

► DIRECT FROM CDC ENVIRONMENTAL HEALTH SERVICES



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# Data Modernization: Making Environmental Health Services Data More Accessible

**Editor's Note:** The National Environmental Health Association (NEHA) strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, NEHA features this column on environmental health services from the Centers for Disease Control and Prevention (CDC) in every issue of the *Journal*.

In these columns, authors from CDC's Water, Food, and Environmental Health Services Branch, as well as guest authors, will share tools, resources, and guidance for environmental health practitioners. The conclusions in these columns are those of the author(s) and do not necessarily represent the official position of CDC.

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Environmental health programs routinely generate and collect data on inspection results and violations, facility closures, permits or licenses issued, investigation findings, public inquiries, and responses to complaints. High-quality environmental health services data are essential for timely identification and detection of environmental hazards, decision making, and evidence-based practices guidance. The Centers for Disease Control and Prevention (CDC, 2021a) has begun a public health Data Modernization Initiative to create connected, resilient, adaptable, and sustainable data systems that can help produce solutions before problems occur and limit negative effects caused by problems that do occur. The Environmental Public Health Tracking Program

and the Water, Food, and Environmental Health Services Branch (WFEHSB) of CDC are working together to enhance and expand environmental health data modernization efforts across the country.

The Tracking Program and WFEHSB fund 11 projects from state and local tracking programs to modernize the collection, integration, dissemination, and application of timely, local environmental health data. The funded jurisdictions work on a range of projects to improve use and dissemination of data related to environmental health services, such as inspections; permits; investigations; public inquiries; and complaints for food, private wells, and septic systems. Table 1 provides website links to information about how these jurisdictions use environmental health data.

## Projects

- California is building a standardized and sustainable statewide data set on vehicle traffic that will be accessible to the public, researchers, and environmental health services through an updated version of its 2007 Traffic Tool.
- Connecticut is developing and implementing modern data pipelines for food protection, private well, and childhood lead surveillance data, as well as environmental health dashboards for leadership and the public. The state is also increasing the amount of available data on the Connecticut Tracking Data Explorer.
- Florida is accelerating data and health system modernization related to COVID-19 and environmental health services data. The state is replacing legacy technology and working with the Bureau of Epidemiology and Environmental Health database managers to incorporate COVID-19 and inspection results into the state tracking web portal.
- Kentucky is enhancing the framework for environmental health service data collection, sharing, and application by applying modernized syndromic surveillance, SQL Server management, and Tableau visualization techniques. The state is also strengthening partnerships between public health programs by collaborating on data usage and grant deliverables to improve strategic decision-making skills within the IT infrastructure of the tracking system.
- Maryland is addressing current data gaps in the sharing of data related to inspections, permits, investigations, public inquiries, and complaints pertaining to private

TABLE 1

**Website Links to Explore Environmental Health Data Modernization Efforts in Different Jurisdictions in the United States**

Jurisdiction	Website Link
California	<a href="http://www.trackingcalifornia.org">www.trackingcalifornia.org</a>
Connecticut	<a href="https://stateofhealth.ct.gov">https://stateofhealth.ct.gov</a>
Florida	<a href="http://www.floridatracking.com/healthtracking">www.floridatracking.com/healthtracking</a>
Kentucky	<a href="https://kyibis.mc.uky.edu/ehl">https://kyibis.mc.uky.edu/ehl</a>
Maryland	<a href="https://health.maryland.gov/phpa/oeftp/eh/tracking/Pages/home.aspx">https://health.maryland.gov/phpa/oeftp/eh/tracking/Pages/home.aspx</a>
Michigan	<a href="http://www.michigan.gov/mdhhs/0,5885,7-339-71548_54783_54784_78428---,00.html">www.michigan.gov/mdhhs/0,5885,7-339-71548_54783_54784_78428---,00.html</a>
New Mexico	<a href="https://nmtracking.org">https://nmtracking.org</a>
New York City	<a href="https://a816-dohbesp.nyc.gov/IndicatorPublic/publictracking.aspx">https://a816-dohbesp.nyc.gov/IndicatorPublic/publictracking.aspx</a>
Oregon	<a href="http://www.oregon.gov/OHA/PH/HealthyEnvironments/TrackingAssessment/EnvironmentalPublicHealthTracking/Pages/index.aspx">www.oregon.gov/OHA/PH/HealthyEnvironments/TrackingAssessment/EnvironmentalPublicHealthTracking/Pages/index.aspx</a>
Rhode Island	<a href="https://health.ri.gov/programs/detail.php?pgm_id=1123">https://health.ri.gov/programs/detail.php?pgm_id=1123</a>
Washington	<a href="http://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN">www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN</a>

FIGURE 1

**Importance of the Environmental Health Data Modernization Work Group**

**Participation in This Work Group Helps Modernize Environmental Health Services Data**

**This Work Helps to Understand:**

- Requirements for collecting, using, and making environmental health services data publicly accessible.
- The most important environmental health services data and how they can be used to identify hazards and risk factors, especially related to COVID-19.
- Strategies and solutions for integrating environmental health services data into the Tracking Network or other platforms.

**This Work Group Can:**

- Be a catalyst for strengthening coordination and collaboration at the national level for standardizing environmental health services data.
- Help advance integration of environmental health services data from Environmental Health Capacity (EHC) recipients and environmental health programs into national or state tracking networks and other platforms for making data open access.



- New York City is developing a platform to provide secure data access through an application programming interface (API) and pilot testing the platform with environmental health services data. The jurisdiction is also creating a content management system to help nontechnical staff members produce online narrative content for a public data-sharing portal, including data stories and annual reports.
- Oregon is modernizing the collection, integration, dissemination, and application of domestic well testing data, including programmatic and water quality data collected during routine real estate transactions and special projects (e.g., a wildfire-impacted domestic well test voucher project).
- Rhode Island is pilot testing a data integration and automation project using data from the Center for Food Protection within the Rhode Island Department of Health to link food protection, environmental public health tracking, and geographic information into a public health data surveillance system that is modern, interoperable, and real time.
- Washington is building on existing relationships, capacity, and expertise to modernize the collection, integration, distribution, and application of environmental health data to include lead in school drinking water testing results and pesticide illness investigations on the Washington Tracking Network.

In addition to working on their own projects, the funded jurisdictions participate in an environmental health data modernization work group to aid collaboration and adoption of best practices across programs and among unfunded jurisdictions. The work group focuses on a variety of topics, including data standards, data pipelines, data display and dissemination, integration of data with tracking systems, and tool development (Figure 1). These jurisdictions also participate in projects for CDC's Environmental Health Capacity (EHC) program or the National Environmental Public Health Tracking Network. To learn more about these programs, visit [www.cdc.gov/nceh/ehs/ehc/index.html](http://www.cdc.gov/nceh/ehs/ehc/index.html) and [www.cdc.gov/nceh/tracking/default.htm](http://www.cdc.gov/nceh/tracking/default.htm).

**The Road Ahead in Data Modernization**

CDC is dedicated to unlocking the full potential of data for disease detection, elimination, and prevention by supporting projects such

wells and septic systems. The state is also integrating wastewater monitoring data for COVID-19 within its tracking portal.

- Michigan is establishing mini grants with local health departments to identify data priorities and gaps. The state is also establishing pilot initiatives to improve data systems, collection, management, and distribution.
- New Mexico is building and strengthening partnerships between the New

Mexico Tracking Program, New Mexico Environmental Health Capacity, and Liquid Waste Bureau of the New Mexico Environment Department for assessment of threats to groundwater (e.g., private wells) and water quality, as well as strategic decision making to mitigate harmful drinking water exposures including those related to onsite wastewater liquid waste disposal.

as those highlighted here. The Data Modernization Initiative marks the first comprehensive strategy to modernize data, technology, and workforce capabilities together. This initiative supports public health surveillance, research, and ultimately, decision making. In the long term, this initiative will help CDC and its partners chart a course to the future where data drives action in real time—efficiently, flexibly, rapidly, and effectively (CDC, 2021b). To learn more about the CDC Data Modernization Initiative, visit [www.cdc.gov/surveillance/projects/dmi-initiative](http://www.cdc.gov/surveillance/projects/dmi-initiative). 🐼

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**Additional Environmental Health Informatics Resources**

- Using Informatics to Improve Environmental Health Practice: [www.cdc.gov/nceh/ehs/activities/using-informatics.html](http://www.cdc.gov/nceh/ehs/activities/using-informatics.html)
- Leveraging Informatics to Improve Environmental Health Practice and Innovation: <https://phii.org/wp-content/uploads/2021/09/Environmental-Health-Final-Project-Report-Final-August-2021-V5.pdf>
- Environmental Public Health Performance Standards: [www.cdc.gov/nceh/ehs/envphps/default.htm](http://www.cdc.gov/nceh/ehs/envphps/default.htm)
- National Environmental Public Health Tracking Network Data Explorer: <https://ephtracking.cdc.gov/DataExplorer>

**References**

Centers for Disease Control and Prevention. (2021a). *Data modernization initiative*. <https://www.cdc.gov/surveillance/surveillance-data-strategies/data-IT-transformation.html>

Centers for Disease Control and Prevention. (2021b). *Data modernization initiative—DMI basics: The why, what, and how of data modernization*. [https://www.cdc.gov/surveillance/pdfs/dmi\\_basics\\_external\\_audiences-March\\_2021.pdf](https://www.cdc.gov/surveillance/pdfs/dmi_basics_external_audiences-March_2021.pdf)

**Did You Know?**

National Public Health Week is April 4–10. This year’s theme is “Public Health Is Where You Are.” During this week, the American Public Health Association brings together communities to recognize the contributions of public health and highlight issues that are important to improving our nation’s health. Learn more at [www.nphw.org](http://www.nphw.org).

**NOMINATIONS OPEN!**

**Dr. Bailus Walker, Jr. Diversity and Inclusion Awareness Award**



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**Application deadline is April 15, 2022.**

To access the online application, visit [www.neha.org/walker-diversity-award](http://www.neha.org/walker-diversity-award).

