

WHAT DOES A MODERN PUBLIC HEALTH DATA INFRASTRUCTURE LOOK LIKE?

The **Health Innovation Alliance** convened national experts in data, analytics, & infrastructure to make recommendations to the CDC on the bold steps it must take to build a modern public health data infrastructure to combat the novel coronavirus and future infectious diseases. Our recommendations are outlined below.

STANDARDIZED DATA



Standardized data reported electronically and available across all public health and clinical management systems

- Case reports
- Test results
- Immunization status
- Syndromic surveillance

POINT OF CARE INFORMATION



Data should be available in workflow, at the point of care for clinicians

- Invest \$200 of the \$500 million provided by Congress in a new federal data hub to provide critical patient information to front line clinicians at the point of care.
- Available to pharmacists and doctors
- Use existing prescribing and pharmacy claims transactions to make this work quickly, seamlessly within workflow

TESTING



Testing is widely available, in home (preferred), physician office, clinic, hospital, and results are:

- Available electronically
- Real time to doctor, patient, public health authority, non-requesting physician and pharmacist
- Integrated into EHR, Pharmacy Management System

PRIVACY



- CDC should set nationwide privacy protection standards and expectations around the data it collects, uses, and shares with other entities
- Congress must modernize HIPAA in light of the issues raised during Coronavirus

ROBUST RESEARCH & ANALYTICS



Public health data should be available on a secure hybrid cloud architecture so that deidentified information can be made available widely for research and analytics.

- AI powered insights to predict the spread of disease, assess current resources, and better manage the flow of supplies to meet capacity issues, like where to direct masks, ventilators, and clinicians;
- Funding should come from both government and the private sector.
- The technical aspects of this data infrastructure should include:
 - » Anonymization and deidentification protocols;
 - » Open-source data science and reporting tools;
 - » Ledger-based technology (e.g., blockchain) for trust-based ownership, custodianship, and interoperability;
 - » Support for both unstructured and structured data;
 - » Integration engines and standard messaging protocols (such as FHIR); and
 - » Out-of-the-box data extracting, predictive analytics tools, and reporting.

PUBLIC-PRIVATE PARTNERSHIPS



High-performance computing systems through pooled supercomputing capacity to allow researchers from government and the private sector to pool resources and to run large amounts of calculations in epidemiology, bioinformatics, and molecular modeling.