Data: Elemental to Health

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Invest at least $7.84 billion over five years to modernize public health data

Public health agencies at the federal, state, territorial, local, and Tribal (STLT) levels work together to detect threats and to prevent and reduce illness and death. CDC's public health data modernization efforts represent a long-term commitment to building and maintaining world-class data systems and workforce that meet the nation's ongoing need to safeguard health. Public health data is not only needed during an emergency response; it is necessary for people and communities to thrive by rapidly identifying, tracking, and responding to daily public health threats of all types—acute, chronic, and emerging. Data modernization plays a critical role to ensure public health receives data from the health care system that is essential to the disease detection and outbreak response efforts that keep communities safe and our nation secure.

We urge Congress to provide at least **$7.84 billion over 5 years to fully modernize our public health data infrastructure at the STLT levels**. This funding is essential to invest seriously in new technology in every jurisdiction and to attract, train, and retain the diverse workforce needed to build, implement, and sustain a modern public health data infrastructure across the U.S.

We are grateful to Congress and the Administration for recognizing this need and supporting these early investments. **The initial investments have already begun to improve systems at the STLT and federal levels—however, major gaps remain.** While investments must be maintained, we must also realize the potential of data modernization by continuing to modernize foundational public health data systems.

Five pillars of data modernization require investment across each public health jurisdiction along with support for local implementation and state-level management.

- **ELECTRONIC CASE REPORTING:** eCR is the automatic submission of disease reports directly from electronic health records (EHR) at clinical care sites to STLT health departments. eCR connects clinical and public health data to improve data completeness.

  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.

- **LABORATORY 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 complete 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 STLT 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 SYSTEMS COMPATIBILITY: Local, county, and city health departments play a critical role in our public health infrastructure. A skilled workforce and compatible data systems at the local level are necessary to ensure that data can flow seamlessly into state and federal systems and that all communities can use that information to provide efficient and effective public health practice.
Supporting local health departments' data infrastructure needs requires $3 billion over five years split evenly between system and human costs.

LEADERSHIP, MANAGEMENT, AND INTEGRATION: 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 to modernize public health data.
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.

The foundation of data modernization is built on a set of guiding principles: an **enterprise approach** to data exchange, **interoperability** between public health and health care systems, **security** to protect patient data, a **workforce** empowered to build and maintain the systems, and **public private partnership** to drive innovation.