

National Notifiable Diseases Surveillance System

Monitoring the Occurrence and Spread of Diseases



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What Is the National Notifiable Diseases Surveillance System?

The Centers for Disease Control and Prevention (CDC)'s National Notifiable Diseases Surveillance System (NNDSS) is a multifaceted public health disease surveillance system that allows public health officials to monitor the occurrence and spread of diseases.

State, local, territorial, and tribal health departments notify CDC of cases of specific diseases and conditions that they identify in their jurisdictions. Every year, the nation's epidemiologists determine which of these diseases and conditions should be notifiable and how to define a case.

Many state, territorial, tribal, and local health departments and partner organizations, such as the Council of State and Territorial Epidemiologists, use facets of NNDSS to

- collect, manage, analyze, interpret, and disseminate health-related data for diseases and conditions designated as nationally notifiable;
- develop and maintain national standards—such as consistent case definitions for nationally notifiable diseases and conditions—that are applicable across states;
- maintain the official national notifiable diseases statistics;
- provide detailed data to CDC programs to help identify specific disease trends;
- work with other jurisdictions and partners to implement and assess prevention and control programs; and
- track national health trends published in summarized data findings from 57 state, territorial, and local reporting jurisdictions in the *Morbidity and Mortality Weekly Report (MMWR)*.

NNDSS is administered by the Division of Health Informatics and Surveillance in CDC's Center for Surveillance, Epidemiology, and Laboratory Services in the Office of Public Health Scientific Services.

Supporting State and Local Public Health Surveillance

A public health surveillance system, such as NNDSS, is defined as encompassing everything that supports the activity of collecting and monitoring disease data, including policies, laws, people, partners, information systems, processes, and resources at the local, state, and national levels and conditions.

Effective public health surveillance begins at the level of local and state health departments. They work with various healthcare providers, including laboratories, hospitals, and private providers, to obtain case reports on many infectious and some noninfectious diseases and conditions.

Each state has laws mandating that providers report cases of certain diseases to state and/or local health departments. These data provide the direction and scope of many state and local health department activities—from detecting individual cases and controlling outbreaks to implementing prevention and intervention activities.

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State health departments support national public health surveillance by voluntarily sharing a portion of their data with CDC. CDC uses the data from states to monitor disease trends, assess the effectiveness of prevention and control measures, identify populations or geographic areas at high risk, formulate national prevention strategies, develop public health policies, and work with the international community to identify and contain global outbreaks.

National Electronic Disease Surveillance System

A key component of NNDSS is the National Electronic Disease Surveillance System (NEDSS). NEDSS provides data and information technology (IT) standards, support, and leadership to state, local, and territorial health departments. These health departments provide CDC with data on nationally notifiable diseases and conditions. NEDSS is used to support

- reportable disease surveillance by improving information sharing between healthcare providers and health departments and between states and CDC and
- electronic laboratory reporting as part of the meaningful use initiative to improve public health disease reporting.

Connecting the Healthcare System to Public Health

NEDSS facilitates electronically transferring public health surveillance data from the healthcare system to public health departments. It is a conduit for exchanging information that supports NNDSS. Today, when states and territories voluntarily submit notifiable disease surveillance data electronically to CDC, they use data standards and electronic disease information systems and resources supported in part by NEDSS.

NEDSS helps connect the healthcare system to public health departments and those health departments to CDC by

- providing leadership and resources to state and local health departments to adopt standards-based systems needed to support national disease surveillance strategy;
- defining the content—such as disease diagnosis, risk factor information, lab confirmation results, and patient demographics—of data messages sent using the Health Level Seven (HL7) messaging standard;
- implementing content standards that the healthcare industry currently uses (for example, LOINC as the standard for transmitting laboratory test names and SNOMED as the standard for transmitting test results) for increased interoperability between public health departments and the healthcare industry; and
- providing the NEDSS Base System (NBS), a CDC-developed information system, to help reporting jurisdictions manage reportable disease data and send notifiable diseases data to CDC.

Every state uses or is adopting a NEDSS-compatible system to send case notifications to NNDSS. To be considered NEDSS compatible, states must have information systems meeting these requirements:

- electronic laboratory reporting that enables labs to report cases to health departments;
- integration of multiple health information databases into a single repository; and
- electronic messaging capabilities, enabling states to share information efficiently with CDC and other health agencies.

NEDSS Base System

The NEDSS Base System provides reporting jurisdictions with a NEDSS-compatible information system to transfer health, laboratory, and clinical data efficiently and securely over the Internet. NBS also provides public health authorities with a tool for processing, analyzing, and sharing data they receive.

Built and maintained by CDC, NBS provides reporting jurisdictions with a Web-based patient-focused system. The system can integrate data on multiple health conditions and multiple patients to help state and local public health officials identify and track multiple diseases, even if they are affecting the same patient.

NBS helps jurisdictions use NEDSS standards when sending information to CDC about notifiable diseases and conditions. NBS is currently the system of choice for transferring general communicable disease surveillance data in 19 reporting jurisdictions (18 states and Washington, DC). NBS capabilities help to increase the adoption of public health standards—including Public Health Information Network standards and vocabulary standards such as LOINC, SNOMED, and HL7—by providing best practices in implementing public health standards and interoperability used by state and local public health departments.

www.cdc.gov/nndss

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