WHAT IS THE

Data Modernization Initiative?

DMI
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CDC is at the heart of a national effort to create **modern, integrated, and real-time public health data and surveillance** that can protect us from any health threat.

Our Ultimate Goal

To move from siloed and brittle public health data systems to connected, resilient, adaptable, and sustainable **'response-ready'** systems that can help us solve problems before they happen and reduce the harm caused by the problems that do happen.

DMI
@ CDC

DMI Solves Longstanding Problems That Put Us at Risk

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

Outdated skills: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

Point-to-point data transmission:
Providers in healthcare and at health departments are burdened with sending data to many places in many different ways
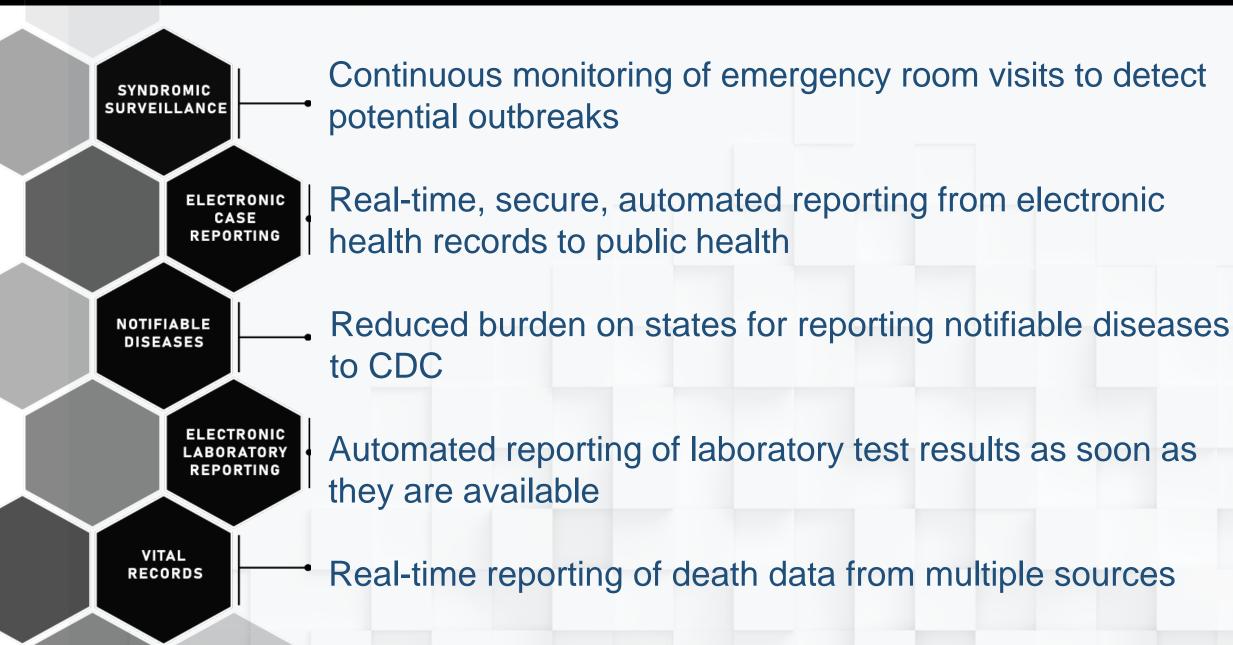
Outdated technologies:
- Older systems at health departments are not flexible, do not use cloud, and are not scalable

Public health is not a part of the 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.

Automate and Expand Core Surveillance

SYNDROMIC SURVEILLANCE

Continuous monitoring of emergency room visits to detect potential outbreaks

ELECTRONIC CASE REPORTING

Real-time, secure, automated reporting from electronic health records to public health

NOTIFIABLE DISEASES

Reduced burden on states for reporting notifiable diseases to CDC

ELECTRONIC LABORATORY REPORTING

Automated reporting of laboratory test results as soon as they are available

VITAL RECORDS

Real-time reporting of death data from multiple sources

NCHS Data Modernization Projects

- **Data Sourcing and Production Improvements**
  - NVSS Modernization
  - Electronic Health Records
  - NHIS Pilot Projects
  - Model-Based Estimates
  - Linkage

- **Data Access Improvements**
  - Data Query System
  - Website Redesign
  - Data Science Activities
  - Virtual Data Enclave

NVSS – Where We Started, What We've Done, Where We're Going

Before modernization, the process for capturing vital records information was:
- Disconnected
- Duplicative
- Labor-intensive
- Error prone

NCHS Modernization Efforts

Standards Development and Testing → Tools and Technical Assistance → with the Community

- Automated, bi-directional data sharing between NCHS and jurisdictions

- Develop consistent processes, standards, and systems for investigating, certifying, and reporting deaths

- At least 50% jurisdiction participation in NVSS Community of Practice

Electronic Health Records Projects

Healthcare Electronic Health Record (HEHR) Cloud Migration

- Assess, plan, design and develop, and migrate the HEHR platform from its current on premises instillation to a cloud-based infrastructure to improve survey operations and efficiencies

EHR Data for the National Hospital Care Survey

- Purchase electronic data to produce national estimates of hospital care utilization during and after the pandemic
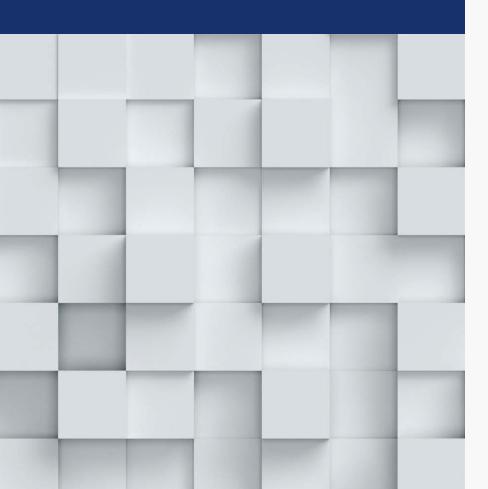
Model-Based Estimates

Goal: Develop and leverage data science tools and techniques to produce faster, more granular estimates for key health statistics.

Key Activities:
1. Evaluate existing literature and methodology

2. Develop data management, analysis methods, and programming to automate models

3. Conduct empirical evaluation of methodology and models

4. Develop and disseminate methodology documentation and visualizations

Data Accessibility Anticipated Outcomes

Facilitate Data Source Identification

- Design, develop, and test **Data Query System** to improve discoverability, identification, and integration of NCHS data assets
- Analyze current state of **NCHS website** and execute a redesign to improve accessibility

Standardizing Metadata/APIs

- Build a repository of federated data with standardized and searchable catalogues, metadata on sources and uses, and links to external sources

Virtual Data Enclave (VDE)

- Finalize partnership with VDE provider
- Onboard researchers (starting with NCHS/CDC)

Funding Support for the Initiative

Base

Supplemental

In FY 2020, CDC received its first-ever Congressional appropriation of $50 million to modernize public health data and infrastructure.

*Continues in FY 2021 and may be adjusted in the future

The **Coronavirus Aid, Relief, and Economic Security (CARES) Act** provided an additional **$500 million** to CDC to advance surveillance goals for the nation.

*Available only until September 2024

The **American Rescue Plan (ARP) Act** provided an additional **$500 million** to CDC to advance surveillance and analytics infrastructure, as well as establish a forecasting center for emerging biological threats.

*Available until depleted

Accelerating Data Modernization in Jurisdictions

$200 million will be awarded to 64 public health jurisdictions in a new, two-year program that will support data modernization efforts.

Tier 1: Core Data Modernization Infrastructure

≈ $46M for 64 jurisdictions

Tier 2: Electronic Case Reporting (eCR) scale up

≈ $77M for 64 jurisdictions

Tier 3: National Vital Statistics System (NVSS) Modernization

$77M for 57 recipients who are part of NVSS

When the next emergency happens, we will have:

- <u>A foundation for data sharing</u> across all levels of public health for coordinated, scalable and timely case investigation, management, and reporting

- <u>Shared analysis capabilities</u> for rapid identification of trends within and across jurisdictions, including:
  - Race/ethnicity-specific trends and risk factors
  - Improved forecasting and response capabilities

Questions?