

National Notifiable Diseases Surveillance System Modernization Initiative Questions & Answers

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GENERAL QUESTIONS

Q: What is the CDC Surveillance Strategy?

A: Launched in February 2014, the CDC Surveillance Strategy is a plan to improve the agency’s activities in public health surveillance. The strategy aims to improve CDC’s overall surveillance capabilities and, by extension, those of the public health system at large. The strategy guides efforts to make essential surveillance systems more adaptable to the rapidly changing technology landscape, more versatile in meeting demands for expanding knowledge about evolving threats to health, and more able to meet the demands for timely and population-specific and geographic-specific surveillance information. The strategy will also facilitate work to consolidate systems, eliminate unnecessary redundancies in reporting, and reduce reporting burden.

The three major goals of the CDC Surveillance Strategy are to

1. enhance the accountability, resource use, workforce, and innovation for surveillance at CDC and in support of state, local, and territorial (SLT) agencies;
2. accelerate the utilization of emerging tools and approaches to improve the availability, quality, and timeliness of surveillance data; and
3. improve surveillance by addressing data availability, system usability, redundancies, and incorporation of new information technologies in major systems or activities.

The National Notifiable Diseases Surveillance System (NNDSS) Modernization Initiative (NMI) is one of four initiatives to address goal number three.

Q: What is the NNDSS Modernization Initiative?

A: With the evolution of technology and data and exchange standards, CDC now has the opportunity to strengthen and modernize the infrastructure supporting the National Notifiable Diseases Surveillance System. As part of the CDC Surveillance Strategy, the NNDSS Modernization Initiative 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.

Q: What is the National Notifiable Diseases Surveillance System?

A: The National Notifiable Diseases Surveillance System 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. It also includes policies, laws, electronic messaging standards, people, partners, information systems, processes, and resources at the local, state, and national levels.

Many SLT health departments; CDC; and partner organizations, such as the Council of State and Territorial Epidemiologists (CSTE), 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 jurisdictions in the *Morbidity and Mortality Weekly Report*.

Q: Who is leading NMI?

A: NMI is a CDC-wide effort. The NMI team in the Division of Health Informatics and Surveillance (DHIS), Center for Surveillance, Epidemiology, and Laboratory Services (CSELS), is

leading the development of the health information infrastructure needed to support NNDSS. Currently, the NMI team is working hand-in-hand with subject matter experts in programs from the CDC Office of Infectious Diseases (OID), who are leading the effort to develop disease-specific data elements for new Message Mapping Guides (MMGs) for disease case notification. The NMI team also is working with CSTE and the Association of Public Health Laboratories (APHL) to gain their expertise, insight, and assistance to implement MMGs in jurisdictions.

Q: What are the key components of NMI?

A: NMI has three key components:

1. development of prioritized Message Mapping Guides for case notification;
2. development of the CDC Platform (CDCP); and
3. technical assistance for implementation of MMGs in jurisdictions submitting case notifications to NNDSS.

Q: How long will NMI last?

A: The initiative to modernize NNDSS began in January 2014 and is planned for 5 years with short-term deliverables in the first year and long-term activities in the following 2 to 5 years.

Q: What is the primary NMI short-term deliverable?

A: By early 2015, CDC's sexually transmitted diseases (STD), hepatitis, mumps, and pertussis programs are expected to receive timely, complete, and high-quality data from certain jurisdictions through the CDC Platform. When this important milestone is achieved, CDC will increase the number of conditions and jurisdictions using the CDCP for NNDSS as well as develop new MMGs for case notifications.

Q: What are the longer term activities for NMI?

A: Over the next 2–5 years, longer term NMI activities include the following:

- Continue development and implementation of MMGs.
- Implement and enhance the CDCP.
 - Continue to enhance the CDCP Message Validation and Processing System (CDCP-MVPS).
 - Initiate cloud implementation.
 - Develop and implement other services and components of the CDCP.
- Ensure standards and harmonization.
- Retire the National Electronic Telecommunications System for Surveillance (NETSS).
- Determine future direction of the National Electronic Disease Surveillance System (NEDSS) Base System (NBS).

MESSAGE MAPPING GUIDE QUESTIONS

MMG DEVELOPMENT QUESTIONS

Q: Why is CDC developing new MMGs for NNDSS case notifications?

A: CDC is developing new Message Mapping Guides to support collection, transmission, and analysis of data needed at the national level for public health surveillance. In doing so, CDC is implementing messaging standards and vocabulary standards in case notifications. For some diseases and conditions, the epidemiology of the notifiable disease has changed over time and new data are needed about risk factors or new clinical information is needed, such as laboratory tests and results, vaccination information, and treatment information. For other nationally notifiable diseases, CDC previously received only generic data but also now needs disease-specific data. (Note that NETSS uses a proprietary data and vocabulary format and is not based upon standards.)

Q: What MMGS are being developed currently and why were they selected?

A: The DHIS NMI team worked with subject matter experts in CDC programs to prioritize the following six MMGs for development and implementation for the first year of this initiative (January 2014 through January 2015): Generic guide v2, STD, Hepatitis, Congenital Syphilis, Pertussis, and Mumps. They were selected because these diseases either cover a large volume of data in NNDSS or were identified as high-priority conditions.

Q: What is the development process for these six MMGs?

A: The development and implementation of any Message Mapping Guide is a collaborative process that involves multiple teams, both internal and external to CDC. Internal teams include the NNDSS team, messaging and vocabulary team, CDCP team, state implementation team, Public Health Information Network (PHIN) Certification team, and CDC programs. External groups include jurisdictions, CSTE, and APHL.

MMG development deliverables include the Message Mapping Guide, business rules (BRs) for processing data by the CDCP, test case scenarios, HL7 test messages, and an optional annotated case report form.

The steps in the process of MMG development are

1. initiation,
2. requirements analysis,
3. message design and development (part 1: construct MMG),
4. message design and development (part 2: work with CDC SMEs to ready draft MMG for external feedback),
5. message design and development (part 3: solicit and address external feedback, develop test-ready MMG, BRs, test scenarios, HL7 messages, etc.),
6. content and application development and technical testing,

7. pilot testing and user acceptance testing, and
8. implementation.

Q: Why is CDC taking an incremental approach to the development of these MMGs?

A: Due to a variety of budgetary, personnel, technical, and other resource constraints, CDC is proceeding with NMI—including the development of MMGs—in a phased, incremental manner, with due consideration at each step for how to achieve the most beneficial results in the briefest amount of time.

Q: Are MMGs under development available for review?

A: MMGs that are under development—but not finalized—are posted to the NNDSS Draft Message Mapping Guides Web site at <http://wwwn.cdc.gov/nndss/script/DraftMMG.aspx>.

For draft MMGs that are open to comment on the draft MMG Web site, SLT public health surveillance staff have an opportunity to review and comment on each MMG during its 6-week open comment period. MMGs that have been reconciled with the feedback from their open comment periods are also posted to the draft MMG Web site. In addition, versions of MMGs that are pilot-test ready are posted to the draft MMG Web site.

Q: What diseases will be covered by using the Generic v2 MMG or other HL7 MMGs?

The Notifiable Events and Notification Mechanisms document at <http://wwwn.cdc.gov/nndss/document/NotifiableEventsandNotificationMechanisms.xlsx> should be used by jurisdictions implementing MMGs to identify the diseases or conditions (and their respective event codes) that should be sent to NNDSS by using the Generic v2 MMG and other HL7 MMGs. As new disease-specific MMGs are developed, they will be added to this document.

NOTE: CDC is assessing which conditions in the NBS master message have additional disease-specific data elements that are being sent to CDC and should not be transitioned to Generic v2 until a disease-specific MMG can be developed. When the assessment is complete, guidance will be issued for NBS jurisdictions and will be inserted into the Notifiable Events and Notification Mechanisms document.

The “Event Codes” worksheet in this document has a “Preferred Mechanism” column that can be filtered by the type of MMG that jurisdictions are ready to implement. If the “Preferred Mechanism” column is filtered by the words in the drop-down list specifying “Generic Individual Case Notification v2 (HL7),” then the conditions that use only the Generic v2 MMG will be listed and should be sent by using only the Generic v2 MMG. Alternatively, if the “Preferred Mechanism” column is filtered by the words in the drop-down list specifying “Generic Individual Case Notification v2 with STD Case Notification v1 (HL7),” then STD conditions that use both the STD MMG and the Generic v2 will be listed.

Q: What is the timeline for updating the Varicella and Arbovirus MMGs to be compliant with the Generic v2 MMG?

A: CDC soon will begin discussions with CSTE to prioritize transitioning existing MMGs, such as the Varicella and Arboviral MMGs, to the new format for MMGs—using the Generic v2 MMG with a disease-specific MMG. Timelines will be developed after decisions are made about which MMGs to prioritize next.

Q: Once jurisdictions have completed the implementation of the six priority guides, should they work on implementing the Arboviral and Varicella MMGs in their current version iterations?

A: If jurisdictions are already working on implementing the current Arboviral and Varicella MMGs, CDC suggests that they continue. However, jurisdictions who have not started may want to consider waiting. The guides may need to be revised due to the transition to Generic v2, and CDC does not want to increase the burden on jurisdictions. CDC is currently working to determine what MMGs will be developed next.

Q: What MMGs will be developed after the first six?

A: The identification and prioritization of the next MMGs to be developed is a collaborative process among CSELS, the DHIS NMI team, OID, and CSTE. The next conditions that are ready for MMG development are being assessed at this time.

DATA EXCHANGE/SUBMISSION QUESTIONS

Q: Are all elements of the Generic v2 MMG required? Can jurisdictions continue to submit information in the Generic v1 MMG?

A: No, all the data elements in Generic v2 are not required. The draft Generic v2 MMG is available on the Draft Message Mapping Guide Web site at <http://www.cdc.gov/nndss/script/DraftMMG.aspx>. On the “PHIN Variable IDs” worksheet of the Generic v2 MMG, the column named “CDC Priority” includes information about whether CDC considers the listed data element required, preferred, or optional to send in a case notification from the CDC surveillance program perspective. The column named “HL7 Optionality” indicates whether the listed data element is required for the HL7 message or required but can be left empty or optional for the HL7 message.

For a period of time, Generic v1 can be submitted. However, CDC prefers to transition all jurisdictions to Generic v2 and encourages jurisdictions to transition as soon as possible because of the new variables in Generic v2 that are important for notifiable disease surveillance use.

Q: Should all diseases be sent by using the Generic v2 MMG? If there are additional supplemental data (such as for varicella or mumps and pertussis when those MMGs are

released), would jurisdictions send cases by using the Generic v2 MMG and a supplemental MMG?

A: Eventually, yes, the Generic v2 MMG will be used with all nationally notifiable conditions. However, for conditions that currently have disease-specific data being sent to CDC through NETSS, data cannot be sent by using the Generic v2 MMG until there is a disease-specific MMG to use for the complete case notification. In addition, the published disease-specific HL7 MMGs on the PHIN Guide Web site at <http://www.cdc.gov/phinf/resources/mmghomepagecasenotification.html> and <http://www.cdc.gov/phinf/resources/PHINguides.html> for notifiable disease case notification will need to be modified in the future to remove the Generic variables and to enable them to be used with Generic v2.

Jurisdictions should send only the diseases that do not have NETSS extended data through Generic v2 until a disease-specific MMG becomes available and is implemented. The Notifiable Events and Notification Mechanisms document at <http://www.cdc.gov/nndss/document/NotifiableEventsandNotificationMechanisms.xlsx> should be used to identify how data should be sent to CDC during the transition to Generic v2 and the new HL7 MMGs.

NOTE: CDC is assessing which conditions in the NBS master message have additional disease-specific data elements that are being sent to CDC and should not be transitioned to Generic v2 until a disease-specific MMG can be developed. When the assessment is complete, guidance will be issued for NBS jurisdictions and will be inserted into the Notifiable Events and Notification Mechanisms document.

Q: For TB and STD, do jurisdictions need to send Generic v2 messages in addition to the disease-specific message? Or will TB and STD stand alone and be kept separate from the Generic v2 MMG?

A: The STD MMG needs to be used with the Generic v2 MMG. Jurisdictions should not send Generic v2 with HL7 TB messages until the TB MMG is updated to remove the generic variables and CDC is ready for jurisdictions to send the revised TB MMG with the Generic v2 MMG.

Q: What will reconciliation now look like?

A: A key component of the CDC Platform is the implementation of acknowledgement messages back to jurisdictions confirming receipt and parsing of messages. There also will be a dashboard that summarizes data sent by jurisdictions, including the details of messages received and processed by CDC, as well as any warnings and errors. As a result, instead of a yearly reconciliation process, jurisdictions will be able to self-reconcile throughout the year.

Q: Will CDC program areas adhere to receiving data in this new way or will they still ask for jurisdiction data in Excel or other files?

A: CDC is working to eliminate the duplication of data requested by CDC in various formats; however, program-specific needs may necessitate the use of various formats. NMI is one part

of the CDC Surveillance Strategy, which is designed to facilitate work to consolidate systems, eliminate unnecessary redundancies in reporting, and reduce reporting burden across the agency.

Q: How long will jurisdictions be expected to send duplicate feeds (old way plus new way) and how will the validation process work?

A: The period of time where jurisdictions may need to send duplicate feeds will vary by jurisdiction. Jurisdictions will need to develop plans for retiring the old feeds, and CDC can provide technical assistance to help with the development of those plans.

There will be three types of validation: structural, business rule (warnings, fatal errors, across-variable checks), and content. CDC Platform capabilities will allow states to identify notifications that have not been received and reconcile message counts through a dashboard.

CDC PLATFORM QUESTIONS

Q: What is the CDC Platform?

A: The CDC Platform is a CDC-built and operated data and software platform. In Phase I of the CDCP effort, the CDCP Message Validation and Processing System, a component of the CDCP, will allow CDC programs to receive, process, and provision health-related data on a unified platform. Phase II of the CDCP effort will include 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 (FedRAMP). Phase II will not focus on migrating to the cloud but will concentrate on developing a platform that will run in a cloud-based hosting environment.

The target architecture for the CDC Platform, once complete, is as follows:

1. Data providers, such as state and local public health departments, securely submit health-related data to the CDCP, which runs in a cloud-based hosting environment. These data are
 - in various message formats, such as XML, HL7 2.x, and other standards as they evolve (such as Clinical Document Architecture), and
 - submitted through various data transport mechanisms, such as the PHIN Messaging System, Secure File Transfer Protocol, Virtual Private Network, and Web service.
2. Once the health data are received, the CDCP then standardizes and normalizes the messages through services such as object identification and validation.
3. Once the messages are standardized, the CDCP then stores the data and uses authentication and role-based authorization to provide appropriate access to large volumes of health data.

Through an application programming interface, the CDCP can release specific health data that are targeted to the needs of individual CDC programs and other authorized users for analysis and to further specific public health goals.

Q: Describe NNDSS, NEDSS, and NBS. How is the CDCP connected to them in NMI?

A: The [National Notifiable Diseases Surveillance System \(NNDSS\)](#) 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. 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.

The [National Electronic Disease Surveillance System \(NEDSS\)](#) is a key component of NNDSS. NEDSS provides data and 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.

The [National Electronic Disease Surveillance System \(NEDSS\) Base System \(NBS\)](#) provides 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.

CDC will replace the existing NNDSS messaging infrastructure, but not the NNDSS program, with a state-of-the-art standardized data and software platform—the **CDC Platform**—that facilitates the receipt and distribution of notifiable disease data. States will implement MMGs; CDCP will support collection of data through new guides and data exchange services and will result in more comprehensive, timely, and more accurate information provided to CDC programs. Through NMI, notifiable disease data messages in the priority disease-lines (STDs, Hepatitis, Mumps, Pertussis, Generic, and Congenital Syphilis) are expected to be processed in the CDCP-MVPS by early 2015.

Q: What is the scope and technology of the CDCP?

A: The CDC Platform is a CDC-built and operated data and software platform. To be successful, the CDCP must validate and process messages sent by jurisdictions.

In Phase I of the CDCP effort, the CDCP Message Validation and Processing System, a component of the CDCP, will be built. The CDCP-MVPS technology includes

- MIRTH, which is a healthcare integration engine that parses and transforms messages/files and performs vocabulary translations and data validations, and
- Drools, which is a business rule management system processing engine.

The CDCP-MVPS will allow CDC programs to receive, process, and provision health-related data on a unified platform.

Phase II of the CDCP effort will include a CDC-built and operated data and software platform that, once complete, will run in a cloud-based hosting environment that is compliant with federal network security standards and certified by FedRAMP. Phase II will not focus on migrating to the cloud but will concentrate on developing a platform that will run in a cloud-based hosting environment at the end of Phase III.

Phases III to V will focus on migrating CDCP-MVPS to the cloud, enhancing reporting analytics, and continued expansion of standard shared services.

Q: What is the time frame for development of the CDCP?

A: The CDCP will be developed incrementally in five proposed phases:

- Phase I – Development and implementation of the Message Validation and Processing System in the CDC data center.
- Phase II – Establishment of cloud infrastructure.
 - Implementation of authentication capabilities.
 - Implementation of authorization capabilities.
 - Definition of enterprise service bus architecture.
- Phase III – Migration of CDCP-MVPS to the cloud.
 - Continued development of condition-specific processing.
 - Evaluation and planning of alignment with the Public Health Community Platform (PHCP).
- Phase IV – Enhanced reporting and analytics.
- Phase V – Continued expansion of standard shared services.

Phase I of the CDCP development will be considered complete when messages within the priority disease lines (STDs, Hepatitis, Mumps, Pertussis, Generic, and Congenital Syphilis) are processed in the CDCP-MVPS and successfully provisioned to the appropriate CDC programs that use the data. The goal is to have Phase I completed by early 2015.

Phase II will overlap with Phase I and is scheduled to be deployed in early 2015. Phase II will include a CDC-built and operated data and software platform that will run in a cloud-based environment that, once complete, is compliant with federal network security standards and certified by FedRAMP. Phase II will not focus on migrating to the cloud but will concentrate on developing a platform that will run in a cloud-based hosting environment at the end of Phase III.

The time frame for future phases will be determined as the work of Phase I and Phase II progresses.

Q: How will CDC programs receive data once they are sent to CDC?

A: The CDCP-MVPS will provision data to the individual CDC programs, and user access to those data will be determined by condition code. Various options will be available over time, but, initially, data will be provided through SQL Server tables and views.

Q: What is the CDCP-MVPS?

A: The CDCP-MVPS, or CDCP Message Validation and Processing System, is a component of the CDCP that will validate and process data messages sent by jurisdictions before provisioning those data to the CDC programs.

Q: Why is the CDCP-MVPS needed?

A: The CDCP-MVPS allows CDC programs to receive, process, and provision health-related data on a unified platform. In the United States today, many types of health data flow into a number of public health information systems. With multiple systems, health data receipt, processing, and provisioning services and systems are often duplicated across the public health community. The CDCP-MVPS will help to alleviate this duplication.

Along with reducing redundancy of systems, the CDCP-MVPS aims to increase availability of data elements to CDC programs. Through the use of HL7 standards, the CDCP-MVPS can increase the amount of data available to programs, thus increasing the granularity of data analysis. These HL7 formats include more data elements and more detailed data elements than formats such as NETSS or other flat files.

Q: What is the Public Health Community Platform and how is the CDCP applicable to it?

A: The proposed Public Health Community Platform (PHCP) is part of CDC's long-term vision for a shared public health platform with analysis tools that would integrate the flow of health data to and from CDC; SLT public health agencies; and other public health partners to enhance the decision making of public health leaders. The CDC Platform and the PHCP would be the two components of the proposed shared public health platform.

RETIREMENT OF THE LEGACY NNDSS PORTFOLIO QUESTIONS

Q: Will the CDCP supersede NNDSS?

A: No, the CDCP will not supersede NNDSS. The NNDSS program is a multifaceted program that includes the surveillance system for collection, analysis, and sharing of health data and also includes policies, laws, electronic messaging standards, people, partners, information systems, processes, and resources at the local, state, and national levels. The CDCP is a data and software platform that will replace the technical infrastructure that supports NNDSS.

Q: Can certain disease-specific reporting still use NETSS?

A: Yes, NETSS can still be used until appropriate alternatives for certain disease-specific reporting are in place and NETSS can be retired. NETSS retirement is an NMI priority and long-term goal.

Q: Does CDC have a final cut-off date when it will no longer accept NETSS files?

A: NETSS retirement is a long-term NMI priority. A definitive date is not available at this time, and CDC will provide that information as NMI evolves.

Q: What are the plans for the CDC Data and Message Brokering (DMB) system?

A: The DMB information system is currently scheduled to be succeeded by the CDCP-MVPS information system in late 2015. It is expected that all current viable functionality within DMB will be preserved or enhanced and confirmed as part of the transition through rigorous user acceptance and quality assurance testing. Upon successful transition from DMB to CDCP-MVPS, the legacy DMB information system will be retired.

TECHNICAL ASSISTANCE QUESTIONS

Q: What is the role of technical assistance in NMI?

A: During the initial pilot, CDC is partnering with CSTE and APHL to provide technical assistance to certain state and local jurisdictions to implement the initial six MMGs. 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. CDC, in collaboration with CSTE and APHL, will provide direct technical assistance and training in the form of webinars, online technical guides, and other training materials to support implementation.

JURISDICTION SELECTION QUESTIONS

Q: How will jurisdictions be selected for the initial phase of NMI?

A: The DHIS NMI team is working with CDC programs and CSTE to identify the jurisdictions who will pilot the MMGs and technical assistance process. These jurisdictions will be selected on several criteria, including a jurisdiction's technical capability and readiness to participate and its scalability of solutions and lessons learned that can be used in other jurisdictions.

Q: Can other states participate?

A: Yes, all states will have the opportunity to participate after the pilots. The requirement to implement MMGs, starting with the priority guides, and the availability to request technical assistance are both in the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement. Jurisdictions may choose to implement available MMGs on their own as well. Either way, CDC will work with jurisdictions to monitor progress through the quarterly ELC Health Information Systems calls.

Q: Will jurisdictions that use NBS be able to participate in NMI?

A: States using NBS will be able to participate in the 2014 pilot phases by using the Generic v2 and STD MMGs page builder templates that will be made available in the spring and summer, respectively, of 2014. In addition, jurisdictions that use NBS will be able to pilot Hepatitis, Congenital Syphilis, Pertussis, or Mumps MMGs in 2014 by using the Generic v2 template as the basis and creating the disease-specific pages that map to each MMG with support from the NBS vendor and through technical assistance.

Q: When will all jurisdictions be able to adopt the new MMGs?

A: After the initial phase of NMI, all jurisdictions will be invited to adopt the MMGs and send case notification messages to CDC through the CDC Platform.

Q: What happens if jurisdictions do not participate in NMI?

A: Implementation of available MMGs developed through the NMI process is a requirement for jurisdictions who are participating in the new ELC Cooperative Agreement that covers 2014–2018.

CDC understands that jurisdictions not participating in the ELC Cooperative Agreement will have their own circumstances that may affect their ability to implement the new MMGs. It is nevertheless imperative that CDC and the public health community move forward with NMI so that NNDSS can provide more comprehensive, timely, and higher quality data to all users as soon as possible.

FUNDING/COOPERATIVE AGREEMENT QUESTIONS

Q: Are NMI and ELC Cooperative Agreement activities two separate projects?

A: No. The state implementation part of NMI, which includes technical assistance, is a required activity in the health information systems focus of the ELC Cooperative Agreement.

Q: What activities are ELC grantees expected to conduct during both the current funding cycle (ends July 31, 2014) and the new year (beginning August 1, 2014)?

A: ELC grantees are encouraged to continue to implement existing MMGs. A few jurisdictions may participate in a smaller pilot for technical assistance and testing the CDCP in the spring and summer of 2014. Please note: As part of the new ELC FOA that takes effect on August 1, 2014, implementation of priority MMGs is a required activity and should be incorporated into the ELC workplan.

Q: How is NMI tied to the Public Health Emergency Preparedness (PHEP) activities?

A: When a jurisdiction completes implementation of an MMG and successfully sends notifiable diseases data according to required standards and specifications, it will earn PHIN certification. Achieving PHIN certification is an activity supported by the PHEP Cooperative Agreement.

Q: How will grantees report on these activities (monthly, quarterly)? Who will monitor these activities?

A: The quarterly Electronic Laboratory Reporting (ELR) Implementation Initiative calls with CDC will transition to include updates on MMG implementation. Additional details regarding monitoring and lessons learned activities will be provided at a later date.

Q: How will success in the NMI effort be measured for CDC?

A: Per the NMI performance objective in the CDC Surveillance Strategy, by 2016, 90% of data reported through NNDSS will be by standard HL7 messages.

Q: How will success in the NMI effort be measured for grantees?

A: Grantees will identify a realistic number of priority MMGs that they will implement in 2014–2016 and, by using these MMGs, successfully transmit associated notifiable diseases data to CDC.

GENERAL TECHNICAL ASSISTANCE QUESTIONS

Q: What technical assistance will be available?

A: CDC has partnered with CSTE to provide technical assistance for the following activities:

- extracting data from surveillance information systems,
- mapping codes in the data extract to vocabulary specified in the MMGs,
- creating HL7 messages based on the MMGs by using an integration engine (e.g., Rhapsody) or other tools,
- facilitating secure transport of HL7 messages, and
- transferring knowledge on the use of integration engines to enhance in-house capability for managing infrastructure used to send case notifications to CDC based upon MMGs.

Q: How do I submit a technical assistance request?

A: A jurisdiction may request onsite technical assistance by sending an e-mail to EDX@cdc.gov and including the following information:

- type(s) of assistance needed,
- identification of the guide (Generic v2, STD, Congenital Syphilis, Hepatitis, Mumps, and Pertussis), and
- primary point of contact and contact information.

Q: Is technical assistance system dependent?

A: Technical assistance, in this context, is defined specifically for NMI. Jurisdictions using NBS will receive technical assistance from CDC's NBS vendor contractor. Jurisdictions that do not use NBS will receive technical assistance from CSTE.

Q: Will there be a cost associated with technical assistance? Will funding be provided to help with this process?

A: No, there is no cost for technical assistance. Jurisdictions requesting technical assistance will be screened to ensure that they are ready and able to conduct MMG implementation activities. As part of the ELC Cooperative Agreement, Section C, jurisdictions can request funding to support the implementation of MMGs.

USER ACCEPTANCE TESTING QUESTIONS

Q: Who will perform user acceptance testing (UAT) and when will it take place?

A: User acceptance testing will be coordinated among the jurisdictions, CDC programs, NMI Technical Assistance Team, and the CDC Platform Team.

Six MMGs (Generic v2, STD, Congenital Syphilis, Hepatitis, Mumps, and Pertussis) have been prioritized for implementation in 2014, and each has an associated UAT timeframe for testing on the CDC Platform. UAT is anticipated to occur during the summer and fall of 2014. The CDC Platform Team will work with the NMI Technical Assistance Team to define time frames and support actual testing.

UAT is made up of three types of testing: 1) technical acceptance testing, 2) pilot testing with jurisdictions prior to and during certification, and 3) end-to-end testing, which includes provisioning data to CDC programs.

The initial testing will encompass validation testing at CDC. The next phase will require testing by CDC programs and jurisdictions prior to certification. Once pilot states are identified, have their updated software, and are ready to submit messages to CDC, CDC and jurisdictions will test data submitted through end-to-end testing. Specifically, states will submit data, CDCP will process and provision data to the CDC programs, and the CDCP team will identify updates to the software as necessary.

National Notifiable Diseases Surveillance System (NNDSS): The [National Notifiable Diseases Surveillance System](#) 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.

National Electronic Disease Surveillance System (NEDSS): A key component of NNDSS is the [National Electronic Disease Surveillance System](#). NEDSS provides data and information technology 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 Base System (NBS): The [National Electronic Disease Surveillance System Base System](#) provides 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.

National Electronic Telecommunications System for Surveillance (NETSS): Before using NEDSS, CDC developed and used the National Electronic Telecommunications System for Surveillance. NETSS is a computerized public health surveillance information system that provides CDC with weekly data regarding nationally notifiable diseases. NETSS continues to be used by jurisdictions that are transitioning to the more robust NEDSS. A bare-bones approach for providing basic data and information, NETSS file content has not been changed or updated substantially since NETSS launched in 1990.

CDC Platform (CDCP): The CDC Platform is a CDC-built and operated data and software platform. In Phase I of the CDCP effort, the CDCP Message Validation and Processing System (CDCP-MVPS), a component of the CDCP, will allow CDC programs to receive, process, and provision health-related data on a unified platform. Phase II of the CDCP effort will include 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. Phase II will not focus on migrating to the cloud but will concentrate on developing a platform that will run in a cloud-based hosting environment. CDCP will replace the existing NNDSS messaging infrastructure, but not the NNDSS program, with a state-of-the-art standardized data and software platform—the CDC Platform—that facilitates the receipt and distribution of notifiable disease data.

CDCP Message Validation and Processing System: The CDCP-MVPS is a component of the CDCP that will validate and process data messages sent by jurisdictions before provisioning those data to the CDC programs. It allows CDC programs to receive, process, and provision health-related data on a unified platform. In addition, the CDCP-MVPS aims to increase availability of data elements to CDC programs. Through the use of HL7 standards, the CDCP-MVPS can increase the amount of data available to programs, thus increasing the granularity of data analysis. These HL7 formats include more data elements and more detailed data elements than formats such as NETSS or other flat files.

Have a question about the NNDSS Modernization Initiative that is not answered here? Please send your question to surveillancepractice@cdc.gov for consideration.