

Public Health Infrastructure Modernization

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What is Data Modernization?

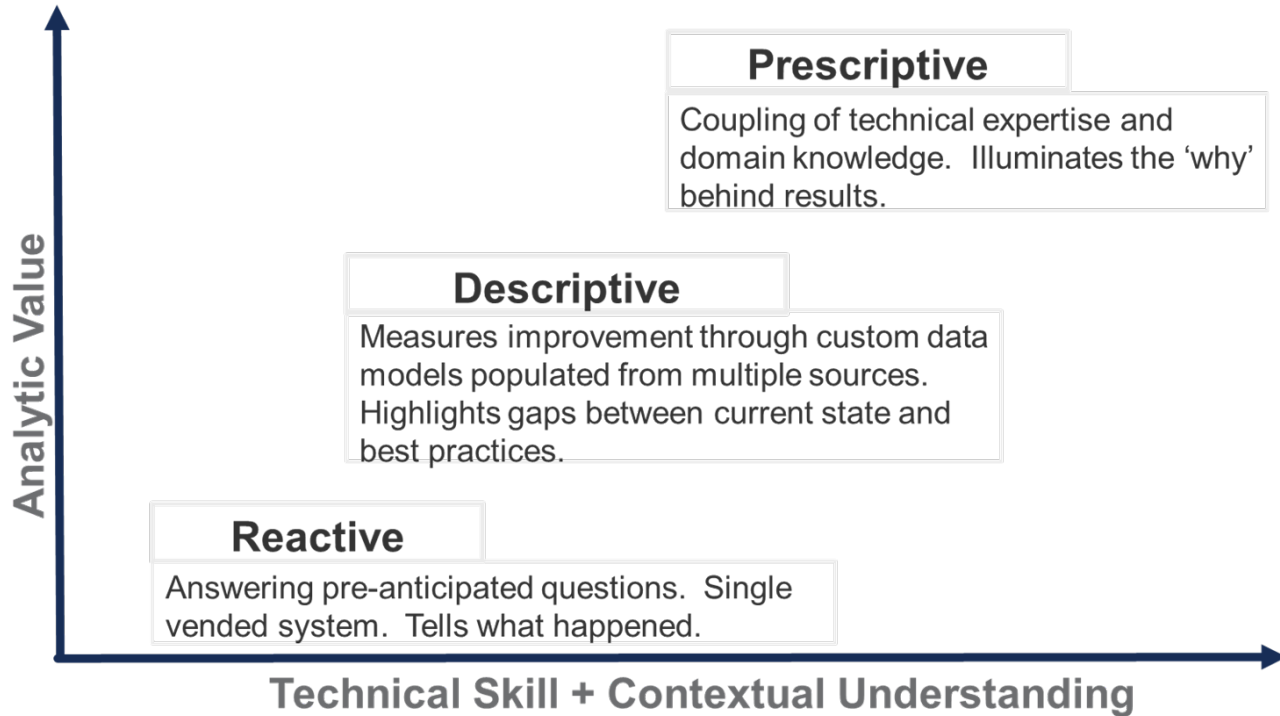
- The Data Modernization Initiative (DMI) is...
 - ...“an effort to modernize core data and surveillance infrastructure across the federal and state public health landscape.”
 - “This initiative is not just about technology, but also about putting the right people, processes, and policies in place to help us solve problems before they happen and reduce the harm caused by the problems that do happen.”
 - CDC

https://www.cdc.gov/surveillance/data-modernization/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fsurveillance%2Fsurveillance-data-strategies%2Fdata-IT-transformation.html

Why is DMI Important?

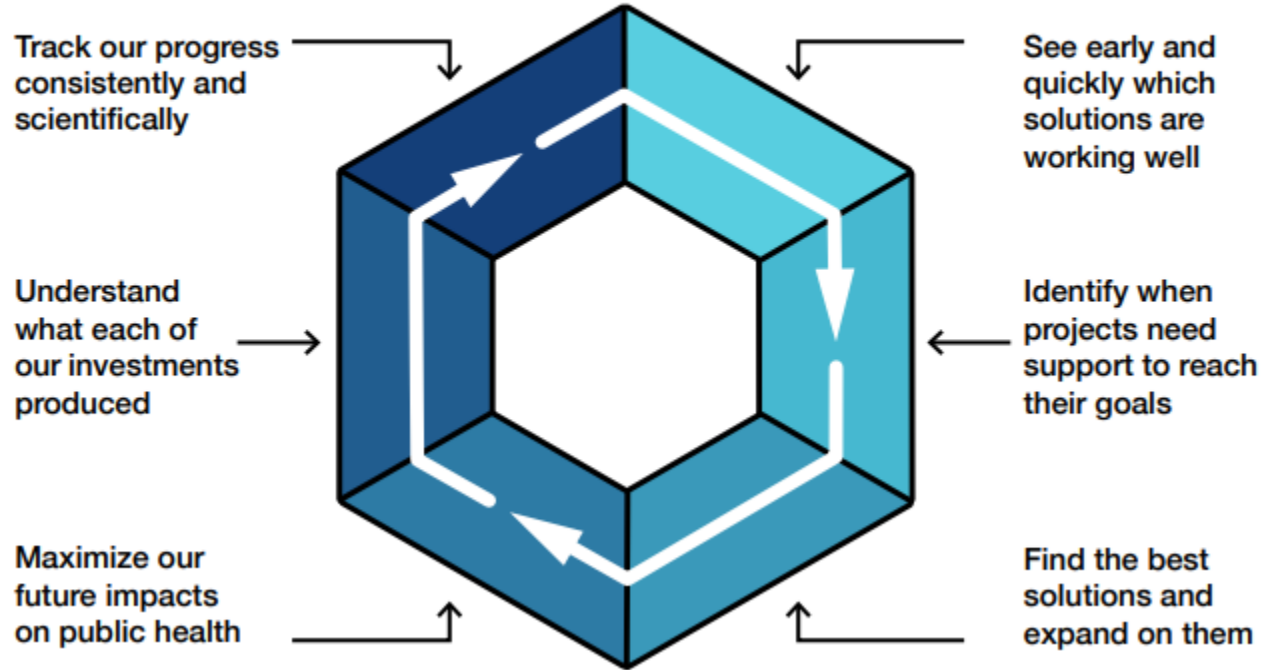
- Creates a standards-based interoperable public health infrastructure
- Ensures all systems can communicate and share data seamlessly with one another
- Advancing standards so that information can be stored and shared across systems
- Facilitates complete and timely reporting so that our public health system has essential data on demographics that are critical for achieving equity in public health response

Analytic Value Continuum



How DMI Helps?

ACCOUNTABILITY + CONTINUOUS IMPROVEMENT



How actionable data helps prevention



Barriers to DMI

- Programmatic siloed funding
- Funding is usually short term and low
 - Received pandemic funding, but will projects be sustainable once funding ends
- Adequately trained workforce
- Data silos - inability to link data across systems
- Data sharing and data linkage challenges
- Distrust
- Laws and regulations

How can we implement DMI?

- **1. Addressing current data gaps and access challenges**
 - Public health professionals need timely data that are locally relevant
 - Currently facing challenges accessing this data.

How can we implement DMI?

- **2. Exploring new types of data**
 - Traditional data paints an incomplete picture
 - new sources:
 - Hospital/ambulatory care records
 - Health insurance claims
 - EHR'S

How can we implement DMI?

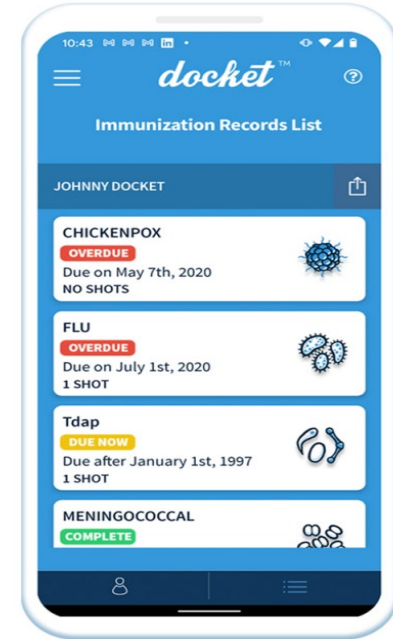
- **3. Support data sharing and analysis.**
 - Barriers to sharing, analyzing, and interpreting data can impede local efforts to assess needs and evaluate programs.
 - Sharing and analyzing data across sectors is critical to achieving a person-centric and community-centric perspective.

Utah Statewide Immunization Information System (USIIS)

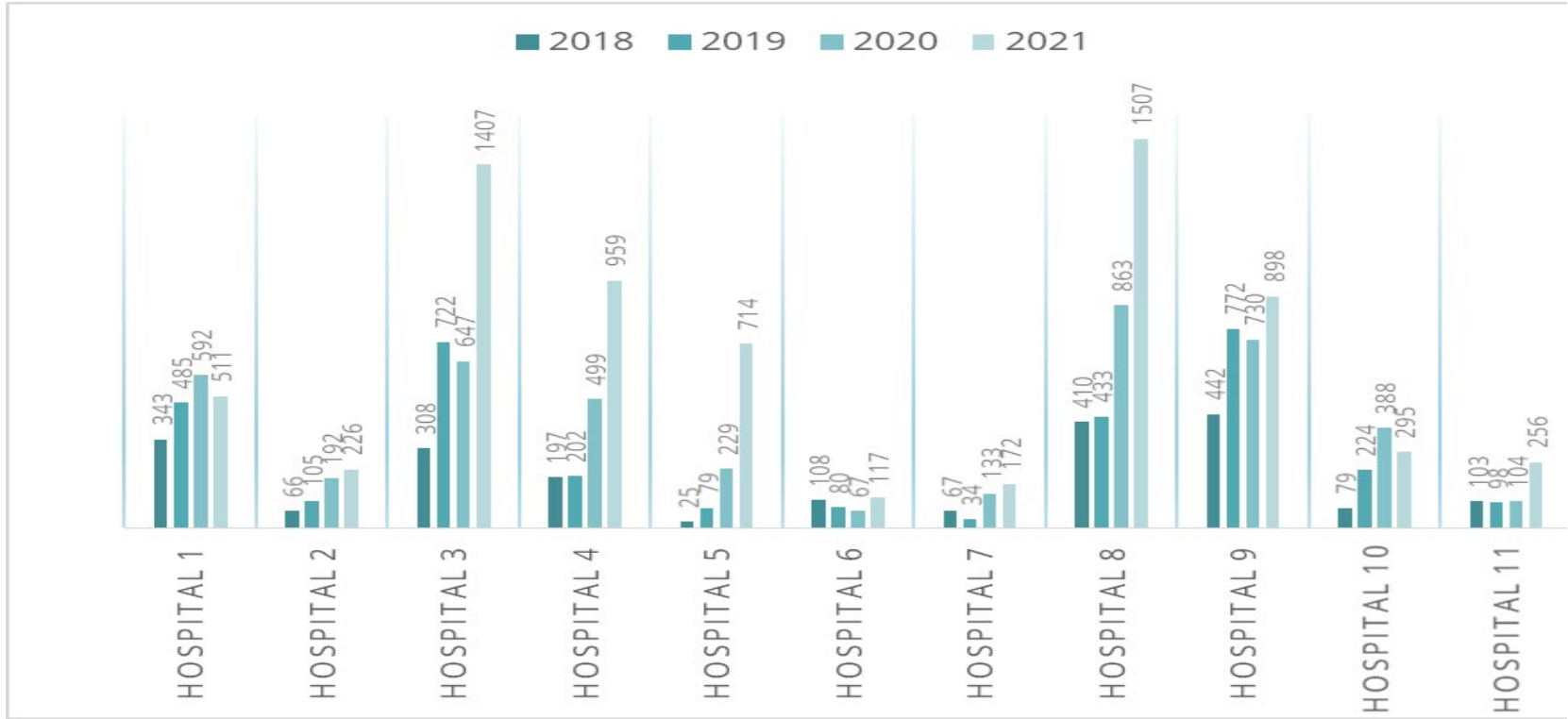
- Established in 1996
- Total Identities: 6,105,744
- Total Vaccine records (2000-2022): 61,872,825
 - Non-COVID Vaccines (2021-2022): 3,979,915
 - COVID Vaccines: 5,412,157
- Vaccine Providers Enrolled: 3,263

How is Utah USIIS Modernizing?

- Moving data to a cloud
- Promoting USIIS/docket
 - Providing easy/quick access to records
- Creating an admin portal
 - Cuts down on staff duties to focus on projects
- Collaborating with bordering states/federal government for data sharing



Rural Utah Hospital Vaccines Reported by Year



Situation Report for Rural Health

- Barriers to care, including workforce shortages and health insurance status
- Lack of resources
 - Less focus on development of infrastructure.
 - Focused on what is necessary now because that is what can be handled.
 - Telehealth helps improve access to healthcare but increases the dependence on the infrastructure.
- Different population healthcare needs than urban setting
 - Transportation/access to care issues
 - Health literacy
 - Stigma associated with conditions in rural communities, such as mental health or substance abuse

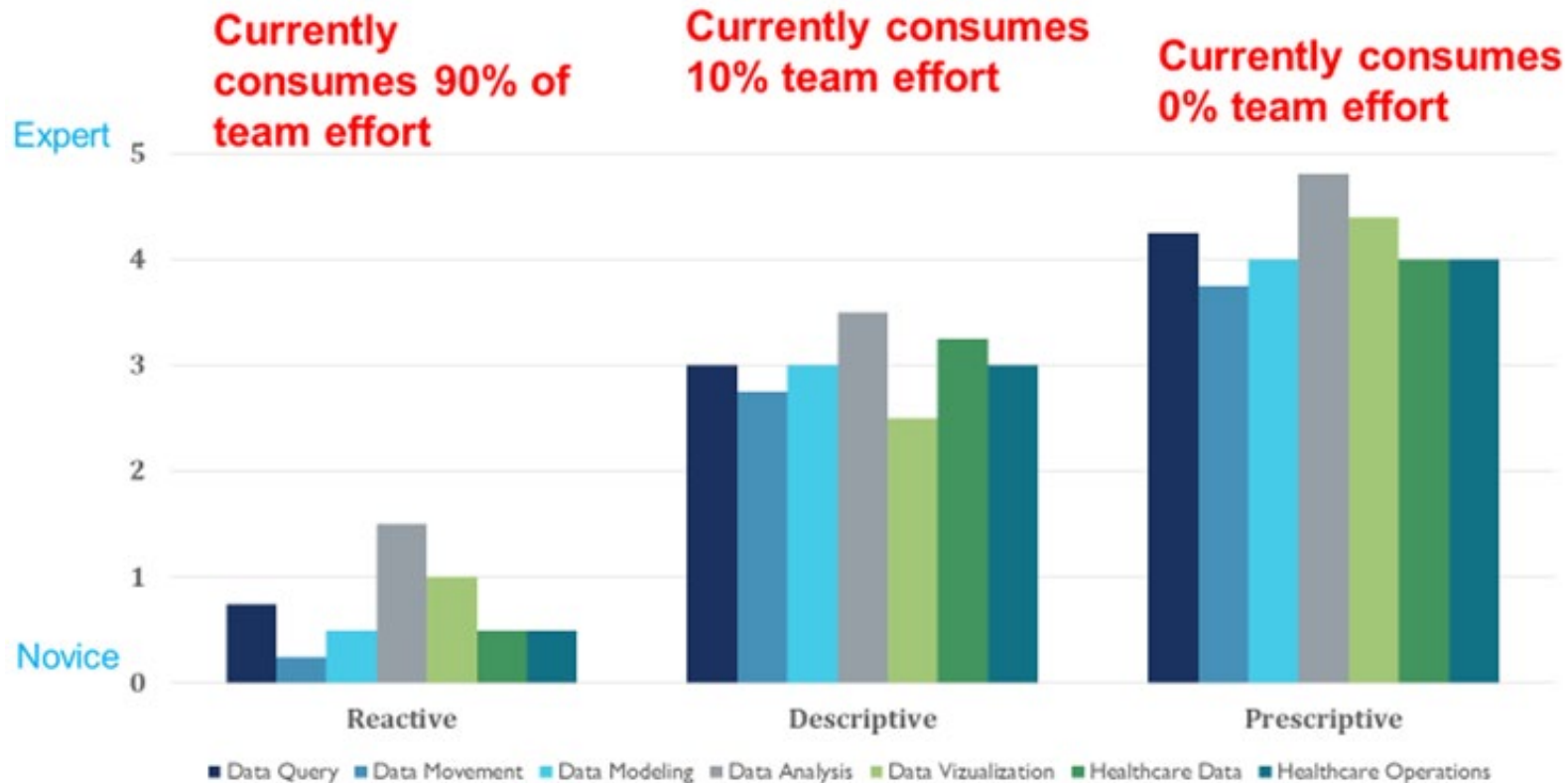
Impact of DMI for Rural Health

- Reduce claim denials
 - Use of dashboard, drill-down reports, notifications
- Reduce waste
 - With staffing, time, resources
- Improve staff performance
 - Real-time monitoring, adjust resources where needed
- Better focus on population healthcare needs
 - Reduce “leakage” to other healthcare systems

Where to Improve the Analytic Process?

Data	Tools	People	Process
<ul style="list-style-type: none">✓ The data available to measure and manage outcomes.	<ul style="list-style-type: none">✓ The technologies used to capture, store and analyze data.	<ul style="list-style-type: none">✗ Analytic Producers✓ Analytic Consumers✓ Care System Leadership	<ul style="list-style-type: none">✗ Project Prioritization✗ Governance of data, analytics and standards✗ Education – data literacy and decision support

Where do rural analytic staff spend their time?



Key Roles Needed to Advance Analytic Workforce

Application specialists ✓

Install, customize and troubleshoot software.

Database administrators ✗

Establish data storage servers, authorization and access policies and create protections to safeguard the data from cyber theft.

Data analysts ✗

Transform data into insights that lead to understanding and decision making to improve the business metrics. Clean the data to improve consistency, accuracy and reliability.

Visualization developers ✗

Display information using infographics, charts, graphs, data maps or interactive data interfaces to facilitate discussions and decision-making.

Data architects ✗

Design structures that organize data, and make it available for optimal access across a system of integrated and third-party applications.

Data scientists ✗

Extract advanced intelligence from the data by using machine learning models, statistical analysis tools and data transformation scripts to process structured, unstructured, and semi-structured data.



* Assessments performed by RediHealth, Nov 2021

Recommendations



Critical Findings

Only 1 of 4 facilities have a dedicated analytic resource.

0/4 facilities have integrated data beyond the electronic medical record.

4/4 facilities are leaving dollars on the table for care delivered.

4/4 Believe there are opportunities to generate new streams of revenue, improve clinical outcomes but are unsure how/where to look.

* Assessments performed by RediHealth, Nov 2021



Recommendations for Investment

Increase data integration and data sharing programs

Elevate programs that demonstrate how to take action with data within current provider stewardship

Augment programs that use data to make care more accessible and effective

Educate administrators on data security + analytics capabilities

Thank you

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