How to Create a Public Health Infrastructure Using a Data Operating System

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One of the biggest reasons societies band together to create a governing body is to help care for members of that society. Government should help us maintain a certain standard of living, help solve societal challenges, and mobilize when disruptions happen. Technology, and more importantly, data, should help make those tasks much easier, but it doesn't always happen that way. Public health entities must evolve quickly to prevent pandemic-level disruptions from happening again.

This Evolution Requires Addressing Three Specific Standards

Without implementing some much-needed updates, public health entities undermine the nation's ability to respond quickly and effectively during times of crisis. According to the Government Accountability Office's research, the areas that require updates are:

- Possessing common standards for collecting data
- Interoperability
- A cohesive infrastructure designed specifically for public health.

The Pan American Health Organization (PAHO) further breaks these essential elements for digital transformations into eight components:

- Universal Connectivity
- Digital Goods (including open source software, standards, algorithms, data, applications, and content)
- Inclusive digital health
- Interoperability
- The protection of human rights
- Global cooperation in AI
- Information Security
- Public Health Architecture

These standards are possible but only with the right tool. Let's explore how a data operating system can enable public health entities to reach their full potential.

A Data Operating System Unites Data Sources and Improves Collaboration

It seems a given that governmental organizations and those involved in public health would have standardized data collection methods years ago. Unfortunately, this isn't the case. But why does it matter?

As different organizations collect data, quality standards may vary between the entities. This throws off any chance of collaboration right from the beginning. Most organizations have a methodology of data governance

that determines data quality according to that particular organization's standards, but these vary between organizations.

For example, during the pandemic, COVID-19 reporting was complicated because states collected and submitted data without a single standard format. This made it challenging to identify key trends quickly, understand how the pandemic affected different locations and demographics, and deliver rapid response times.

A data operating system helps organizations improve their data health by understanding what data they have, where it comes from, who is using it, and—most importantly—why. It provides an "operational layer" or a connective tissue that doesn't require replacing existing systems. Instead, it enables each organization to create a cohesive architecture that ensures data consistency. This also allows public health organizations to reach vulnerable populations thanks to accurate, high-quality data.

A Data Operating System Ensures That Public Health Tools Are Interoperable

Interoperability between public health tools and services helps organizations themselves become interoperable. Key groups must collaborate and connect regardless of what infrastructure they use.

Barriers to interoperability caused multiple reporting challenges and blocked states from moving quickly during the pandemic. In future disruptions, the problem only worsens. Citizens expect governing bodies and public health organizations to mobilize quickly to deflect and mitigate some of the worst aspects of disruption, but this is only possible with an interoperable system.

In addition, citizens themselves must be able to leverage online portals to find information quickly in order to reduce misleading and false information. These portals could also provide a level of autonomy for applying for and receiving services.

A data operating system can connect these different systems without needing massive downtime to install or set up. In addition, a data operating system that doesn't rely on heavy coding expertise to query allows more people to take advantage of it—instead of just those with technical knowledge.

A Composable Data Operating System Allows for Customized Architectures

Public health organizations must customize their IT infrastructure for the needs of public health. Many states were still manually processing health records at the beginning of the pandemic and weren't able to quickly set up an infrastructure that met their needs. Once again, this slowed down recovery efforts and efforts to get services to vulnerable populations.

A data operating system offers government and public health organizations a way to customize an IT infrastructure for the specific needs of a public health entity. It can leverage the tools and services in place, including legacy systems that still contain relevant data. It can standardize data collection. It can cut down on errors from manual data collection and cleaning.

Health data is highly sensitive. With a central governance process, healthcare and state officials can protect data without preventing full usage for those with the proper clearance. It can also help support the use of cutting-edge technologies such as AI by powering it with consistently clean, high-quality data in near real-time.

DataOS Offers a New Way to Manage Public Health Infrastructure

DataOS is the only data operating system designed as a single, holistic solution capable of working out of the box. It doesn't require massive restructuring, complicated retrofitting, or decommissioning existing tools.

With customizable dashboards and attribute-based governance, users can find what data is available to them, build pipelines without complex coding, and get insights using quality data. Public health entities will finally have the opportunity to build an architecture custom-suited for public health needs.

Learn more →

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