

National Notifiable Diseases Surveillance System Modernization Initiative



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 required 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 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)*.

NNDSS Modernization Initiative

With the evolution of technology and data and exchange standards, CDC now has the opportunity to strengthen and modernize the infrastructure supporting this important public health surveillance system. As part of the CDC Surveillance Strategy, 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 for public health decision making. 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.

Through this initiative, by early 2015, CDC's sexually transmitted diseases, hepatitis, mumps, and pertussis programs are expected to receive timely, complete, and high-quality data from certain jurisdictions through the new CDC Platform (CDCP), a key component of the NMI. When this important milestone is achieved, CDC will increase the number of conditions and reporting jurisdictions using the CDC Platform for NNDSS.

The CDC Platform is a CDC-built and operated data and software platform that, once complete, will run in a cloud-based hosting environment that is certified by the Federal Risk and Authorization Management Program. The CDCP will allow CDC programs to receive, process, store, access, share, and analyze health-related data, including electronic health record data, on a unified platform to further the agency's public health goals.

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NMI Key Components

- **Accelerate Standardization and Development of Message Mapping Guides**

Through collaboration and commitment from subject matter experts across multiple CDC national centers and involvement of jurisdiction partners and other key stakeholders, CDC will accelerate the development and adoption of new-generation Message Mapping Guides (MMGs) for NNDSS case notifications.

With these guides, CDC will migrate from legacy messaging structures to the widely adopted HL7 standards that provide content standardization and interoperable message exchange structures. In addition to providing core data elements and data exchange formats, these new MMGs will satisfy CDC program requests for disease-specific variables for notifiable conditions.

CDC has prioritized the following six MMGs for development and implementation for the initial phase of the NMI: Generic guide v.2, STD, Hepatitis, Congenital Syphilis, Pertussis, and Mumps.

- **Develop the CDC Platform to Support the Electronic Exchange of Surveillance Data**

CDC will replace the existing NNDSS messaging infrastructure with a state-of-the-art standardized data and software platform, which facilitates the receipt and distribution of notifiable disease data. The CDCP will implement MMGs and data exchange services and will result in more comprehensive, more accurate, and timelier information than ever before provided to CDC programs.

- **Provide Technical Assistance and Support for Program Implementation**

When the six MMGs for the initial phase of the NMI are completed, CDC will partner with the Council of State and Territorial Epidemiologists (CSTE) and the Association of Public Health Laboratories (APHL) to provide technical assistance to certain state and local jurisdictions. Through this technical assistance, CDC and its partners will help jurisdictions adopt the MMGs and use them to send test case notification messages to the CDCP to ensure that these messages will be properly received, processed, and stored for analysis through this new platform.

After the initial phase of the NMI, all jurisdictions will be invited to adopt the MMGs.

CDC, in collaboration with CSTE and APHL, will provide webinars, online technical guides, and other training materials to support implementation.

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