



Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™



## Public Health Surveillance and Data

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# Where does our data come from?

DMI Basics: The Why, What, and How of Data Modernization

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## How does CDC get its data?

CDC does not have **direct authority** to require data reporting. Understanding the data CDC receives means understanding a few key factors involved in what we get and how we get it:

### Public health data comes from communities

The data used by public health comes from a wide variety of places within our local communities: hospitals, laboratories, doctors' offices – anywhere that a person receives healthcare. Increasingly, public health is also tapping into new sources of data, such as **wastewater** and environmental data, that provide even more insights into what's happening with diseases.

**CDC receives data from 50 states and 3000+ local jurisdictions and territories.** Each jurisdiction creates their own data sharing agreements with CDC and with each other. For the most part, it is up to each city, county, and state to decide what information is collected, as well as how and when it can be shared with CDC. These decisions can vary widely, leading to big differences in the data CDC receives.

- **Data comes to CDC in a variety of formats.** As we modernize public health data, more and more information is being shared through automated, electronic data exchange. However, some data are still sent via excel spreadsheets, fax machines, or even by phone or by hand.
- **It can take different amounts of time for data to reach CDC.** Because each state has its own systems and capabilities, and also because the data first travels a path from the local to state levels before coming to CDC, the speed and timing of the data will vary. CDC and our partners are working to create modern, interoperable systems that will allow us to share more real-time data at every level of public health and with the public.

CDC and our **partners** are working to standardize which data are collected, how it is collected, and the mechanisms that are used to share it,

- This work will help us have a more consistent and complete picture of health.

## What does CDC do with the health data it receives?

**After the data reaches CDC from the state and local levels, we put all the information together, analyze it, and share the results back with our state and local partners and with the public to inform decisions that protect health.**

- This work is ongoing.
- Data are used to understand both the basics about overall health concerns and to monitor and address emergency health issues that arise.

## Data in emergencies: How is it different?

**Under the COVID public health emergency declaration, CDC directly received reports of laboratory test results, hospitalizations, and nursing home/long-term care data that were not available nationally before the pandemic.**

- These data were made accessible to our public health partners.
- Local, state, and federal officials have been using these data to guide the COVID response. They were also used to provide detailed insights on disease transmission, hospital capacity, and other information that help individuals and their local communities make decisions to protect themselves from illness or death.
- As of May 11, 2023, the [federal COVID-19 public health emergency has ended](#), ending CDC's authorization to collect certain types of public health data.

## Where we're headed: locally driven and centrally coordinated data

**Entry level of public health has different uses for data.** For example, data are used for:

- Case investigation and response
- Outbreak detection
- Situational awareness
- Surveillance of disease trends and burden
- Natural history studies
- Public health studies

These uses require different levels of data access at different times. And they require data sharing – because outbreaks, even small ones, can spread across jurisdictional boundaries.

**During the pandemic, public health data was connected and shared in new and valuable ways.**

- CDC is currently working with our partners to better coordinate public health data so that it is available across public

health at the same time and in the same ways, whether an emergency is happening or not.

**As a nation, we need to coordinate our data so that:**

- local health departments can target interventions where they are needed most,
- states can react to developing or ongoing situations based on actionable and complete information, and
- we have a clear, national picture that transcends state borders to guide federal decision-making and improve our country's ability to act quickly.

**Unifying our nation around common approaches for collecting and sharing data will have benefits for everyone involved. With the right approaches, we can have consistent data that are increasingly:**



- **Timely**, so that we can see what's happening in near real time
- **Representative**, with demographic and geographic information that allows us to understand the impact of public health problems
- **Secure**, to protect the privacy of patients and ensure only the necessary data gets to the various levels of public health
- **Accessible** at the local, state, and national levels at the same time

**Through CDC's Data Modernization Initiative, we are moving toward a level of connectivity we've never had before – a meshed, coordinated network that gets the data that's needed to all the right people and places with the right protection, as quickly as possible.**

- Faster, more complete, coordinated surveillance will increase our ability to prevent disease and health threats – no matter the cause.

## Resources

The following pages will help you understand reportable vs. notifiable diseases:

- [What is Case Surveillance? | CDC](#)
- [How NNDSS Conducts Case Surveillance | CDC](#)
- [Surveillance Case Definitions for Current and Historical Conditions \(cdc.gov\)](#) – This website will help you learn how cases are counted:
- [COVID-19 Pandemic Response, Laboratory Data Reporting: CARES Act Section 18115 \(cdc.gov\)](#)  – This is where you can read updated guidance on laboratory data reporting during the COVID-19 Public Health Emergency:
- [Interim Final Rule \(IFC\), CMS-3401-IFC; Requirements and Enforcement Process for Reporting of COVID-19 Data Elements for Hospitals and Critical Access Hospitals](#)  – See the reporting requirements for hospitals and healthcare facilities during the COVID-19 Public Health Emergency

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Last Reviewed: May 17, 2023

Source: [Centers for Disease Control and Prevention, Office of Public Health Data, Surveillance, and Technology](#)