

Fairfax County Health Department Modernizes Infrastructure to Optimize Public Health Data Sharing

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Background

Using lessons learned from the COVID-19 pandemic, the Fairfax County Health Department (FCHD) is coordinating with county agencies, the Virginia Department of Health (VDH), and nonprofit public health organizations to modernize its data infrastructure and optimize public health data sharing functions. FCHD's Informatics and IT team engaged in a strategic process to develop a multiyear IT roadmap, which outlines solutions and systems required to support this modernization, including clinical services, communicable disease surveillance, laboratory information systems, communication systems, and solutions for community engagement and administrative needs. As a result, FCHD is well-positioned to leverage its robust IT and data infrastructure to align with VDH for better data sharing.

Advancing IT and Informatics Infrastructure

Challenges associated with manual data-sharing processes (e.g., the use of CSV files to ingest data and produce analyses) during the COVID-19 pandemic prompted FCHD to reassess its informatics capacity. It conducted department-wide needs assessments and identified the need for improved technology, increased workforce capacity, and better data governance policies. It then ascertained IT functions that could be outsourced (e.g., cloud-hosted solutions and managed services for [FHIR HL7](#) implementation) versus core public health functions (e.g., manipulating and managing data for epidemiologic use) that needed to remain internal, allowing FCHD to preserve internal staff capacity for key public health activities.

Public health staff found working with CSV files to be inefficient for large or frequently updated datasets. To address this challenge, FCHD worked closely with VDH and the Fairfax County Informatics and IT team to adopt automated processes and develop a data warehouse solution—allowing FCHD to manage and transform data from multiple sources as well as control the frequency and timing of data retrieval, enhancing their ability to respond promptly to public health needs while keeping data secure on cloud-host servers. VDH hosted an [API](#) for FCHD to retrieve death data, significantly increasing flexibility and reducing the need for manual intervention. As FCHD increases the use of new data sources and technology, it continues to develop data governance policies, roles/responsibilities for data users, and data safeguarding guidance.

“The people and the processes need to be supported by the technology.”

– Noel Clarin, Public Health Informatics & IT Director, FCHD

Engaging State and Local Partners

FCHD recognizes that data sharing agreements are vital to support data exchange and, until recently, relied on informal data sharing agreements among other jurisdictions in Virginia. It partnered with attorneys at the state and local levels to work toward a universal data sharing agreement, which can expedite the data sharing process when public health programs have new use cases for local data. As a result, FCHD executed a Memorandum of Understanding

“There was work involved in this. And [not] just champions from the health department, from the state too, to get all of this to work... What we want to show everyone else is it can be done.”

– Alida Laney, Public Health Data Manager, FCHD

with VDH in less than six months—a notable improvement from past data sharing agreements, which historically could take over a year to execute. They worked collaboratively through complex technical and bureaucratic challenges, highlighting the iterative nature of establishing effective data sharing protocols. FCHD also supported relationship-building between programs and divisions within the Fairfax County government, allowing for greater strategic alignment around emerging technologies. Interdepartmental relationship-building between public health program staff and the Fairfax County IT team has been equally important to foster effective collaboration and identify data modernization champions within FCHD.

Planning for Sustainable and Diverse Funding Sources

FCHD received an initial grant from the Public Health FHIR Implementation Collaborative through NACCHO, which helped launch the IT infrastructure improvement work; however, one-time funding is not a long-term solution. Now, FCHD is developing a long-term funding strategy to support the costs of IT systems licensing, operations and maintenance, and research and development. FCHD recognizes as public health changes, so must the technology that supports it, and modernization will require sustainable funding from government, associations, and other sources.

“Being resilient is really important. If it was easy, it would have already been done.”
– Ben Klekamp, Epidemiology Manager, FCHD

Centering Health Equity in Informatics Solutions

FCHD is developing processes to collect and standardize data disaggregated by sexual orientation and gender identity, race and ethnicity, language, and the social determinants of health to better identify and address health disparities. By incorporating additional data into its systems, program staff can now make informed decisions to strengthen health literacy by disseminating information in preferred languages and easy-to-read formats, and ensuring materials are accessible to persons with colorblindness.

Implementation Considerations

- Foster relationships within and across local and state government to get buy-in for the modernization of public health informatics infrastructure and the improvement of data-sharing practices.
- Define clear goals for implementing new technology, and build a strategy for infrastructure improvement, partner engagement, and long-term sustainability that’s grounded in a shared understanding of the goals.
- Align workforce responsibilities, process improvement efforts, and technological advancements.
- Develop universal data sharing agreement templates between state and local health departments to expedite future data-sharing efforts.

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