NSSP UPDATE

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.

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Community of Practice Launches Web Portal

NSSP's foundation is its BioSense Platform and Community of Practice. Now you can connect to both through a web portal being launched this month that is dedicated to syndromic surveillance. Through this portal, not only will you be able to sign on to BioSense Platform tools and applications, you will also be able to connect with like-minded members of the community via forums, training opportunities, and other means of knowledge sharing.

Community of Practice resources, including components of the portal content, are overseen or developed by the International Society for Disease Surveillance (ISDS) through a cooperative agreement with the Centers for Disease Control and Prevention (CDC). For some of the content, the portal will link to ISDS's newly revamped site that will eventually include a syndromic surveillance-related digital library—fully curated, robust, and searchable—and new web space for syndromic surveillance forums. Also, the portal will take you to content on CDC's NSSP website. Content available through the portal will expand over time in response to community input and interests.

* The anticipated launch of ISDS's website is March 2017. The portal will link to ISDS content that's available now, which includes forums for collaboration, problem solving, and information sharing.

NSSP Collaborates in Inauguration Surveillance Exercise

CDC's Center for Surveillance, Epidemiology, and Laboratory Services (CSELS), Division of Health Informatics and Surveillance, which manages NSSP, collaborated with health departments in the National Capital Region (NCR) (District of Columbia, Maryland, and Virginia) on enhanced syndromic surveillance during the 2017 Presidential Inauguration. The division's Data Analytics Team (DAT) worked closely with syndromic surveillance program managers in the NCR to access data on the BioSense Platform and to make sure DAT could generate reports that mirrored those of NCR.

The exercise provided an excellent opportunity for DAT to test its ability to interact with stakeholders in an ESSENCE environment, which is critical if NSSP sites need technical assistance during emergencies or special events. In addition, the collaboration on the inauguration gave DAT the opportunity to assist NCR epidemiologists on how to share data within and among sites and how to create opioid-related queries within ESSENCE.

NSSP Upgrades RStudio Pro and Plans to Release New Quick Start Guide

We upgraded RStudio Pro to version 1.0.136. This upgrade includes a notebooks feature that makes sharing analyses (including narrative) even easier. Learn more about this feature here.

Users must sign out and then sign in to a new R session to access the updated version. Please note that this will clear existing settings or any data held in memory.
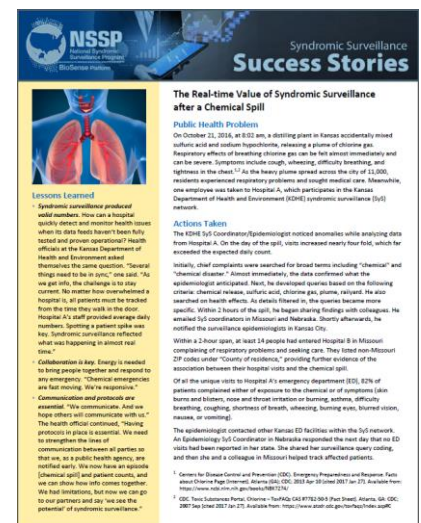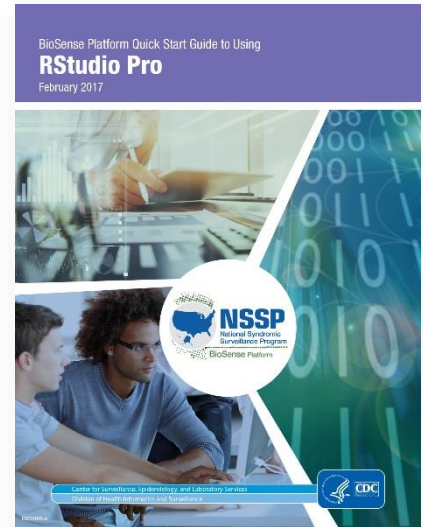
We will not conduct training on RStudio Pro because instruction is available on the web. We will, however, provide relevant examples of how to use RStudio Pro with BioSense Platform data. Also, in late February, we anticipate that the new *BioSense Platform Quick Start Guide to Using RStudio Pro* will be available. Watch for it in the Resource Center.

Share Your Successes!

An advantage to being part of the NSSP is your access to others—to their innovation, to their solutions, and to their successes. These successes run the gamut from innovative ways to transfer data and ensure data quality to tracking opioid abuse through new data sources.

We're interested in stories about how you and your colleagues have implemented best practices into your surveillance activities. We want to know how you've improved data representativeness; improved data quality, timeliness, and use; strengthened practice, or informed public health action or response. A story template is available on the NSSP website.

Your story will inspire others. For example, here's a situation in which preparation, protocols, and collaboration paid off. Last October in Kansas, a distilling plant accidentally mixed sulfuric acid and sodium hypochloride. The plume of chlorine gas[1,2] drove people to seek care immediately. The nearest hospital was still in a staging environment and testing its data feeds to the BioSense Platform. Despite the data feeds not being fully operational, health officials at the Kansas Department of Health and Environment (KDHE) used the BioSense Platform to effectively detect and monitor syndromes indicative of the spill.

Check out the KDHE success story. The story template can be found on the NSSP website.

The KDHE epidemiologists were prepared. They had developed protocols and were accustomed to sharing data. The uptick in respiratory-related syndromes was identified almost in real time. The epidemiologists began sharing information and tracking patient visits within two hours of detection.

"Chemical emergencies are fast moving. We're responsive. We communicate. And we hope others will communicate with us," said Greg Crawford, Director of Vital and Health Statistics Data Analysis, Kansas Department of Health and Environment syndromic surveillance network. "Having protocols in place is essential. We also need to strengthen the lines of communication between all parties so that we, as a public health agency, are notified early." Crawford continued, "We now have an episode [chemical spill] and patient counts, and we can show how info comes together. We had limitations, but now we can go to our partners and say 'we see the potential' of syndromic surveillance."

[1] Centers for Disease Control and Prevention (CDC). Emergency Preparedness and Response. Facts about Chlorine Page [Internet]. Atlanta (GA); CDC; 2013 Apr 10 [cited 2017 Jan 27]. Available from: https://emergency.cdc.gov/agent/chlorine/basics/facts.asp

[2] CDC. Toxic Substances Portal, Chlorine – ToxFAQs CAS #7782-50-5 [Fact Sheet]. Atlanta, GA: CDC; 2007 Sep [cited 2017 Jan 27]. Available from: https://www.atsdr.cdc.gov/toxfaqs/Index.asp#C

Success story courtesy of Greg Crawford, Director, Vital and Health Statistics Data Analysis, Public Health Informatics, Kansas Department of Health and Environment. Sandra Gonzalez (NE), Zach Stein (KS), and Linton Bartlett (MO) are scheduled to discuss their collaborative response to detecting and monitoring the chemical spill at the 2017 NSSP Grantees Meeting in February.

Reminder from the BGG: Platform Changes Affect Data Access

The BioSense Governance Group (BGG) would like to remind site administrators about a couple critical changes made to the BioSense Platform that affect data access:

1. The code of conduct was modified to clarify that only public health personnel should be given access to the national view data details.
2. Access controls are now available for giving rights to the national view aggregate, national view data details, and chief complaint query validator. Initially, rights to these tools were given to every AMC account holder by default.

Each site administrator should review their list of users to ensure that everyone has the appropriate rights to these tools and that they and all of their local users adhere to the modified code of conduct. To view or modify a user's access to these tools, click on the "Manage Users" tab in the AMC. Then click on a user. A series of check boxes will be displayed under Data Access. Please check or uncheck the boxes as appropriate.

NSSP Provides Training Support

If you're training employees about how to use ESSENCE, or any tool on the BioSense Platform, you'll want to demonstrate how the system works without experiencing a technical glitch. If your roomful of users can navigate the system quickly on their laptops, all the better.

More frequently than ever, site administrators are either conducting training themselves or asking NSSP staff for support. Both scenarios draw heavily on ESSENCE, and its performance is influenced by the number of concurrent users querying the system. As such usage increases, we want to monitor ESSENCE performance to make sure your system needs are being met without disruption. We also want

to eliminate potential downtime by scheduling maintenance, patches, or updates at times that don't interfere with your training schedule.

For us to assist you, please notify us before you conduct ESSENCE training by submitting a ticket to the NSSP Service Desk. Include the date, time (including time zone), point of contact, and approximate number of attendees. Most importantly, let us know if you want someone from the NSSP to listen in to answer questions or to clarify information. A little upfront planning should reduce the chance of system disruptions. Also, we'll learn more about the system's performance, which will help us plan future enhancements.

BioSense Platform Updates

Transition—The NSSP Team has transitioned all but two sites. We continue to work with these sites to ensure we have agreement on how their data will flow through the system and that any changes they make to their data feed work as intended. For mainstream system use, the legacy servers and applications were shut down and are no longer accessible.

Looking ahead, we face some challenges that we've separated into what can be done now, mid-term (8–9 months), and long-term (10 months and beyond):

- **Short-term.** System performance is an immediate need and a top priority. Data analysts and software developers at ICF and software developers at Johns Hopkins University Applied Physics Laboratory (JHU-APL) are working closely together to examine options such as increasing headroom on disks to better support system maintenance and avoiding "double joins" in the background that slow queries, especially for national views.
- **Mid-term.** These goals include research and testing. For example, we are exploring how to split the load across multiple databases and reduce "task collisions." We also want to develop training videos and webinars and get community assistance in using products, such as the AMC.
- **Long-term.** We're always looking to take advantage of the improvements JHU-APL makes to ESSENCE code in general. The byproduct of these improvements will help everyone who uses the BioSense Platform.

Always, we'll monitor user demand and work to optimize system performance. We'll also continue to solicit ideas from the BioSense Governance Group, a team that has played a strong role in helping to shape NSSP priorities.

User Experience—Most product enhancements are driven by users. We solicit input year-round on all Platform tools and applications. Occasionally we can improve an off-the-shelf application, such as Adminer. For example, we extended Adminer's time-out function. In 2017, we will strategically evaluate the user experience in a structured way and respond to user needs via the Community of Practice as best we can.

Strategic Planning Workgroups—NSSP management has established workgroups to make improvements in eight critical program areas. These activities will be further refined throughout 2017.

NSSP Strategic Planning Workgroups	
Workgroups	**Activities**
1. Platform	▪ Develop state-of-the-art system to support surveillance operations and inform public health decisions.
2. Surveillance	▪ Position our resources to assist in leading the community in advancing surveillance practices.
3. Data Quality	▪ Develop routine dynamic views of automated and semi-automated data quality assessments that rapidly identify and alert the NSSP Team and appropriate site administrators to problems with the data quality or system functionality so that proper action can be taken immediately to mitigate these issues.
4. New Data Sources	▪ Facilitate an environment in which there are reliable processes for identifying and integrating new data sources. ▪ Help develop a streamlined process in which requirements are identified and developed at regular intervals, with known decision points for evaluating the appropriateness of the data source and the steps for putting into production.
5. Onboarding	▪ Develop an efficient, well-documented, and (semi) automated process for onboarding both new sites and new data providers that is driven by NSSP representativeness priorities.
6. Training	▪ Develop dynamic training that supports the BioSense Platform tools and applications and can be reused through the Community of Practice Knowledge Repository.
7. Community of Practice	▪ Provide support to revitalize, energize, and advance the practice of syndromic surveillance. ▪ Facilitate collaboration and learning among members of the community.
8. NSSP Grantees	▪ Provide guidance and responsive management during the grant process (e.g., reporting, evaluation, and technical assistance). ▪ Encourage and facilitate collaboration.

UPCOMING EVENTS

February 6, 2017	Quarter 1 onboarding begins.
February 6–8, 2017	Annual NSSP Grantee Meeting, 2017; **Working Together in the New World: NSSP Revised BioSense Platform;** Atlanta, Georgia.
March 7, 2017	Webinar: **ESSENCE Training on Using Queries**. 2:00–3:30 PM EST Learn the basic mechanics of ESSENCE and explore advanced techniques for using queries in features like myESSENCE, advanced graphing, and data downloads. The presenter is Wayne Loschen of Johns Hopkins University Applied Physics Laboratory.
Mondays	Onboarding Support Calls: 3:00–4:00 PM EST Cancelled week of February 6, 2017, due to grantee meeting.
Wednesdays	Data Validation Support Calls: 3:00–4:00 PM EST Cancelled week of February 6, 2017, due to grantee meeting.
2nd Thursday	Scheduled vendor patches in staging environment: 6:00–10:00 AM EST
3rd Thursday	Scheduled vendor patches in production environment: 6:00–10:00 AM EST

To avoid confusion and provide advance notice, recurring events that include technical support have been moved from "Technical Assistance Updates" to "Upcoming Events."

LAST MONTH'S TECHNICAL ASSISTANCE

January 3, 2017	Phase 4 Shutdown of Legacy BioSense 2.0 Front-end Application
January 9, 2017	Weekly conference call for onboarding support (3:00–4:00 PM EST), including discussion with site administrators about how to complete and submit master facility tables (MFTs) to NSSP for first quarter planning.
January 20, 2017	Deadline for submitting updated MFT to NSSP.
January 27, 2017	NSSP provided onboarding schedule to site administrators.

ONBOARDING UPDATES

We thank everyone affiliated with sites that participated in first quarter onboarding planning. Twenty-two sites submitted plans to onboard facilities in the upcoming quarter, which makes participation during first quarter our highest rate to date.

Your contributions, feedback, and commitment to the planning process are greatly appreciated.

NSSP Announces Onboarding Window

In addition to the continued onboarding of new facilities for existing sites, the NSSP Onboarding Team is excited to announce that new sites will be brought onboard in April 2017. These new sites will further our goal of providing a comprehensive national picture for syndromic surveillance. NSSP plans to bring new sites onboard twice each year, in Spring and Fall. NSSP will announce the new sites after each completes the onboarding process and has moved into production.

NSSP Revamps Onboarding Website

The NSSP Web Development Team has revamped the Onboarding Support Website. The new site will launch in April. In preparation, you'll notice some changes to the online documentation throughout March. These updates will reflect new processes designed to help sites and facilities onboard successfully and will incorporate many improvements recommended by the community.

Onboarding Support

Conference calls are held by invitation every Monday, 3:00–4:00 PM EST, to discuss the process and to answer questions in a group forum. Calls will be cancelled the week of February 6, 2017, because of the grantee meeting.

What's Your Preference?

- Do you prefer **online** to **print** onboarding documentation? **Both**?
- Does onboarding need more explanation? If so, what parts?

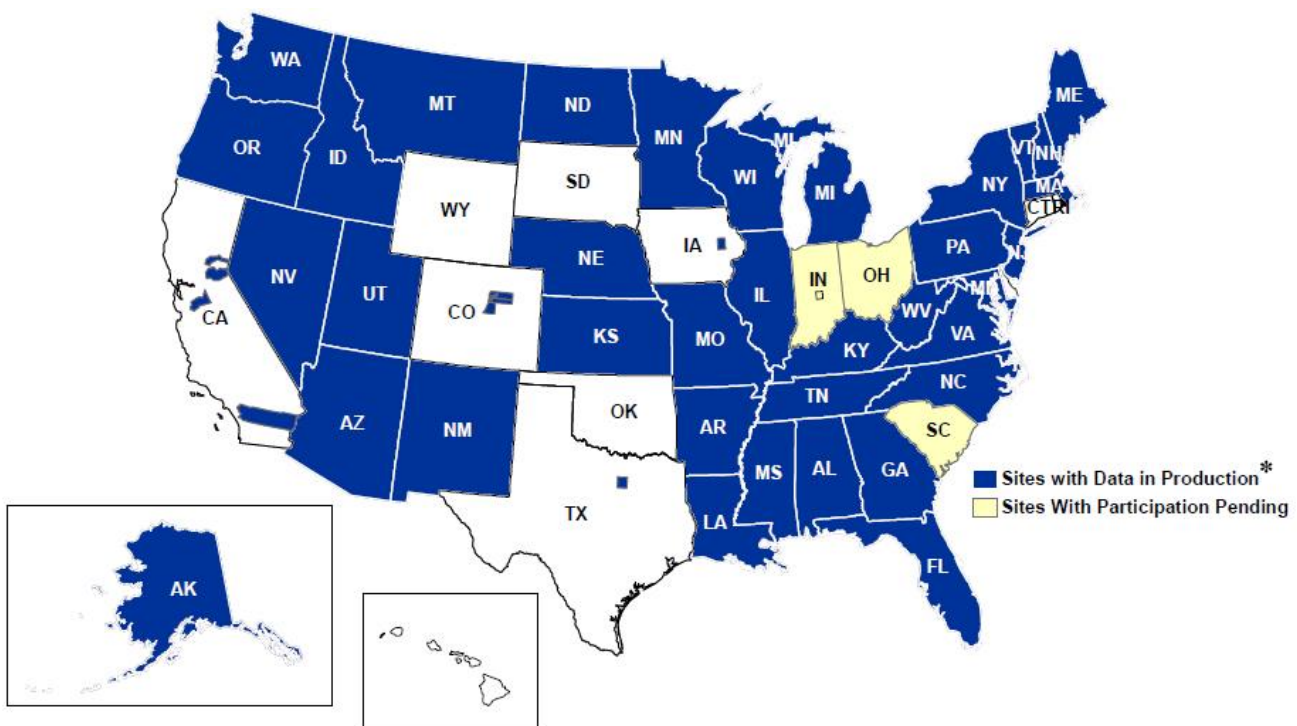Email your recommendations to the NSSP Service Desk, and select User Feedback.

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. Calls will be cancelled the week of February 6, 2017, because of the grantee meeting.

NSSP PARTICIPATION

NSSP participation has increased to 47 sites in 40 states. We receive data from more than 4,000 facilities representing about 55% of all emergency department visits in the country. Every week the new facilities that are added increase data representation nationwide.

Some sites have successfully integrated syndromic surveillance into their daily work flow and are proficient at identifying and understanding data anomalies. Other sites are new to syndromic surveillance or to ESSENCE. Please keep this in mind when you look at the map below. Although we're pleased with the NSSP participation to date, sites with data in production do not always translate into sites with strong data representativeness or broad coverage. The NSSP Team is working closely with sites to improve data representativeness.

*Correction: In our zeal for representativeness, last month's map of Colorado showed wide coverage that has been corrected on this map.

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*.

GRANTEES AND PARTNERSHIPS UPDATES

NSSP Prepares for 2nd Annual NSSP Grantee Meeting, 2017

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. This meeting brings together epidemiologists, informaticians, data analysts, and other public health professionals from across the country. Attendees will participate in 3 days of intensive sessions on Meaningful Use, NSSP Community of Practice, performance measures, data quality, and more.

Now in its second year, the grantee meeting will kick off on February 6 with two ESSENCE trainings. The first session is designed for people new to ESSENCE or interested in a refresher, and the second will focus on how intermediate and advanced users can maximize the use of ESSENCE. This year the NSSP Team has added a poster session and looks forward to feedback on making it a regular part of the meeting. Representatives from state health departments will present how they apply syndromic surveillance to their daily practice and to specific events. This year's meeting will provide ideas for improving practice and many opportunities to engage with others.

COMMUNITY OF PRACTICE UPDATES

ISDS is proud to announce it has commenced with the development of a robust searchable knowledge repository of syndromic surveillance resources, tools, reports, discussions, white papers, best practices, and additional resources. The surveillance knowledge repository will also include a content management process for capturing, validating, refreshing, and expiring CoP-related content as well as a process for ongoing review and curation of website content. The knowledge repository will be scalable to evolving needs of the CoP and will allow the site to centralize and improve access to past project artifacts and current relevant resources, such as ISDS conference abstracts and weekly Scopus literature reviews.

Knowledge sharing will help the surveillance community integrate syndromic surveillance more fully into daily practice, using its inherent early-warning capabilities to complement ongoing surveillance. The anticipated launch will be March 2017.

eSHARE EVENTS

- 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.