

National Notifiable Diseases Surveillance System



What is the National Notifiable Diseases Surveillance System?

The National Notifiable Diseases Surveillance System (NNDSS) is a nationwide collaboration that enables all levels of public health (local, state, territorial, federal, and international) to share health information to monitor, control, and prevent the occurrence and spread of state-reportable and nationally notifiable infectious and some noninfectious diseases and conditions.

NNDSS is a multifaceted program that includes the surveillance system for collection, analysis, and sharing of health data and also policies, laws, electronic messaging standards, people, partners, information systems, processes, and resources at the local, state, and national levels.

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

- collect, manage, share, analyze, interpret, and disseminate health-related data for state-reportable and nationally notifiable diseases and conditions;
- develop and maintain national standards—such as consistent case definitions and electronic messaging standards;
- monitor regional and national trends in diseases and health conditions;
- work with other jurisdictions and partners to implement and assess prevention and control programs;
- designate certain diseases and conditions as nationally notifiable;
- submit data on nationally notifiable diseases to CDC; and
- maintain and publish the official national notifiable diseases statistics from 57 state, territorial, and local reporting jurisdictions in the *Morbidity and Mortality Weekly Report (MMWR)*.

Supporting State, Tribal, Local, and Territorial Public Health Surveillance

Notifiable disease surveillance begins at the level of STLT health departments. These health departments work with various healthcare providers, including laboratories, hospitals, and private providers, to obtain case reports on many infectious and some noninfectious diseases and conditions.

Jurisdictions have laws mandating that providers report cases of certain diseases to STLT health departments. These data provide the direction and scope of many STLT health department activities—from detecting individual cases and controlling outbreaks to implementing prevention and intervention activities.

STLT health departments support national public health surveillance by voluntarily sharing a portion of their data with CDC.

NNDSS Modernization Initiative

With the evolution of technology and data and exchange standards, CDC now has the opportunity to strengthen and modernize this important public health surveillance system. The NNDSS Modernization Initiative (NMI) is underway to enhance the system's surveillance capabilities to provide more comprehensive, timely, and higher quality data than ever before to stakeholders. Through this multi-year initiative, CDC seeks to increase the robustness of the NNDSS technological infrastructure so that it is based on interoperable, standardized data and exchange mechanisms. Effective planning, collaboration, and communication are crucial for the success of NMI.

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 STLT health departments. These health departments provide CDC with data on nationally notifiable diseases and conditions.

National Notifiable Diseases Surveillance System

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 state, tribal, local, and territorial health departments 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 STLT 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.

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 can integrate data on multiple health conditions and multiple patients to help STLT public health officials identify and track multiple diseases, even if they are affecting the same patient (patient-focused system).

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 (PHIN) standards and vocabulary standards such as LOINC, SNOMED, and HL7—by providing best practices in implementing public health standards and interoperability used by STLT public health departments.

For more information, please access the NNDSS Web site at <http://www.cdc.gov/nndss/>.

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