NSSP UPDATE

National Syndromic Surveillance Program
BioSense Platform

Welcome to NSSP Update

NSSP Update is published monthly by the National Syndromic Surveillance Program (NSSP) and brings you the latest news about the BioSense Platform and Community of Practice.

If a colleague forwarded this issue to you, we encourage you to subscribe to receive future issues.

Technology Update

Part of NSSP's strategy for ensuring the BioSense Platform meets user expectations is to set aside time each year to update the technology. Our plans for this year far exceed last year's improvements. During June and July 2017, we will totally refresh the BioSense Platform technology by adding new servers AND by upgrading to a powerful new generation of server that will improve performance across the system—faster processing, better input/output, and substantially more memory. At the same time we make these improvements, Johns Hopkins University Applied Physics Laboratory will continue to optimize ESSENCE performance. Overall, there are many reasons to be optimistic about where NSSP is headed.

We will communicate details about how you'll be affected. Some downtime can be expected, but we will try to minimize downtime to hours when system usage is lowest and will give you sufficient notice beforehand.

Progress on *Messaging Guide for Syndromic Surveillance*

Initially released in 2015, the *PHIN Messaging Guide for Syndromic Surveillance* and subsequent Erratum and *Clarification Document* have been essential for standardizing the core data elements and messaging specifications for syndromic surveillance. The Guide set the standards for compliance with Syndromic Surveillance Meaningful Use certification criterion. In 2016, the Centers for Disease Control and Prevention (CDC) initiated a Cooperative Agreement (CoAg) with the International Society of Disease Surveillance (ISDS) to facilitate the collection of feedback and commentary on the Guide.

In accord with the CoAg, ISDS has released a new *Messaging Guide for Syndromic Surveillance: Emergency Department, Urgent Care, Inpatient, and Ambulatory Care Settings (Version 2.2)* and encourages the syndromic surveillance community to review it and provide feedback. This release combines feedback on previous versions of the Guide and integrates it with the Erratum and *Clarification Document*.

The review schedule is ambitious. ISDS and CDC began integrating the first round of feedback in Spring 2017 with plans to release Version 2.3 of the guide in Summer 2017. These activities will ultimately inform the Guide's revision in preparation for HL7 balloting, scheduled to begin November 2017, with final approval anticipated early 2018.

Development of *Messaging Guide for Syndromic Surveillance**	
Time Frame	**Activity**
2015	Version 2.0 Released
2016	Erratum and Clarification Documents Released for Version 2.0
2017 Spring	Version 2.2 Released for Community Comment and Consensus
2017 Summer	Version 2.3 to be Released for Review
2017 Fall	Version 2.4 to be Prepared for HL7 Balloting
2017 Winter	Version 2.5 HL7 Balloting Begins
2018 January	HL7 Balloting (anticipated) Completed—Version 2.6 Released

*This document was previously titled *Public Health Information Network (PHIN) Messaging Guide for Syndromic Surveillance.*

Click here to review the Guide. Please submit feedback via this web form. You can view feedback from others here. To show support for or against feedback already submitted, add your comment to a feedback item (a row on the spreadsheet). For more information about adding comments, refer to the instructions document here.

If you are interested in assisting with the review of these comments and the development of the next version of the Guide, please join the Messaging Guide Work Group. To track the Guide's progress each month, an overview will be posted in subsequent issues of *NSSP Update* under Community of Practice.

We thank CDC's lead author and coordinator Peter Hicks, the ISDS team, and the many collaborators working to develop an accurate guideline for the increased use of electronic health record technology to exchange clinical records.

Got SQL Code? Need SQL Code?

Do you have SQL code that worked well with legacy (historic) data but needs to be migrated to the BioSense Platform to run newly structured NSSP data? Need general SQL support? Having trouble with ADMINER but not sure how to run SQL code using R? The NSSP Analytic Data Management Team can assist. Simply submit a Support Ticket to the NSSP Service Desk.

Question: I used to use *group_concat* in MySQL, but it no longer works in MS SQL. What should I do?

The NSSP Service Desk has received a few inquiries about the use of *group_concat*. This MySQL function was used to concatenate values across physical records associated with the same unique visit ID (e.g., concatenate all chief complaint values reported for a visit). By using MyPHPAdmin, you could run SQL code for *group_concat* against legacy MySQL data. However, this MS SQL function is no longer available.

Fortunately, the NSSP Analytic Data Management Team can provide you with code to serve as a "proxy" for *group_concat*. The code facilitates output of concatenated and de-duplicated field values. To get a copy of the MS SQL code, please submit a Support Ticket to the NSSP Service Desk.

If you have examples of code to share, we welcome learning about your experiences. Tell us how you've used the BioSense Platform tools to assess the MS SQL newly structured NSSP data.

Available for a "Visit Date"?

The NSSP Analytic Data Management Team thanks everyone who gave feedback on the beta version of Data Quality (DQ) Reports. These monthly reports were based on data that arrived on the BioSense Platform for a particular month, regardless of the Visit Date. For example, the April 2017 report was based on data that arrived on the Platform during April 2017.

Thanks to Community feedback, we learned that although reports based on Arrived Date are helpful, our Platform users prefer reports based on Visit Date. The DQ reporting process set up by our NSSP Analytic Data Management Team is flexible, which made it easy for us to change the reports to align with the Community's preference. Therefore, starting with the May 2017 report, **DQ Reports will be based on Visit Date**. We'll run the reports 15 days after the close of the month to allow a buffer for transmitting data. The May 2017 reports, for instance, will be run mid-June 2017. Consequently, the release of DQ Reports will shift to the end of the month.

We look forward to going on a monthly "Visit Date" with the Community.

"Flavors" of the Onboarding Data Validation Report—Day, Week, Year

The NSSP Analytic Data Management Team provides support for onboarding data validation by updating Data Quality (DQ) Completeness Reports run against data in the staging environment. The updates run each day at 12:00 AM EST/EDT so that update reports are available for your pick-up at the start of your day.

Various "flavors" of the reports are provided given users' interest in viewing various snapshots in time. The process hones in on data that has arrived in the recent 3 weeks to produce the following set of DQ Completeness Reports:

<Site>_OB_Completeness_aDay_<date>

Report is based on data that arrived the previous day. For example, a report run on June 7 at midnight will reflect data arriving to the BioSense Platform on June 6 and be named *<Site>_OB_Completeness_aDay_20170606*.

<Site>_OB_Completeness_aWeek_<date>

Report is based on data that arrived any time during the "close-out" week. For example, a report run on June 7 at midnight will reflect data arriving to the BioSense Platform during the week ending Saturday, June 10, and would therefore include data that arrived between Sunday, June 4, and Tuesday, June 6. A report run on Sunday, June 11, at midnight will reflect data that arrived between Sunday, June 4, and Saturday, June 10.

In both examples, the name of the report includes the close-out date: *<Site>_OB_Completeness_aWeek_20170613*.

<Site>_OB_Completeness_aYear_<year>

Report is based on data that arrived anytime during the last 3 close-out weeks. For example, a report run on June 7 will include any data with an arrived date between Sunday, May 21, and Saturday, June 10, and be named *<Site>_OB_Completeness_aYear_2017*.
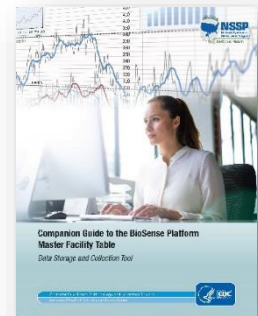
The NSSP Analytic Data Management Team will be pleased to explain how the DQ Completeness Reports assist onboarding data validation. Simply submit a Support Request to the NSSP Service Desk.

NSSP Releases *Companion Guide* to Assist in Updating MFT

The NSSP Team is pleased to release the *Companion Guide to the BioSense Platform Master Facility Table.* It describes how to fill out the Excel version of the Master Facility Table (MFT) for unique scenarios in which multiple facility types, names, and locations exist.

The MFT is a SQL table housed on the BioSense Platform. It contains site-specific information that becomes part of your syndromic surveillance messages. The MFT includes unique facility identifier, facility name, facility location, and facility type. When the BioSense Platform processes incoming messages, the facility identifier in the message will link the record with an MFT entry. This rich metadata designates the type of facilities currently reflected in data feeds.

The guide will be especially helpful to site administrators who are currently working with NSSP to onboard or are planning to onboard later this year. To download a copy, visit the NSSP Resource Center.

Update on AMC Release

A new release of the Access & Management Center (AMC) was deployed at the end of May. This release included a friendlier new look to the AMC and a feature that will email users when their passwords are about to expire. Within a few weeks of a user's password expiration date, the user will begin receiving email notifications with instructions about how to change the password.

We are still incorporating changes to the user group feature that was tested in April. The user group feature will be deployed in a future AMC release.

NSSP Transitions Legacy Data

The NSSP Team continues to process data from the legacy system and made substantial progress last month. By mid-May, we had completed data processing to production ESSENCE for 4 of the 31 sites for which the primary transport method was secure file transfer protocol (SFTP). Thirteen of the SFTP sites are in the production queue, meaning their data are moving through the production data flow and actively being loaded in batches to ESSENCE. Another four SFTP sites are reviewing their data in staging. The timeline for processing the remaining 10 SFTP sites has been delayed, and we have notified affected sites of the updated timelines.

In addition to processing legacy SFTP data, we are also processing 330+ million records from sites that used PHINMS as the transport method. Recall that in the old system, your data arrived changed in how it was stored and processed. Although that is no longer the case because of our new data flow, the old PHINMS infrastructure causes a more difficult transition for legacy data that arrived through a PHINMS transport. To be clear on the magnitude of this effort, we are processing both PHINMS data and the remaining 530+ million SFTP data simultaneously and pushing these data in batches to production ESSENCE. Processing that many records at one time is resource intensive. We have dedicated servers to assist processing; however, there are limits to how fast this can occur. We will provide another progress update next month.

We appreciate your patience during this process. If you have specific questions about your site, please contact the NSSP Service Desk.

We continue our series of articles examining literature that advances the practice of syndromic surveillance. This article is ideal to share with people who are new to syndromic surveillance.

Tips for Using Syndromic Data

Research article "Syndromic Surveillance in Public Health Practice, New York City"[1] describes in easy-to-understand language the New York City (NYC) Department of Health and Mental Hygiene's early experience with syndromic surveillance (SyS). NYC's system is unique because it is home-grown and comprises all operational, response, and research activities. The system has its basis in SAS and uses other coding languages within the SAS platform.

NYC's system was largely a public health response to the attacks on September 11, 2001. Situational awareness was emerging as a priority for the nation and across public health departments. At the same time, health care facilities were becoming better at capturing clinical information electronically. Public health departments that could analyze data already being collected and investigate anomalies were at the forefront of surveillance.

This article is frequently shared across the NYC SyS team to promote understanding of SyS. The article demonstrates the importance of developing strong partnerships and describes NYC's method of categorizing emergency department patient visits into syndromes based on chief complaint. NSSP includes the article in the Resource Center as recommended reading for anyone new to syndromic surveillance. NYC's integration of SyS into its comprehensive surveillance program was forward thinking and is certainly an approach NSSP recommends. We hope that you'll find this article useful.

[1] Heffernan R, Mostashari F, Das D, Karpati A, Lulldorff M, Weiss D. Syndromic surveillance in public health practice, New York City. *Emerging Infectious Diseases* 2004;10(5):858–64.

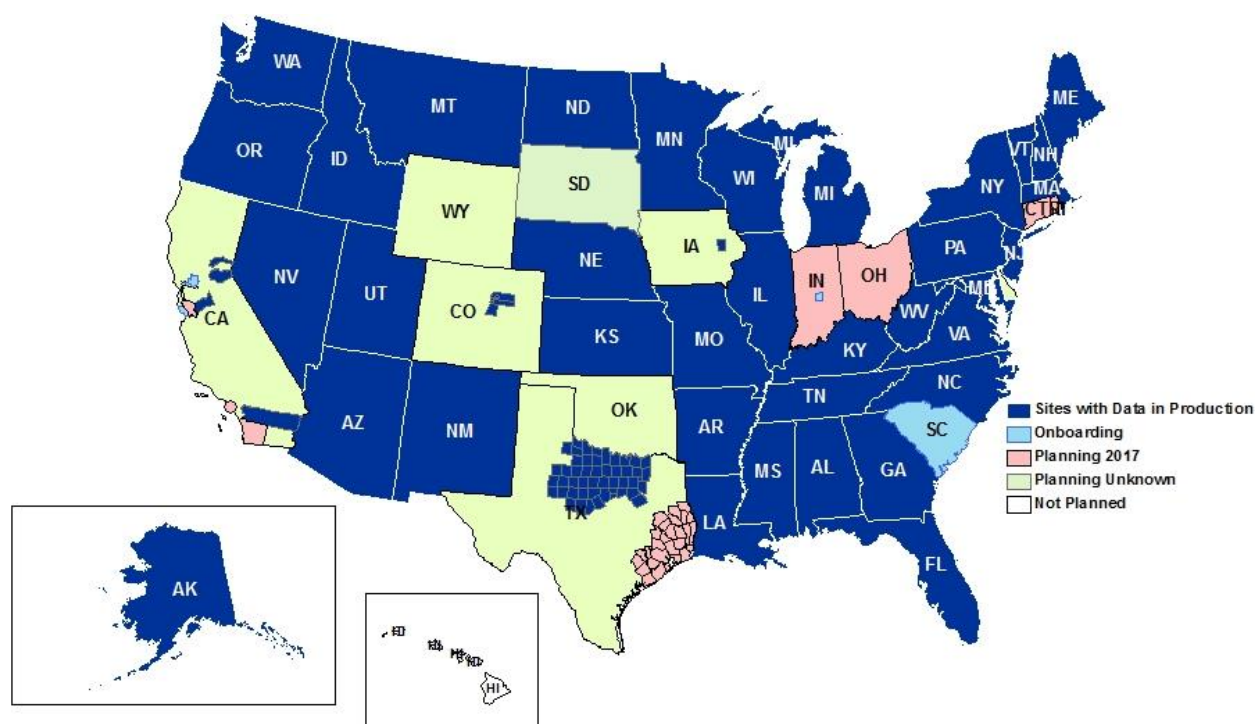|	
Tuesdays New Day!	Onboarding Support Calls: 1:00–2:00 PM EDT **New Time!**
Wednesdays	Data Validation Support Calls: 3:00–4:00 PM EDT
June 4–8, 2017	2017 CSTE Annual Conference: Cultivating an Environment for Better Health; Boise, Idaho
June 13, 2017	Scheduled vendor patches in staging environment: 6:00–10:00 AM EDT
June 15, 2017	Scheduled vendor patches in production environment: 6:00–10:00 AM EDT
June 27, 2017	Surveillance Community of Practice Call: **Climate-related Illness Surveillance**. Facilitated by the International Society for Disease Surveillance (ISDS): 3:00–4:30 PM EDT. Advance registration required.
July 11–13, 2017	2017 NACCHO Annual Conference: Public Health Revolution: Bridging Clinical Medicine and Population Health; Pittsburgh, Pennsylvania
July	Server upgrades. NSSP will provide dates and times.

May 16, 2017	Applied vendor patches in staging environment: 6:00–10:00 AM EDT.
May 16, 2017	Applied emergency vendor patches in production environment: 1:00–3:00 PM EDT
May 18, 2017	Applied vendor patches in production environment: 6:00–10:00 AM EDT.
May 23, 2017	Held Surveillance Community of Practice Call. Access slides and recordings here.
May 25, 2017	Released update to Access & Management Center.

NSSP PARTICIPATION

NSSP receives data from more than 4,000 facilities. These facilities represent about 65% of all emergency department visits in the country based on American Hospital Association data. Currently, 47 sites in 40 states participate in the NSSP. Two sites transitioned but paused their move to production. At least 14 sites are working on local data feeds with plans to transmit data to the BioSense Platform soon. Four new sites attended a webinar to kick-off the first onboarding window of 2017, and others are scheduled to onboard later in the year.

Definitions: NSSP consolidates facilities that provide data under a single data administrative authority called a ***site administrator***. These facilities and single-site administrator constitute a ***site***.

Onboarding Support

Conference calls are held by invitation every Tuesday, 1:00–2:00 PM EDT to discuss the process and to answer questions in a group forum. **New Day and Time!**

Data Validation Support

Conference calls are held every Wednesday, 3:00–4:00 PM EDT, to assist with data validation compliance. For more information or to download the template for validating data, contact the NSSP Service Desk.

Stay Connected with the NSSP

NSSP brings together people, processes, and technology to advance the science and practice of syndromic surveillance. NSSP is a large, fast-growing technical program *driven by its Community and their ideas*; consequently, there's always something new on the horizon.

Here are some resources to bookmark and share with others on your team:

- **Syndromic Surveillance Community of Practice Portal**
  https://www.syndromicsurveillance.org/
  Connect. Engage. Explore. The portal links to forums, work groups, training, knowledge repository, and more. The portal is for anyone with an interest in syndromic surveillance who wants to collaborate, share ideas, and learn from or contribute to the community.

- **New to syndromic surveillance?**
  https://www.cdc.gov/nssp/new-users.html

- **National Syndromic Surveillance Program**
  https://www.cdc.gov/nssp/index.html

- **Sign-on to the NSSP BioSense Platform**
  https://amc.syndromicsurveillance.org/NSSP_AdminTool/login

- **NSSP Service Desk**
  http://support.syndromicsurveillance.org
  You'll be asked to set up a password. Once you have a password, submit your questions about NSSP, general or technical. Your question will be routed to a specialist.

- *NSSP Update,* **a community newsletter**
  https://www.cdc.gov/nssp/news.html
  Subscribe here to learn of upcoming events (maintenance, training, software releases), and program achievements. Get tips for integrating syndromic surveillance into daily practice. Issues are archived.

- **Resource Center**
  https://www.cdc.gov/nssp/biosense/publications.html

  A go-to place for NSSP publications, forms, standards and guidance, message mapping guides, fact sheets, onboarding guidance, quick start guides for BioSense Platform applications, and data dictionary.

NSSP also offers one-on-one assistance to its BioSense Platform users; training opportunities through partner organizations including ISDS and Johns Hopkins University Applied Physics Laboratory; and technical assistance with cooperative agreements, annual performance reviews, and data quality.

COMMUNITY OF PRACTICE UPDATES

Trending Topics

Opioid surveillance continues to be a trending topic for the Community of Practice. To learn more about what other community members are doing around opioid surveillance, please visit the community forums. Additionally, Amy Ising, former ISDS president, has written a blog post describing some of the activities of CDC Opioid Prevention Grantees, specifically highlighting publicly available dashboards and other innovative activities in this area. You can find her blog post here. If you are interested in overdose surveillance issues, please consider joining the ISDS Overdose Surveillance Committee. More information is available on the Overdose Surveillance Committee Group Page, and a kick-off call is scheduled for June 2, 2017 (registration link).

Work Group and Committee Updates

The Data Quality Committee would like to thank Alex Hanson of the Epic Systems Corporation for speaking with us on the May Data Quality Committee call. Alex provided helpful tools and tips for working with hospitals using Epic's syndromic surveillance products and answered Epic electronic health record (EHR)-related questions from the community. May's meeting highlighted the value of establishing relationships between public health and the EHR vendor community, and the Committee looks forward to working with Alex in the future.

Interested in joining a chapter, committee, or work group? You can find a list of the groups here.

Other CoP Updates

Join the monthly Surveillance Community of Practice Call. This call brings together various stakeholders with a vested interest in surveillance and sparks collaborative efforts to share guidance, resources, and technical assistance. The call was created by merging the BioSense User Group (BUG), Meaningful Use, and Public Health Practice community calls. **The next call will be held June 27, 2017, 3:00–4:30 PM EDT, and will be about Climate-related Illness Surveillance. Please join us and share what you are doing on this topic. Click here to register. Please remember that you have to register for each call individually.** To access slides and recordings from previous Surveillance CoP Calls, please visit the Surveillance Community of Practice Group Page.