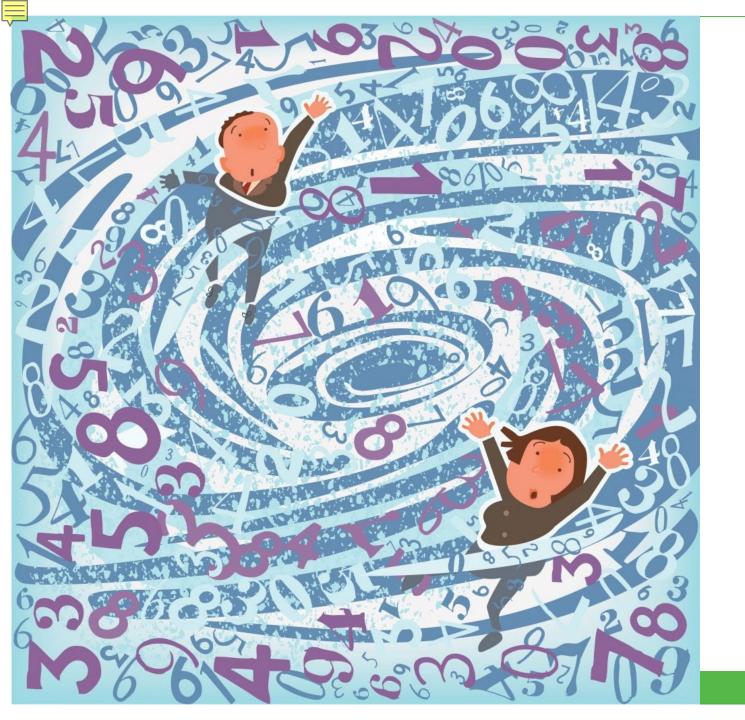
Data Modernization Initiative (DMI)

Board of Health November 14, 2023

Logan Hyder, MPH Epidemiologist



"We are drowning in information, while starving for wisdom. The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely."

E.O. Wilson, *Conscience:*the Unity of Knowledge,

1998

Drowning in COVID

"The nation's public health data systems are **antiquated** and in **dire need of security upgrades** — paper records, phone calls, spreadsheets and faxes requiring manual data entry are still in widespread use and have significant consequences including **delayed detection** and **response**, **lost time**, **missed opportunities**, and **lost lives**."

— Janet Hamilton, Executive Director

Council of State and Territorial Epidemiologists (CSTE)



Becoming Synthesizers

Technological advances are pressuring the public health sector to change its operational model:

- from that of an 'information
 consumer' to an 'information broker'
- to enhance efficiency & improve performance
- prove its capability & credibility as a population health expert & partner







CDC Data Modernization Initiative

Goal: To get better, faster, actionable insights for decision-making at all levels of public health by putting the right people, processes, technology, and policies in the right places

Vision: To create one public health community that can engage robustly with healthcare, communicate meaningfully with the public, improve health equity, and have the means to protect and promote health

Priorities:



Build the right foundation.



Accelerate data into action.



Develop state-ofthe-art workforce.



Support and external partnerships.



Manage change and governance.

Problems DMI is Trying to Solve



Siloed information

Disconnected and/or proprietary disease systems driven by disease-specific budget lines keep us from seeing the complete picture



Older technologies

Most systems at health departments are not flexible, do not use cloud, and are not scalable



Outdated skills

The public health workforce needs training to use today's technologies more effectively



Patchwork of policies

The variable landscape of data collection and reporting across the nation complicates rapid response to emerging threats



Heavy burdens for providers

Providers in healthcare and at health departments are burdened with sending data to many places in many ways



Public health not in healthcare data ecosystem

Public health got left behind as federal incentives and regulations helped healthcare systems to be able to easily share data automatically in the Electronic Health Record.

THE REALITY



>>> THE OPPORTUNITY



epidemics occur







Getting ahead of epidemics to stop them quickly

Collecting data without the ability to rapidly analyze it







Rapid data analysis to gain real-time insights

Siloed systems that restrict data sharing







SHARING EFFECTIVELY

Interoperable, accessible data for action

Outdated, paper-based systems with multiple points of data transfer







A true digital highway to automate transfer of critical data in real time

New resources always required to do new data collection







resources and making common investments for the future

"We're **reimagining** what technology and innovative solutions can do and what we can do with the data."

Jennifer Layden, MD, PhD,

Acting Director for the

Office of

Public Health Data,

Surveillance,

and Technology (CDC)

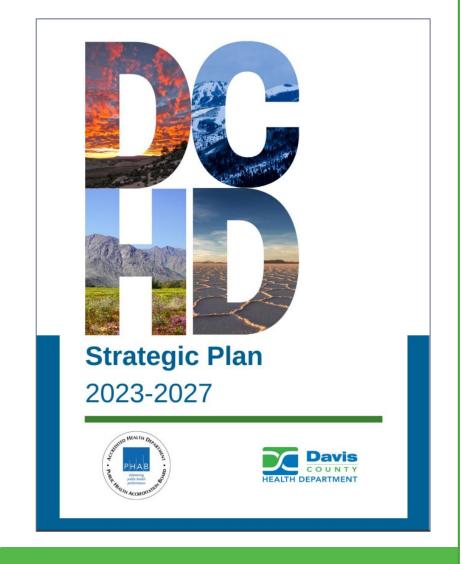
DMI in the Wild

- Electronic laboratory reporting (ELR)
- Electronic case reporting (eCR)
- Updated electronic health record (EHR) systems
- Wastewater surveillance
- Syndromic surveillance
- Timed saved by drafting communication scripts & SAS code with chatGPT
- Performance management tracking systems
- Partnerships with IS/informatics to connect silos (interoperable systems)



Why Do We Care?

- Public Health Accreditation Board (PHAB)
- Strategic Plan priorities
- Culture of continuous improvement, innovation, & leading other LHDs
- Public demand for more current information (COVID dashboards)
- Challenges getting information out of systems for data-informed decision making
- Informatics & data literacy skills now included in updated professional competencies for all tiers of public health workforce







Data Modernization Pre-Plan

This plan outlines a course of action to prepare the jurisdiction to engage in Data Modernization Initiative (DMI) efforts at the state and national level by documenting its workflows, needs, and strengths. CDC's goal for DMI is to get better, faster, actionable insights for decision-making at all levels of public health by focusing on data, people, and policy.

Prepare

- Identify & connect to DMI communities of practice & opportunities
- Form core advisory team & DMI lead
- Create basic overview of DMI so all engaged staff start from same foundation of knowledge
 - Establish common language for key concepts & terms
- Understand Utah DMI landscape & identify partners via external stakeholder interviews
- Outline one-page value case for communication with partners & funders
- Identify & implement internal modifications (i.e. Immunizations program) to pilot process & demonstrate benefits

Assess

- Select assessment instrument & methods
- Advisory team conducts assessment
- Document DCHD ecosystem of hardware, software, databases, datasets, workflows, & policies:
- Division interviews
- o Gather asset lists
- IS interviews
- Partners that send/ receive data from us
- Review county/ department policies
- Engage partners & staff with preliminary results (retreat):
 - o Review ecosystem maps
 - Assessment takeaways
- Identify & implement easy internal modifications from assessment gaps as pilot project(s) to inform planning phase

Plan & Prioritize

- Create DCHD vision:
 - Where do we want to be in 1, 3, 5, & 10 years?
 - Envisioned outputs & outcomes
- Develop a roadmap of strategies to build capacity in areas of data, people, & policy to achieve vision:
 - Prioritize areas identified in assessment
 - Workforce development, hire technical skill sets
 - Funding sources
 - Technology assets & processes to update, pursue, or sunset
 - Communication plan
 - Additional assessments
 - Include evaluation metrics
- Seek feedback on plans from staff, partners, & subject matter experts

Implement

- Execute prioritized steps from roadmap
- Apply DMI checklist criteria to projects proposed for each roadmap step
- Division-specific tailoring of vision & activities

Monitor & Update

- · Track roadmap progress
- Evaluate impact of implemented changes to demonstrate ROI
- Monitor external landscape of DMI efforts
- Adjust plans as needed based on internal & external factors

DCHD DMI Outputs:

Ecosystem Map | Assessment Report | Roadmap | Division-Specific Modifications

"We are drowning in information, but starved for knowledge" – John Naisbitt

Resources:

PHII Toolkits | CDC Portal | Terminology |
Circles Learning Community | CDC DMI Roadmap

Ihyder@co.davis.ut.us Updated: Sep 26, 2023

DCHD Immunizations Ecosystem [draft] Dashed lines indicate LH | September 19, 2023 processes that are Canva fully or partially (event flyers) manual Imms Webpage Encore Patient (DSD) Google Forms: (Travel Clinic, Satisfaction Survey) Google Calendar: Dr. Cope Insurance **Outreach Events** Google Doc: approval Monthly Staffing Google Reimbursement Rates (email or website) Drive: card Calendar images Google OnBase Text Em All Sheet: Pt (record (reminders) Scheduling "New retention) KIPHS" Paper Records (& Other Spreadsheet charting) Healthcare Price List TransactRx, Spreadsheet: Providers company websites, Clerk Error Medicaid lookup (determine Tracking insurance eligibility) **KIPHS** VAERS **UHIN** (claims files for **UTransend** insurance billing) AHB Spreadsheet: 5yr Easy Average Volume per Vax PRISM Print VFC/ (order predictions) VOMS Annual Vaccine Coverage Data TCM Report Process Purchase Senior Order Services **Utah DHHS Process** Process Teams Wells Fargo (DCHD Vaccine Shop, GSK, FFF, account) Senso McKesson, Pfizer, Medico Inventory DCHD Program Scientific Mart, Merck (private vax process (temperature (Planning/Evaluation) vendors) Process log) CD/Epi Process

Assessment Highlights

Strengths

Vision/strategy

- Leadership buy-in/support
- Effective relationship with IS
- Collaboration with community partners to meet population health goals/objectives

Workforce

Informatics knowledge and skills (program managers)

Systems

Software lifecycle support process

Challenges

Vision/strategy

- Documented informatics vision & strategy
- Strategy for data exchange with external partners
- Standard procedure for data sharing agreements

Workforce

- Organizational focal point with authority/responsibility
- Informatics job classification
- Training
- Informatic professionals



Modernizing the public health system is like building a house







Plumbing/electrical: upgrading & connecting data systems



Features: specific DMI projects increasing functionality & performance



Our structure is solidly built: better ready to promote & protect the health and well-being of the Davis County community