

NSSP UPDATE



December 2016

Welcome to *NSSP Update*

NSSP Update provides monthly news about the National Syndromic Surveillance Program (NSSP). NSSP embodies collaboration, particularly in the development of its BioSense Platform, a secure cloud-based computing environment that hosts standardized, shared tools to rapidly collect, evaluate, store, and share data. *NSSP Update* will keep you in touch with the latest advancement in the platform's development.

If a colleague forwarded this issue to you, please [subscribe](#) to receive future issues.

Annual NSSP Grantee Meeting, 2017

[Working Together in the New World: NSSP Revised BioSense Platform](#)

On February 6–8, 2017, the Centers for Disease Control and Prevention's (CDC) Division of Health Informatics and Surveillance will host its second Annual National Syndromic Surveillance Program Grantee Meeting in Atlanta, Georgia. Topics will include Meaningful Use, NSSP Community of Practice, performance measures, and data quality. The meeting will kick off with ESSENCE training on February 6. Registration has begun, and CDC staff look forward to another successful meeting. For more information, please contact your project officer.

NSSP Move from Transition (Phase 3) to Shutdown of Legacy System (Phase 4)

Aside from working with several sites on a few quality issues, the Phase 3 Transition of the NSSP Implementation Plan is complete, bringing the total sites in production to 44.

The Phase 4 Legacy Shutdown is scheduled for **January 3, 2017**. Efforts to integrate legacy data into the BioSense Platform are well underway. Sites will **no longer need access to legacy data through phpMyAdmin or RStudio**. Logins to these tools will be removed from the Access & Management Center menu sometime during the first quarter of 2017. (Advance notice will be provided.) Initially, these changes might seem inconvenient, but the tools now hosted on the Platform and the new processes are significant improvements that will expand your analytic capabilities and help you get a comprehensive health picture that reflects all data collected.

Before shutting down the BioSense 2.0 front-end application and servers, we will verify that site data flow properly in the new environment, historic and new data are well integrated, and the BioSense Governance Group and syndromic community have had an opportunity to voice final concerns.

Enhancements to Service Desk and AMC

Service Desk—NSSP updated its Service Desk on Wednesday, November 30, 2016, by expanding the categories from which you can select and submit inquiries. Although the user interface has changed, the URL (<http://support.syndromicsurveillance.org>) and log-in remain the same, and previously submitted tickets are still visible.

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Access & Management Center (AMC)—An upgraded AMC was released Thursday, November 3, 2016. This upgrade lets site administrators control the National Picture and the Chief Complaint Query Validation Tool.

Upcoming Changes to AMC

In mid-December, NSSP will release a “mini” update to the AMC for site administrators:

- Export User Report—Allows site administrators to generate and export a basic report of user status and last login date in a format compatible with Microsoft Excel.
- Edit a Data Access Rule—Allows site administrators to edit an AMC Data Access Rule and to add new users easily by clicking a Save/Submit button on the Add Users page. This will streamline the process whenever a rule is edited.

Syndrome Alerts Are Operational

NSSP’s technical team will always notify Platform users when the system is enhanced, a vendor patch is applied, or a change in performance could be noticed. The past 3-month transition to ESSENCE has generated a substantial backlog of messages to process. While working with Johns Hopkins University (JHU), we recognized that by turning off the detection processing that generates the alerts, ESSENCE could process considerably more messages each day. On November 3, 2016, once the backlog had been processed, we turned on the alerts detection processing. The NSSP team will continue to work with JHU to find ways to increase ESSENCE’s processing volume while running the Alerts Summary reports.

Browser problems? Login failed?

- ESSENCE works best when using Firefox or Google Chrome browsers. Internet Explorer does *not* provide adequate data support at this time.
- NSSP will automate its password expiration notices early in 2017. Until then, if your login fails, first make sure your password is valid. If it has expired, please submit a ticket to the NSSP Service Desk.

Note. A single sign-on is scheduled for 2017 that will let you to log in to the AMC, ESSENCE, Adminer, and R statistical computing software. Access to the Service Desk will still require a separate sign-on and password.

Take a moment to think about our accomplishments. The syndromic surveillance community and NSSP Team have come a long way together in the past two years. Data flow properly through the BioSense Platform—thanks to great collaboration within the syndromic community. Now congratulate yourself on a job well done as we move forward. And although activities to improve data quality and the Platform won't stop, we now have new opportunities to use our data (and creativity) to *practice* public health surveillance—and that's exciting!



For those relatively new to syndromic surveillance, or even for those public health organizations that haven't incorporated syndromic data into day-to-day practice, syndromic surveillance can be a little overwhelming and confusing. Syndromic data aren't perfect—but *that was never the intent*—at least, not initially. Syndromic data, although timely, are messy and require additional investigation (protocols, analyses) to be put into action.

There's no single “right” way to use syndromic data, but there are steps one can take to do a better job of incorporating these data into state and local surveillance. And there are resources for inspiring newer users. A couple excellent resources—Florida's *ESSENCE User Guide* and CDC's *MMWR* article on making sense of data—show how a theoretical framework can be used to develop steps for conducting syndromic surveillance. We've drawn from both sources to summarize what we believe are worthwhile steps to consider for a syndromic surveillance program.^{1,2} For details, please go to the sources. We especially thank the Florida Department of Health for the details in steps 3 and 5.

Essential Steps for Monitoring, Analyzing, and Responding to Syndromic Surveillance Data

1. Establish protocols to monitor sources and to detect and analyze the importance of anomalies in data. Routine monitoring may include hospital and lab data, alerts for syndromes, time of alert, zip codes and maps, and specific free-text queries.
2. Compare syndromic with other data sources (e.g., reportable diseases, lab data, poison control).
3. Assess epidemiologic characteristics (person, place, time).²
 - o Does the time series show an increasing trend—continuity of the increase?
 - o Have there been multiple days with count data at or near this level, or across different strata (i.e., age groups, hospitals)?
 - o Do the data show the same pattern when viewed as a proportion?
 - o What is the magnitude of the difference from previous day(s)?
 - o Is this part of an expected seasonal increase? Out of season?
 - o How large is the ratio of observed to expected patients for a given day?

Also check line-level details:

- o Is there a pattern by age, sex, or patient zip code?
- o Is there a pattern in the wording of the chief complaints?
- o When available, what do the discharge diagnosis and discharge disposition suggest (admitted, discharged)?

- Are there a number of visits with similar presentation times? And do these individuals also cluster by which emergency department they visited or by their zip code?
4. Check for clusters. If a cluster is unlikely, resume monitoring (step 1). But if a cluster is likely and might be of public health significance, use your follow-up or response protocol (step 5).
 5. Apply follow-up or response protocol:
 - Gather additional information from hospitals.
 - Based on available data sources and any additional communications with a hospital(s) or patients, was this an outbreak or cluster of public health significance?
 - Follow standard outbreak investigation steps, implement control measures or broadcast communications if appropriate, and provide recommendations.
 - Summarize your concerns or findings and alert colleagues at the local, regional, or state level.

Note. Depending on the organization and where it falls within the public health structure, the sequence of protocol steps and areas of emphasis may vary. Some organizations have distinct *follow-up* protocols (e.g., contact your supervisor if data are unclear) that differ from standard *response* protocols. These steps and the recommendations³ developed by the International Society for Disease Surveillance will help in the development of a comprehensive set of protocols to support the use of syndromic surveillance data.

¹Centers for Disease Control and Prevention. [Syndromic Surveillance on the Epidemiologist's Desktop: Making Sense of Much Data](#); Figure 1, Theoretical framework for response protocols in use of syndromic surveillance systems. *MMWR* 2005;54(Suppl);141–6.

²ESSENCE *User Guide* [Internet]. Version 1.0. Florida Department of Health, Bureau of Epidemiology. 2010. Appendix 1: Flowchart for analysis and response to syndromic surveillance data; [cited 2016 Nov 22]. p. 56. Available from www.floridahealth.gov/diseases-and-conditions/disease-reporting-and-management/disease-reporting-and-surveillance/_documents/florida-essence-user-guide.pdf

³International Society for Disease Surveillance. *Final recommendation: Core processes and EHR requirements for public health syndromic surveillance* [Internet]. Figure 5, Task flow diagram of BP 1—Conduct syndrome-based population health monitoring: Monitor and assist in the assessment, detection, communication, and response to public health conditions of interest; 2011 Jan [cited 2016 Nov 29]; Available from: www.syndromic.org/storage/ISDSRecommendation_FINAL.pdf

UPCOMING EVENTS

December 6–8, 2016	ISDS 2016 Annual Conference; Atlanta, Georgia; New Frontiers in Surveillance: Data Science & Health Security.
<i>December 6</i>	ESSENCE workshop led by experts from Johns Hopkins University Applied Physics Laboratory. To register, visit http://www.syndromic.org/annual-conference/2016-isds-conference .
<i>December 7</i>	4:30–6:00 PM; open meeting to learn about Community of Practice Steering Committee's activities.
Mid-December	Phase 4 Legacy Shutdown begins; AMC update for site administrators.
February 6–8, 2017	Annual NSSP Grantee Meeting, 2017; Working Together in the New World: NSSP Revised BioSense Platform; Atlanta, Georgia.

TECHNICAL ASSISTANCE UPDATES

- AMC updated and alerts detection processing resumed on November 3, 2016.
- Phase 3 Group 5 signed off on production November 3, 2016.
- Service Desk updated on Wednesday, November 30, 2016.
- Phase 3 Group 6 attended the Orientation and Adminer Webinar on November 1, 2016, and the Access & Management Center (AMC) and ESSENCE Webinar on November 8, 2016. Sites signed off on production November 25, 2016.
- Mondays Onboarding Support Calls: 3:00–4:00 PM EST; *December 5, 2016, call cancelled.*
- Wednesdays Data Validation Support Calls: 3:00–4:00 PM EST; *December 7, 2016, call cancelled.*
- 2nd Thursday of Month Scheduled vendor patches in staging environment: 6:00–10:00 AM EST
- 3rd Thursday of Month Scheduled vendor patches in production environment: 6:00–10:00 AM EST

ONBOARDING UPDATES

Beta Data Validation Reports

The onboarding team is in the process of granting sites access to beta BioSense Platform data validation reports. These reports will allow users to analyze onboarding data using the new data flow. In the next few weeks, a member of the onboarding team will contact site administrators to provide login credentials and instructions for accessing the reports. If anyone has trouble or questions when accessing the reports, please submit a ticket to the newly revamped BioSense Platform Service Desk.



First Quarter MFT Planning

Heads up. We are planning NSSP onboarding activities for the first quarter 2017. Beginning the first week in January, a member of the onboarding team will email site administrators a request to update their Master Facility Tables (MFT) with information about facilities scheduled to onboard in February, March, and April 2017. We'll also provide the schedule, instructions, and requirements. Please be on the lookout for this email and for more planning and prioritization details in next month's newsletter.

Onboarding Support

Conference calls are held every Monday, 3:00–4:00 PM EST, to discuss the process and answer questions in a group forum. Requests received throughout the preceding week will be discussed during this call. *December 5, 2016, call cancelled.*

Data Validation Support

Conference calls are held every Wednesday, 3:00–4:00 PM EST, to assist with data validation compliance. For more information or to download the template for validating data, contact the service desk: <http://support.syndromicsurveillance.org>. *December 7, 2016, call cancelled.*

MASTER FACILITY TABLE UPDATES

CDC takes steps to make sure facility information is accurate and consistently stored in a Master Facility Table, or MFT. The MFT captures metadata about facilities that will enhance a user’s ability to categorize and compare surveillance data on the basis of facility properties—for example, by *patient class*. The MFT is essential for managing data access.

This table shows CDC’s progress toward standardizing data in the MFT across facilities that input data to NSSP’s BioSense Platform. To check a site’s progress, match the accompanying icon to the flow chart.



Schedule for Reviewing Master Facility Table (updated November 23, 2016)					
June 2016		July 2016		August 2016	
Alabama	☑	Illinois	☑	Nevada	☑
Tri County, CO	☑	Massachusetts	☑	Utah	☑
Marion, IN	☑	Kentucky	☑	New Mexico	☑
Michigan	☑	Arizona	☑	Denver PH	☑
Tennessee	☑	Mississippi	☑	Riverside, CA	☑
Virginia	☑	Arkansas	☑	Idaho	☑
Washington	☑	West Virginia	☑	North Dakota	☑
Wisconsin	☑	Kansas	☑	Montana	☑
Department of Defense	☑	Houston, TX	☑	Alaska	☑
Veterans Affairs	☑				
September 2016		October 2016		November 2016	
Georgia	☑	Oklahoma*	🕒	County of Sacramento, CA	☑
New York City	☑	Minnesota	☑	District of Columbia	☑
New Jersey	☑	Connecticut*	🕒	Delaware*	🕒
Indiana*	🕒	South Carolina*	🕒	San Diego, CA*	🕒
Tarrant County, TX	☑	Oregon	☑	Vermont	☑
Missouri	☑	Maine	☑	South Dakota*	🕒
Louisiana	☑	Nebraska	☑	San Mateo, CA	☑
Maryland	☑	New Hampshire	☑	El Dorado, CA	☑

*site-requested deferred transition

GRANTEE AND PARTNERSHIP UPDATES

Site Visits

FOA CDC-RFA-OE-15-1502

With a shared vision and strategy, CDC's NSSP project officers collaborate with awardees to increase the impact of syndromic surveillance within communities and across the nation.

South Region—Kim Raymond, Project Officer



Georgia Department of Public Health; October 20, 2016

Kim Raymond conducted a site visit with the Georgia Department of Public Health Syndromic Surveillance Program (SSP) staff and external partners representing Emergency Preparedness and Response. They reviewed progress, challenges, and opportunities associated with program goals, objectives, and activities. Kim was joined on site by Dr. Violanda Grigorescu (Chief, Partnerships and Evaluation Branch) and Leslie Hausman (Lead, Partnership Support Team).

SSP staff described the capabilities of its State Electronic Notifiable Disease Surveillance System (SENDSS). Since 1998, SENDSS has served as Georgia's electronic system for reporting notifiable diseases and health conditions. SENDSS supports a broad range of public health programs categorized into discrete modules. This structure enables SSP staff to easily access data in their areas of responsibility. SENDSS integrates data from 39 modules across 8 public health sections. This broad support includes Georgia programs for maternal and child health, Electronic Laboratory Reporting for notifiable conditions, notifiable conditions case management, outbreak management, and syndromic surveillance.

CDC funding of Georgia's infrastructure and personnel have transformed the SSP, enabling its participation in NSSP. Now, given dedicated SPP staff, recent efforts to review data quality routinely and to respond promptly to technical issues have revitalized the system and expanded its use.

Georgia has 140 acute care facilities and currently receives emergency department patient chief complaint data from 107 facilities via SENDSS. These data are analyzed and displayed in the Syndromic Surveillance module. An additional 17 facilities provide data but are not yet configured in the interface. At least 94 of the 140 hospitals meet the minimum data quality standards and will go live on the BioSense Platform in a few months. Once data are on the BioSense Platform, Georgia will be poised to share data and information with CDC and regional public health partners to improve state and national situational awareness.

Northeast Region—Philip Baptiste, Project Officer

Northeast Epi Pre-conference Syndromic Surveillance Data Sharing Workshop; Saratoga, New York; October 19, 2016

Philip Baptiste attended the workshop joined by Michael Coletta, NSSP Program Manager, Corey Cooper, Onboarding Specialist, and Hana Tesfamichael, ORISE Fellow/Program Evaluation. Representatives from the NSSP community in attendance included research scientists, epidemiologists,

informaticians, and program managers from across the region (CT, ME, MA, NH, NJ, NY State, PA, RI, and VT).

Sessions encompassed NSSP opportunities, best practices for using syndromic surveillance data, data quality processing, technical approaches to data management, data accessibility, data analysis, and data sharing. Discussions on data sharing ranged from integration of legacy data into the BioSense Platform to negotiation of legal issues so that data can be shared across states. Various syndromes were also discussed for which data could be shared regionally, such as opioid, drug, and heroin overdose. In addition, there was discussion on how states are applying for grants related to opioid overdose, which eventually will produce data that can be shared.

COMMUNITY OF PRACTICE UPDATES

The NSSP Community of Practice (NSSP-CoP) Steering Committee would like to solicit comments on the NSSP-CoP Charter. Please take an opportunity to review the posted Charter [here](#). The Charter outlines the Mission, Vision, and Goals of the NSSP-CoP as well as the coordination provided by the Steering Committee and its engagement with the BioSense Governance Group. If you would like to submit a comment on the Charter, please use this link.

Additionally, the NSSP-CoP Steering Committee would like to announce an Open Meeting during the ISDS Conference. The meeting will be held December 7, 2016, from 4:30–6:00 PM. Members of the community are invited to join to learn more about the activities of the Steering Committee.



eSHARE EVENTS

- ISDS 2016 Annual Conference: [New Frontiers in Surveillance: Data Science & Health Security](#) (includes ESSENCE workshop); **December 6–8, 2016**, in Atlanta, Georgia.
- Annual NSSP Grantee Meeting, 2017; Working Together in the New World: NSSP Revised BioSense Platform; **February 6–8, 2017**, in Atlanta, Georgia.
- 2017 NACCHO Annual Conference: [Public Revolution: Bridging Clinical Medicine and Population Health](#); **July 11–13, 2017**, in Pittsburgh, Pennsylvania.