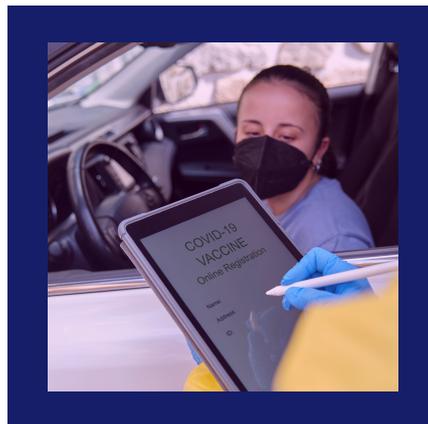


CREATING A MODERN PUBLIC HEALTH SYSTEM



A Report From the
EHI Public Health
Modernization Task Force





IN EARLY 2022, EXECUTIVES FOR HEALTH INNOVATION (EHI) FORMED A PUBLIC HEALTH MODERNIZATION TASK FORCE IN WHICH EHI MEMBERS WITH PUBLIC HEALTH EXPERTISE CAME TOGETHER TO FORM POLICY RECOMMENDATIONS TO HELP BUILD AND SUSTAIN A MODERN PUBLIC HEALTH SYSTEM.

WHY NOW?

The many barriers and delays faced by the nation as the COVID-19 pandemic took hold in early 2020 should serve as lessons learned; if we wait to modernize and adequately fund public health activities until there is another crisis, it will be too late. Policymakers must act swiftly to enact meaningful reforms to ensure we are better prepared for the next public health threat.

WHAT IS THE PROBLEM?

While there are many problems with the current system to be explored, the Task Force focused on areas related to technology and data, given EHI's focus on digital health and innovation. Through that lens, we focused on two main problem areas that help define the needed changes: fragmented and outdated systems.

Fragmented Systems

At the HIMSS Conference in 2021, the chief of the Office of the National Coordinator for Health IT (ONC) Micky Tripathi, Ph.D., MPP declared, "Our public health system suffers from not really being a system, which is one of the challenges that we have. And it's really a loosely cobbled constellation of systems fragmented in a number of different ways."^[1] There are 3,000 local health departments, 59 state and territorial health departments, tribal health departments and numerous other entities comprising the U.S. public health system.^[2] Relying on these disparate systems for data aggregation and reporting alone would be challenging, yet each of these states and jurisdictions also come with different laws and regulations affecting these systems and data.

Although navigating this fragmented system during a global pandemic was challenging, the Task Force does not expect a shift from a local and state-based approach to public health in the U.S. is likely. Even the Centers for Disease Control (CDC) sees their role as more advisory than regulatory in most cases. Throughout the COVID-19 pandemic, the CDC has issued multiple waves of non-binding guidance to state and local health departments. Simply put, the federal government has very little regulatory authority over the public health activities of state and local health departments or U.S. and global businesses, an important challenge in a modern world in which people and goods cross jurisdictional boundaries.

Outdated Systems

In his comments at HIMSS21, Dr. Tripathi went on to point out that while we have invested heavily as a nation in the adoption of electronic health records (EHRs), this same investment has not been made in public health IT systems.^[3] Funding for public health has been inconsistent and often tied to specific disease conditions, versus a more holistic approach. This lack of cohesive investment has led to public health IT systems with patchwork and incomplete electronic:

- Syndromic disease surveillance reporting
- Immunization registry reporting
- Electronic case reporting
- Public health registry reporting
- Vital records reporting
- Lab results reporting

Because of this lack of consistent and broadly applied digital public health IT infrastructure, interoperability between jurisdictions, as well as public health and clinical health entities, has been challenging.

WHAT IS THE OBJECTIVE?

More important than defining the challenges of the current public health system is envisioning what a health IT-enabled public health system should look like. To that end, the Task Force recommends a modern public health system should include:

Timely and automated submissions create readily accessible data related to disease reports, lab results, immunizations, and vital information to public health departments

The current public health system is based on clinical providers pushing data to public health entities; however, we envision a system where there is a timely and automatic bidirectional flow of public health-relevant data between clinical and public health entities.

To accomplish this objective, many have explored the concept of data lakes for public health. A data lake is a central repository that can store, process, and secure large amounts of structured and unstructured data.^[4] Founder and Former CTO of Pentaho, James Dixon, who is credited with naming the concept, describes data lakes: “If you think of a datamart as a store of bottled water – cleansed and packaged and structured for easy consumption – the data lake is a large body of water in a more natural state. The contents of the data lake stream in from a source to fill the lake, and various users of the lake can come to examine, dive in, or take samples.”^[5]

Data lakes could accomplish a defined goal of the Task Force: a public health system that is based on readily accessible and accurate data.

At a de-identified, aggregated level, this data can also power machine learning or artificial intelligence tools to glean public health surveillance and insights at a population level.

Aligned policy and transparency around state policies regarding privacy, data use, and consent

As with many large data sets involving protected health information (PHI), there are many federal and state regulations and laws which are applicable to the use of these data sets. Moving to approaches such as public health data lakes is predicated on the ability to come to solutions that are consistent with differing legal requirements. It can be challenging to align policies and maintain transparency about those policies given the many actors involved, including public health entities, clinicians, health systems, labs, patients, and technology vendors. Ultimately, all of these actors must have a say in, and be fully informed of, policies related to privacy, data use, and consent.

Promote health equity

A modern public health system must advance health equity. The CDC explains that “health equity is achieved when every person has the opportunity to attain his or her full health potential and no one is disadvantaged from achieving this potential because of social position or other socially determined circumstances. Health inequities are reflected in differences in length of life; quality of life; rates of disease, disability, and death; severity of disease; and access to treatment.”

A crucial aspect of public health is ensuring that our resources meet the needs of those in need of care and who are most subject to harm. To achieve this objective, public health entities must ensure their data are truly reflective of the populations served through transparent and equitable processes. Further, there should be a process for correcting historical inaccuracies and biases that are included in existing data sets and have been shown to potentially reduce health equity.



Additionally, there is an increased recognition that many factors outside of the healthcare system impact an individual’s overall health – often referred to as social determinants of health (SDOH). SDOH data includes housing, employment, and environmental data, which often is gathered and stored by public (state, local, and federal) agencies.

To prioritize and improve health outcomes, public health entities should have coordinated systems to gather and connect holistic SDOH data across public agencies to provide actionable insights to inform population-level health initiatives and help clinicians and social service agencies provide targeted care and resources. Further, there must be support for collecting these data using national or global standards so that these data are interoperable.

Facilitate collaboration across industries and stakeholder groups

Ultimately, public health has wide-ranging impacts on industry and society as a whole. It is critical to a healthy workforce, a functioning healthcare system, and safe communities. Given this importance, public health entities should have the ability to form partnerships with consumer and patient groups, employer coalitions, public agencies, and other stakeholder groups to advance health and well-being.

POLICY RECOMMENDATIONS

To address the challenges of the current system and reach the modern system envisioned, the Task Force has developed the following recommendations for policymakers.

How Do We Address This Fragmented System?

As previously mentioned, the Task Force does not expect the state and local approach to public health is likely to shift to a national and centralized approach, nor do we suggest such centralization would necessarily be the best approach. However, we do believe there are steps policymakers can take to remove some of the costs and dysfunctions associated with the current fragmented system.

- **Support TEFCA's public health use case**

Set in motion by the *21st Century Cures Act*, the Trusted Exchange Framework and Common Agreement (TEFCA), established by the ONC, "outlines a common set of principles, terms, and conditions to support the development of a Common Agreement that would help enable a nationwide exchange of electronic health information across disparate health information networks (HINs). The TEFCA is designed to scale electronic health information exchange nationwide and help ensure that HINs, health care providers, health plans, individuals, and many more stakeholders have secure access to their electronic health information when and where it is needed."^[6]

The ONC, along with the TEFCA Recognized Coordinating Entity (RCE), the Sequoia Project, developed the "Common Agreement," which would support treatment, payment, health care operations, individual access services, public health, and government benefits determination for participants in TEFCA. However, while public health is an authorized exchange purpose under the Common Agreement, a response to a query for this purpose is not currently required.^[7]

The Sequoia Project, as the RCE, details a strong value proposition for public health participation in TEFCA, including improving access to population health data, supporting public health reporting, and facilitating bidirectional exchange, all of which the Task Force supports. We urge policymakers to prioritize public health participation in TEFCA and requirements related to responses to queries for public health purposes.

- **Set strong requirements for recipients tied to federal public health funding**

Given the impact of the COVID-19 pandemic, there has been increased federal attention, and thus funding for public health flowing to states. However, these funds, for the most part, have gone out without many requirements on the use of funds.

We expect some of this to change, especially given the Senate Health, Education, Labor and Pension's (HELP) passage of the bipartisan *PREVENT Pandemics Act* and President Biden's Fiscal Year 2023 budget request for increased funding for public health infrastructure.

The Task Force recommends federal funding should be used to incentivize states to modernize their systems and adhere to industry best practices. Additional funding for public health IT system modernization should be conditioned on meeting specific goals and standards.

- **Support statewide/regional partnerships and data collection**

Cross-cutting partnerships are critical to advancing health equity and public well-being. In order to facilitate partnerships to address social determinants of health, the Task Force suggests policymakers consider initiatives like the *LINC to Address Social Needs Act*. The legislation, introduced in the U.S. Senate, would “establish statewide or regional partnerships to better coordinate health care and social services. States, through public-private partnerships, will leverage local expertise and technology to overcome longstanding challenges in helping to connect people to food, housing, child development, job training, and transportation supports and services.”

EHI has endorsed this legislation and the Task Force urges Congress to take action to support partnerships to advance public health.

Data is integral to power these connections, which can be difficult given the lack of standards related to the collection and transmission of SDOH data. EHI fully supports ONC's inclusion of standards-based sexual orientation, gender identity, and SDOH data in the United States Core Data for Interoperability version 2 (USCDI v2), data that has been lacking during the COVID-19 pandemic.^[8] The federal government should continue to support efforts to standardize the collection and transmission of SDOH data.

- **Issue model disclosures and educational materials**

As previously stated, there are varying data use legal requirements and policies that apply to large data sets with or based on PHI, such as public health data. The Task Force understands this legal complexity is likely to be the case for the foreseeable future and does not expect it is likely that the federal government would set one standard or policy that would supersede state laws.

Nonetheless, an essential role for the federal government to play is in ensuring all stakeholders are better educated on how public health data can be used to serve the community.



This role could include developing model disclosures for public health data collection and use, and educational resources to better explain legal requirements.

How Do We Modernize Outdated Technology?

The Task Force recommends a baseline of proven, industry-developed standards and technology that are robust and real-world tested be used by state and local public health systems. To achieve this, Congress should authorize ONC to establish, in coordination with the CDC and Public Health Accreditation Board, a public health technology certification program to ensure systems are using applicable and mature industry standards and are able to accomplish functions including:

- Syndromic disease surveillance reporting
- Immunization registry reporting
- Electronic case reporting
- Public health registry reporting
- Vital records reporting
- Lab results reporting

While voluntary, Congress may tie states' public health IT funding to certification. This program would be similar to the existing certification program for EHRs, which tied public dollars for providers to adopt certified EHRs. The certification program serves an important role in adopting industry standards and advancing interoperability, both goals of a modern public health system

CONCLUSION

Public health in the United States has suffered from fragmentation, underfunding, and lack of prioritization, all of which became shockingly clear during the COVID-19 pandemic, with tragic consequences. It is essential that policymakers correct this course now, before we are faced with the next acute public health threat. We believe it is essential to build a modern public health system to be better equipped to meet the requirements and face the challenges of our technology-driven society.



ENDNOTES

- [1] <https://www.healthcareitnews.com/news/onc-cdc-want-fix-fragmented-public-health-system-covid-19-exposed>
- [2] <https://sgp.fas.org/crs/homesec/RL31719.pdf>
- [3] <https://www.healthcareitnews.com/news/onc-cdc-want-fix-fragmented-public-health-system-covid-19-exposed>
- [4] <https://cloud.google.com/learn/what-is-a-data-lake>
- [5] <https://www.forbes.com/sites/bernardmarr/2018/08/27/what-is-a-data-lake-a-super-simple-explanation-for-anyone/?sh=76c51b0476e0>
- [6] <https://rce.sequoiaproject.org/tefca/>
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- [8] <https://www.hhs.gov/about/news/2021/07/09/hhs-updates-interoperability-standards-to-support-electronic-exchange-of-sogi-sdoh.html>

THANK YOU EHI PUBLIC HEALTH MODERNIZATION TASK FORCE

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Executives for Health Innovation (EHI) is a catalyst for healthcare transformation, convening diverse leaders from across the industry to unlock opportunities for collaborative innovation. EHI, along with its coalition of members, focuses on education, thought leadership, and advocacy. We believe that innovation and diverse perspectives power the transformation of healthcare. Our members are working toward consumer-centered health that is lower cost, higher quality, and more accessible for all populations. www.ehdc.org/