

# CDC's Data Modernization Initiative (DMI) and its Impact on Public Health Agencies

Noam H. Arzt, PhD, FHIMSS, FAMIA President, HLN Consulting, LLC

AMIA Public Health Informatics Working Group (PHI-WG)

June 1, 2023

### **Objectives for This Presentation**

- Brief history on DMI
- Quick case study: Immunization Information Systems through a DMI lens
- Issues and challenges



## Introduction to CDC's Data Modernization Initiative (DMI)

- Began as far back as 2019/2020, pre-pandemic
- Overarching goal: Modernize data across the federal and state public health landscape (right data, right people, right time)
- Started in CDC CSELS through Epidemiology and Laboratory Capacity (ELC) program, now managed in Office of Public Health Data, Surveillance and Technology (OPHDST)
- Multi-year, multi-billion dollar Congressional appropriation
  - CDC: \$50M in 2020→\$100M in 2022→\$175M in 2023
  - CDC: \$500M in CARES Act; \$500M in American Rescue Plan
  - Public Health Infrastructure Grant Program: \$3.2B
    - DMI through ELC: \$635M



### **Public Health Infrastructure Grant Program**

#### **STRATEGIES**

#### SHORT-TERM OUTCOMES

#### LONG-TERM OUTCOMES

#### Workforce

Recruit, retain, support, and train the public health workforce

Increased hiring of diverse public health staff Increased size of the public health workforce



Foundational Capabilities

Strengthen systems, processes, and policies **Improved** organizational systems and processes

Stronger public health foundational capabilities



Increased availability and use of public health data



Accelerated prevention, preparedness, and response to emerging health threats, and improved outcomes for other public health areas.

#### Data Modernization

Deploy scalable, flexible, and sustainable technologies

More modern and efficient data infrastructure

Increased data interoperability

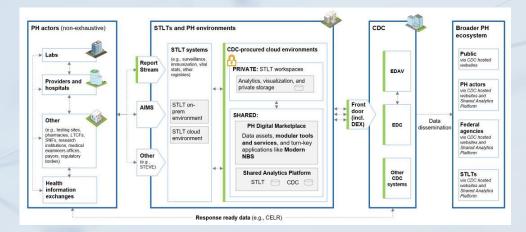


Source: CDC's PHIG Overview



### **DMI: Major Activities**

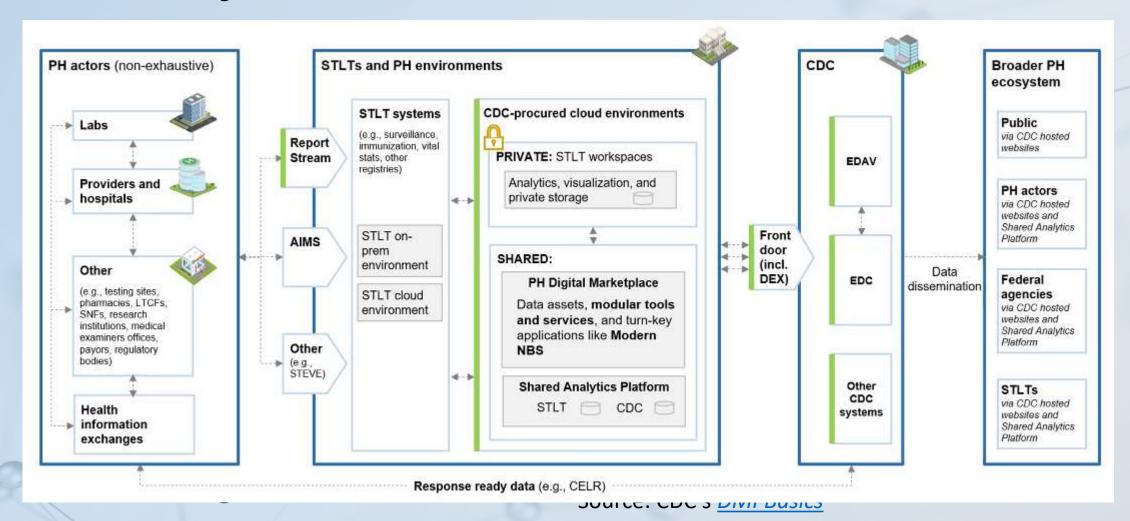
- Northstar Architecture Framework
- Cloud Computing
- Artificial Intelligence and Machine Learning
- Data, Analytics, and Visualization
- CDC "Front Door"
- Improving "Data Pipeline"
  - Building Blocks





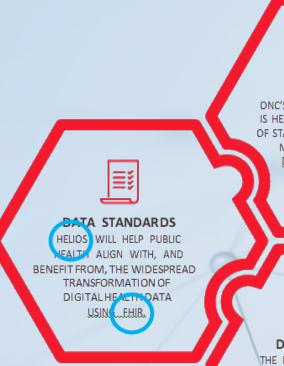
Source: CDC's DMI Basics

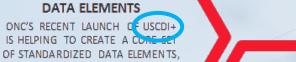
### **DMI: Major Activities**





### **DMI** Approach to Interoperability





MAKING MISSION CRITICAL DATA MORE CONSISTENT, COMPATIBLE, AND USABLE



#### DATA ARCHITECTURE

THE NORTH STAR ARCHITECTURE
OFFERS A SHARED VISION OF A
FUTURE PUBLIC HEALTH DATA
INFRASTRUCTURE TO HELP
JURISTICTIONS SHARE
NECESSARY DATA WITH
EACH OTHER AND CDC.



#### **DATA EXCHANGE**

IN JANUARY 2022, THE
LATEST GUIDANCE ON
TEFCA WAS RELEASED WITH
RECOMMENDATIONS ON HOW
PUBLIC HEALTH AGENCIES
CAN GET INVOLVED.

Source: CDC's <u>DMI Snapshot 2022</u>



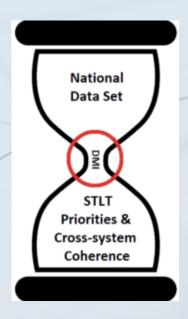
### **IIS: From Afterthought to Forefront?**

- DMI started is CSELS limited exposure to IIS
- Agencies raised IIS examples, especially in PHII DMI Learning Community
- IZ Gateway makes a good "found pilot"
  - Good use of standards
  - Enables interoperability
  - Data Exchange (DEX): pilot for CDC "Front Door"
- AIRA/PHII/CDC Workforce Development activities
- AIRA/CDC work on measurement (MACAW); product consortia
- CDC implementation of PPRL
- Shared services
  - Long-standing open source work (e.g., ICE, MQE)
  - Cooperative purchasing (e.g., Smarty)



### **Issues and Challenges**

- Synergy between CDC "enterprise" and STLT goals
- Choice between "going wide" or "going deep"
- Core applications showing their age
- COVID funding "cliff"
- Post-pandemic fatigue
- Tight labor market, especially for technical positions
- Lack of understanding of open source concepts and utility





### **Issues and Challenges**

- New technologies can be challenging to implement well and/or quickly
- Limited exposure to date by industry partners to DMI concepts, plans, and collaboration
- Impact of CDC reorganization not well understood
- <u>Procurement</u> challenges, especially with respect to Agile methodologies
- Data privacy challenges persist



#### **Contact Information**

#### Noam H. Arzt

President, HLN Consulting, LLC 858-538-2220 (Voice)

arzt@hln.com

@NoamArzt

http://www.hln.com/noam/



