

# Nationally Notifiable Diseases Surveillance System (NNDSS)

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The <u>Nationally Notifiable Diseases Surveillance System</u> (NNDSS) facilitates information sharing on reportable conditions from state, tribal, local, and territorial (STLT) public health agencies to the Centers for Disease Control and Prevention (CDC). These agencies employ <u>electronic</u> <u>disease surveillance systems</u> to securely send deidentified case data, contributing to the national understanding of disease incidence and prevalence. Without NNDSS, it would be difficult to quantify the impacts of reportable disease, identify risk factors, provide actionable information to the public, or inform public health intervention to target and interrupt disease transmission.

#### NATIONAL PICTURE

More than 3,000 STLT agencies report data for 120 nationally notifiable diseases and <u>more than 2.7 million case reports</u> are sent to the CDC annually. Modernizing the NNDSS under the Data Modernization Initiative (DMI) is crucial to ensure interoperability and facilitate the secure transfer of data to the CDC and support national public health DMI goals for actionable and timely data.

As part of the CDC's Public Health Data Strategy, the "<u>CDC Front Door</u>" aims to streamline reporting by consolidating all reportable data into one consistent format and location. This initiative is addressing the existing complexity in reporting through multiple platforms, enhancing efficiency and data standardization.

#### **NNDSS IN ACTION**



NYC Health Department Aided by Multiple Tools for Detection, Investigates Salmonellosis Cluster

The New York City Department of Health and Mental Hygiene (NYC Health Department) uses a comprehensive approach involving multiple data streams and surveillance methods to address the persistent burden of foodborne illnesses in the city. These include routine disease reporting, patient interviews, SaTScan software analyses for communicable diseases and syndromes, whole genome sequencing (WGS) by the NYC Public Health Laboratory, and traditional and social media monitoring for potential outbreaks. In August 2021, during a salmonellosis cluster among returning travelers from Europe, these methods facilitated rapid detection, investigation, and response. The NYC Health Department found leveraging complementary identification methods enhanced the investigation, with media notifications, laboratory reporting, and WGS confirming the outbreak. Patient interviews, SaTScan, and syndromic surveillance aided in identifying additional cases. The investigation highlighted the need for continued integration and enhancement of these tools, requiring ongoing investment and support for robust cluster detection and response, as well as potential incorporation of additional systems for improved foodborne disease surveillance.

SUBMITTED BY: New York City Department of Health and Mental Hygiene

## Vermont Develops Outbreak Management Tool

The Vermont Department of Health addressed information-sharing challenges during the COVID-19 outbreak by developing the System Management and Response Tool (SMART). This outbreak-centered data system, designed by the Agency of Digital Services, streamlined communication. SMART replaced inefficient ad hoc methods like emails and spreadsheets and centralized data on facilities, cases, and communication. This significantly improved consistency and timeliness of surveillance and response data. Used daily by department staff, SMART facilitated collaboration across teams, aiding in the management of over 1,500 situations and outbreaks. The tool's success led to plans for expansion to other conditions, starting with influenza outbreaks. Vermont is collaborating with the CDC's National Electronic Disease Surveillance System (NEDSS) Base System modernization



addressed by Vermont Department of Health using SMART

team, signaling a commitment to ongoing improvement and collaboration in outbreak management.

SUBMITTED BY: John Davy, Epidemiologist/COVID-19 Coordinator, Vermont Department of Health

### Texas Undertakes Large-Scale Project to Boost Interoperability and Functional Capacity for Disease Surveillance

A large-scale NEDSS Interoperability and Functional Improvements (NIFI) project has made significant advancements in Texas's public health capacity. Milestones include the migration to an Amazon Web Services cloudhosted environment, database transition to Microsoft Structured Query Language server and upgrading the application to the CDC's latest version. Notably, the bulk import function for vaccination data was implemented, saving epidemiologists substantial time. Fully funded by a CDC Epidemiology and Laboratory Capacity cooperative agreement, the project addressed system limitations, improved data access and security, and adopted modern data technology like Health Level 7 Fast Healthcare Interoperability Resources standards. Through this work, Texas Department of State Health Services and local health departments will have access to timely and automated electronic initial case reports, which are the initial findings from a healthcare provider that may indicate a diagnosis with



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public health implications. Electronic initial case reporting has been implemented for all conditions currently reportable via Texas NEDSS. Future plans involve expanding features and importing non-COVID-19 vaccinations into NEDSS, further increasing efficiency and capacity for epidemiologists, and benefiting various program areas.

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