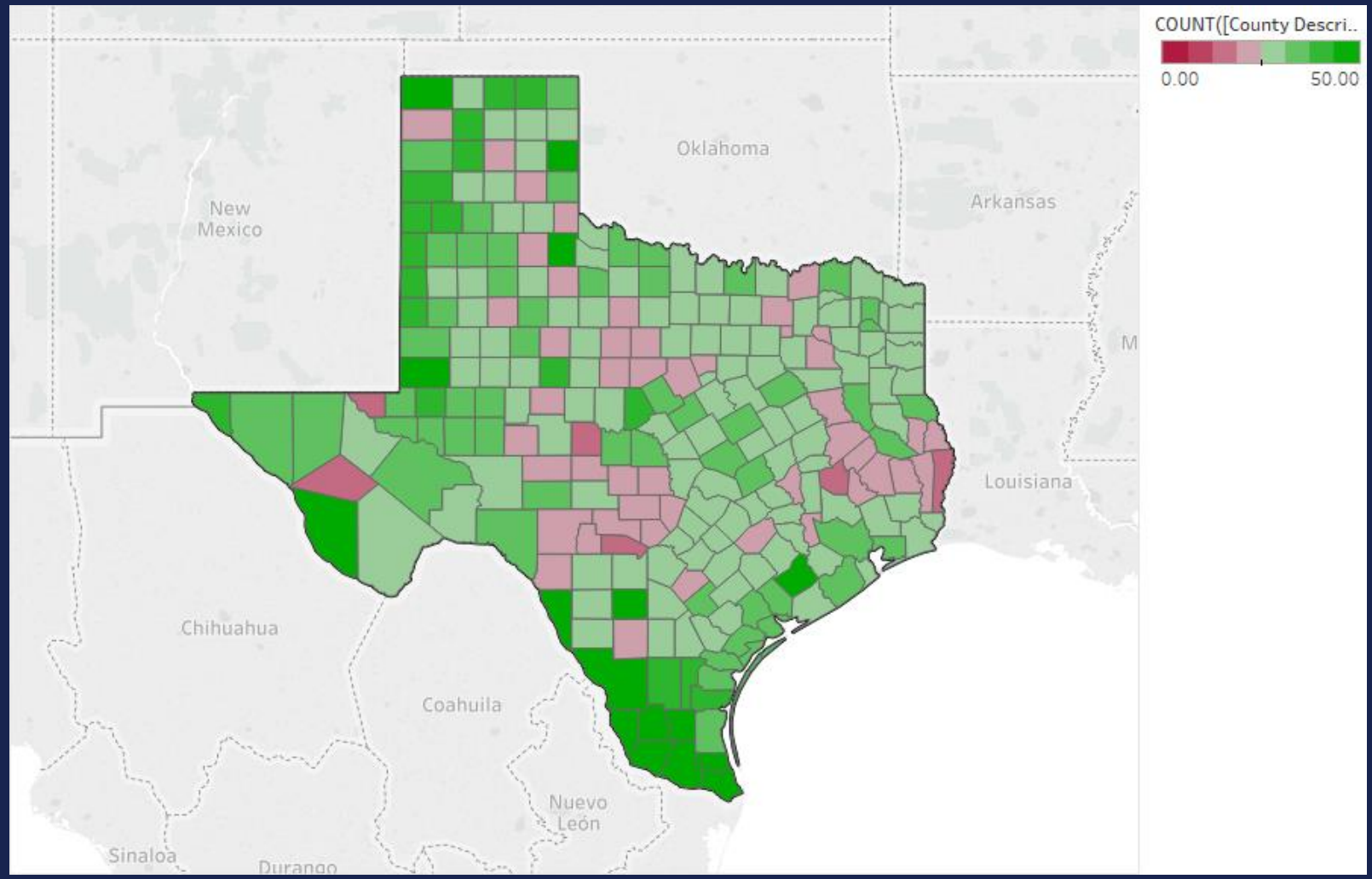
Average Daily Users Viz



TEXAS
Health and Human Services

Texas Department of State Health Services

Client Enrollement Viz



TEXAS
Health and Human Services

Texas Department of State Health Services

Collecting New Data

- Provider engagement
- Data validation on input
  - Organization names
  - Organization address
  - Email address (users and clients)
- Third party Data sources
  - Smarty Streets
  - Texas VFC and ASN program
  - Texas Education Agency
  - State childcare licensing agency
  - NPPES (Provider NPI Lookup)
- Geocoding addresses

TEXAS
Health and Human Services

Texas Department of State Health Services

Adding Additional Submitters

- #1 barrier to adult submissions in Texas is provider knowledge that ImmTrac2 is a lifetime registry.
  - They just need to submit adult consent
- However, by adding the ability to see the immunization history once adult consent is added:
  - We expect far more adult consents to be added to the system
  - This value added feature is a win-win-win-win for the program, provider, patient, and population

TEXAS
Health and Human Services
Texas Department of State Health Services

Deduplication

- Duplicate Data can be a big problem
  - Address Data
  - Immunizations
  - Organization names
  - Clients
- Validation on the fly
- Immunization scheduler
- Data entry feedback
  - UI Messaging

TEXAS
Health and Human Services

Texas Department of State Health Services

Data Validation

- Prevent problems in the first place
  - There are usability limitations to this use case
  - Some issues are still found and dealt with after the fact
- Enhanced data exchange performance
- Vital statistics as source record
- Bidirectional validation
- Internal processes
- 3rd party Data validation

TEXAS
Health and Human Services

Texas Department of State Health Services

Techniques for Data Quality Analysis

- Can’t fix what isn’t identified
- Operationalize Data by answering specific questions
- Custom and regular query’s and data quality dashboards on the program side
- Sharing more data than ever with key stakeholders

TEXAS
Health and Human Services

Texas Department of State Health Services

Results

- Time to merge has decreased by 95% year to date
- Time to approve applications has improved by 95%
- Increased immunization submission acceptance by 110% year over year
- Increased client submission acceptance by 66% year over year

TEXAS
Health and Human Services

Texas Department of State Health Services

Data Quality Challenges

- Results/Immunity designators
  - Titer results
  - TB results
- Vaccine dose deduplication
- Improved consent rates

TEXAS
Health and Human Services

Texas Department of State Health Services

Summary

- Adding automation allows staff to continually solve other problems, instead of being driven by day to day data quality processes
- Bring in 3rd party data sources. They are cheap to maintain, but are sources on which to automate data validation
- Leverage existing resources
  - Programmatic
  - Systemic
  - People
- Own your own data quality

TEXAS
Health and Human Services

Texas Department of State Health Services

TEXAS
Health and Human Services

Texas Department of State Health Services

Thank you

Michael Dougherty
Michael.Dougherty@DSHS.TEXAS.GOV
512-707-9216