Modernize Public Health Data: Funding Estimates
Electronic Case Reporting

eCR is the automatic submission of disease reports directly from electronic health records (EHR) at clinical care sites to state, territorial, local, and tribal health departments. eCR connects clinical and public health data to improve data completeness—ensuring that public health has the race and ethnicity data that is critical for achieving equity in our response.

*Hiring epidemiologists and building systems to manage eCR requires at least $656 million over 5 years, of which $336 million are human costs and $320 million are for systems.*
5,000 hospitalization records from 2021 (stored in accordance with privacy requirements)
Still need a work around

• In each folder:
  • Handwritten CDC case report form filled out by a case investigator
    • Data entered into electronic surveillance system
    • Form scanned
  • Hospitalization records
    • Printed from EHR
    • Scanned into surveillance system

• Why:
  • Not all hospitals are capable of eCR
  • Need more information for high-consequence pathogens
Lab Information Management Systems

LIMS form the backbone for laboratory data collection, analysis, management and sharing. Electronic Laboratory Reporting (ELR) and Electronic Test Ordering and Reporting (ETOR) support automated electronic transmission of laboratory results from commercial and hospital laboratories to public health departments. ETOR facilitates the collection of demographic information so that laboratories can report complete data and results to public health.

*Putting LIMS, ELR, and ETOR in place requires $1.032 billion over 5 years, of which $392 million are human costs and $640 million are for systems.*
Syndromic Surveillance

Syndromic surveillance uses near real-time data collection from hospital emergency department visits and other data sources such as urgent care centers, poison center calls, or emergency medical service runs for continuous monitoring of community health. Data from both inpatient encounters and intensive care unit admissions are also needed for public health.

*Implementing syndromic surveillance systems requires $310.4 million over five years, of which $86.4 million are human costs and $224 million are for systems.*
Electronic Vital Records

The electronic vital records system provides secure electronic collection of birth and death data from hospitals, funeral homes, health care providers, and medical examiners. Electronic death registration systems (EDRS) provide timely mortality data. Our vital records systems are in dire need of upgrades to be interoperable with public health and EHR data systems.

**Modernizing vital records systems requires $688 million over 5 years, of which $336 million are human costs and $352 million are for systems.**
National Notifiable Disease Surveillance System

NNDSS collects, aggregates, and analyzes—at the national level—deidentified data from all individual cases of reportable diseases and conditions from state, territorial, local, and tribal public health agencies reported by hospitals, health care providers, and laboratories. NNDSS requires rapid electronic data streams from health departments to aggregate national data for decision-making, and is a critical component of public health response.

*Bringing NNDSS into the 21st century requires $1.24 billion over 5 years, of which $280 million are human costs and $960 million are for systems.*
Local Workforce and State Leadership

Local, county, and city health departments play a critical role in our public health infrastructure. 

*Supporting local health departments’ data infrastructure needs requires $3 billion over five years split evenly between system and human costs.*

To best use taxpayer resources and ensure value and efficiency, public health leadership at the state level is needed to coordinate, implement, and provide leadership for the development of the DMI. 

*Leadership, project management, coordination, and implementation require $814 million over 5 years, of which $379 million are human costs and $435 million are for systems.*
Modernize Public Health Data

- **Minimum** investment of $7.84 billion over 5 years in CDC’s Data Modernization Initiative (DMI) at the state and local levels.

- **Sustained and reliable** funding is critical for jurisdictions to confidently invest in the systems and workforce they need to bring their data systems into the 21st century.

- This means at least **$1.57 billion per year** to fully modernize our public health data infrastructure at the state and local levels.

- FY 2023 Appropriations ask: AT LEAST $250 million with an understanding that additional Federal investment is essential.
CDC’s Data Modernization Initiative

Daniel B. Jernigan, MD, MPH
CDC Deputy Director for Public Health Science and Surveillance
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.

Better, Faster, Actionable Intelligence for Decision-Making
WHAT WE'RE DOING

We continue to answer the demands of the pandemic while making our data ready for whatever comes next.

At the federal level...
We're unifying our data at CDC and supporting policies that make data sharing easier.

At the state and local level...
We're building up our public health workforce and strengthening connections for timelier, more accurate data.

For the public...
We're supporting equitable health and providing more real-time data for decisions.
We are in a different place than we were before the pandemic

<table>
<thead>
<tr>
<th>Monitoring Disease Burden</th>
<th>DATA COLLECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Lab Reports</td>
<td><strong>813M</strong> COVID-19 Tests</td>
</tr>
<tr>
<td>Case-Based Disease Surveillance</td>
<td><strong>79M</strong> Case Reports</td>
</tr>
<tr>
<td>Emergency Department Visits</td>
<td><strong>7.4M</strong> COVID-19 ED Encounters</td>
</tr>
<tr>
<td>Immunization Records</td>
<td><strong>551M</strong> vaccinations administered</td>
</tr>
<tr>
<td>Virus Genomics Data</td>
<td><strong>2.1M</strong> published sequences</td>
</tr>
<tr>
<td>Healthcare Data</td>
<td><strong>140TB</strong> of clinical and administrative data</td>
</tr>
<tr>
<td>Hospitalization Data</td>
<td><strong>4.6M</strong> total admissions</td>
</tr>
</tbody>
</table>

CDC COVID Data Tracker | covid.cdc.gov/covid-data-tracker
Modernization is not a one-time event

**Funding for FY22**

**Base**

Data Modernization Initiative (FY22)
- $100M to modernize public health data, surveillance, and analytics at CDC and state and local health departments

**Supplemental (one-time)**

Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020
- $500 million to advance surveillance goals for the nation

American Rescue Plan of 2021 (ARP)
- $500 million to advance surveillance and analytics infrastructure, as well as to establish a forecasting center for emerging biological threats

**Major investments for FY22**

Funding for **states and locals** to build foundational data capabilities

Accelerating cloud-based **data, analytics, and visualization capabilities** at CDC

Improving **core data sources for public health surveillance** of all diseases and conditions

Developing a "**north star architecture**" for a shared public health ecosystem

Strengthening the **public health workforce** at the federal, state, and local levels

Integrating and linking data, with a focus on **climate change and health equity**

Improving **response readiness** by building scalable data platforms
What will be different because of DMI?

Success means we will:

- **Decrease burden** on doctors and hospitals by replacing faxes and phone calls with automated reporting directly from electronic health records.

- **Free up public health staff** by providing them the infrastructure, tools, and training to use data for more targeted interventions for their communities.

- **Have awareness of emerging threats** across the U.S. to inform forecasting and to direct resources to prevent or mitigate public health impacts.
Public Health Information and Technology Infrastructure Modernization Funding Report

Core Investment Strategies to Modernize and Interoperate Federal, State, Territorial, Local, & Tribal Governmental Health Systems

HIMSS Government Relations & Thought Leadership
April 2022
HIMSS Assessment of Governmental Public Health Modernization Goals

- All efforts towards the DMI must command a comprehensive agency-wide focus to improve HHS enterprise IT infrastructure at all levels.

- Modernization of Public Health Data Systems and Services Includes:
  - Digitization of the public health infrastructure including cloud-based services
  - Standardization supporting greater interoperability across the spectrum of care
  - Innovation supporting the transformation of STLTs to support meaningful use, preparedness, and health equity

- STLTS must be equipped to analyze and share electronically transmissible visualized data and insights to support a plethora of leading health equity related issues including:
  - Pandemic response
  - Digital health literacy
  - Expanded access to care via telehealth and remote patient monitoring
  - Health equity including maternal mortality surveillance, disease reporting and digital patient engagement
Essential Services Prioritized for Modernization (Year 1-5)

- Electronic Case Reporting and Contact Tracing
- Syndromic Disease Surveillance
- Nationwide Notifiable Disease Surveillance
- Vital Records Reporting
- Electronic Reportable Laboratory Results Reporting
- Immunization Registry Reporting and Query
- Health IT Innovations and Workforce Capacity
- Trusted and Secure Access of Multi-Modal Health Data

Total Investment (Year 1-5): $25.6 Billion
Proposed 10-Year Investment for Modern PH Data Infrastructure & Interoperable, Meaningful Use

Proposed 10-Year Investment = $36,730,775,000

- Immediate STLT PH Data Infrastructure: $25,690,975,000.00
- Public Health Interoperability, Meaningful Use & Sustainability: $11,039,800,000.00
Proposed Investments for Public Health Interoperability, Meaningful Use & Sustainability

**Proposed Funding for PH Interoperability and Meaningful Use (Year 2-10) - $11,039,800,000**

- Trusted and Secure Access of Multi-Modal Health Data: $2,500,000,000.00
- Improve Health I.T. Innovations and Workforce Capacity: $846,400,000.00
- Immunization Information Systems (IIS): $1,800,000,000.00
- Nationwide Disease Surveillance: $1,240,000,000.00
- Laboratory Information Systems: $1,032,000,000.00
- Contact Tracing: $100,000,000.00
- Electronic Case Reporting: $656,000,000.00
- Syndromic Surveillance: $310,400,000.00
Recommendations for meaningful and sustained system transformation by 2030

- Support the coordination of easy, trusted and secure access of multi-modal health data across virtual, remote or in-person services

- Establish a nimble rapid cycle learning health system environment (analytics, strategic coordination)
  - Improve health IT innovations and workforce capacity to support cross-sector data analytics, visualization, reporting and care coordination platforms
  - Build a foundation of interoperable platforms to facilitate broad-based data exchange, health data analysis, visualization and reporting

- Improve health outcomes with high priority given to gathering the demographic data needed to effectively document then manage inequities and disparities data
  - Establish a new system of data governance
  - Reform web of legislative privacy laws that may over protect some data sets and under protect other data
If we do not quickly work to develop or modernize the infrastructure to receive and analyze the data that the federal government requires of STLH public health authorities and healthcare systems to collect and report, we lose any value that could be gained from core lessons learned from the COVID-19 response and data collection.

Improve health outcomes with high priority given to gathering the demographic data needed to effectively manage document then manage inequities and disparities during and post pandemic.

The health IT and Informatics community is also pushed to establish a new system of data governance and standards and to reform web of legislative privacy laws that may over protect some data sets and under protect other data.
Additional Funding Considerations

- **Investment creating a national framework, model law, and policy:** Supports recommendations by the Network for Public Health Law for the unifying model laws and policies, and state/territorial monitoring, analysis, and reporting to HHS/CDC.

- **Funding to ensure the public can access virtual and remote services, including high-speed broadband and ongoing reimbursement of virtual health services across the spectrum of care, and accelerate digital health literacy and equity.**

- **Funding for Public Health “extension centers” and workforce incentives** to provide the technical support for business process analysis and redesign, cross-sector system mapping, and to support the development of strategic and operational plans supporting implementation per national interoperability standards, enterprise DMI priorities, and smart communities-cities investments.

- STLTs and healthcare partners must **evaluate and modernize the over 25+ chronic disease surveillance and data systems** to ensure a comprehensive approach to value-based whole person care and population health.

Additional Funding = $11.0 Billion
HIMSS recommends a total investment of ~$36.7 Billion for STLT public health infrastructure over the next ten years
Thank you!

Questions or comments? Please reach out to Valerie Rogers, Valerie.Rogers@himss.org and Jonathan French, Jonathan.French@himss.org.