

National Syndromic Surveillance Program

BioSense Platform Onboarding Update

July 2016

**Division of Health Informatics and Surveillance
NSSP Onboarding Team**

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Agenda

- **Onboarding Objectives**
- **Onboarding Challenges**
- **Onboarding Accomplishments**
- **Demonstration and Discussion**
- **Questions and Answers**

Onboarding Objectives

- **Increase rate of onboarding**
- **Increase time available for assisting with transition to ESSENCE**
- **Improve response time for both onboarding and production support requests**

Onboarding Challenges

■ Planning

- Sites need clear checklists and process flows
- Facilities and vendors need training on onboarding processes
- Facilities and vendors need training on syndromic messaging requirements

■ Implementation

- Significant time cost for manual and repetitive processes (i.e., create/evaluate Validation Reports, hold engagement meetings)
- Lack of tools
- Lack of training material

■ Support

- High labor cost for monitoring, identifying, and communicating issues
- Time consuming to resolve production feed issues

Onboarding Accomplishments

- **Improved planning process**
 - Developed plan for onboarding improvement initiatives
 - Implemented facility planning processes
 - Implemented facility prioritization processes
- **Improved onboarding support**
 - Updated documentation
 - Developed onboarding website
 - Developed training processes and resources
 - Developed feed monitoring and alert processes
- **Developed site validation resources**
 - Developed self-validation analysis template
 - Developed self-validation results tables in SQL

Improved Planning

- **Process Improvement Planning**
 - Identified and analyzed onboarding challenges
 - Identified solutions to address challenges
 - Prioritized improvements with NSSP leadership based on
 - Cost
 - Rate of return
 - Impact on ESSENCE transition activities

Improved Planning

■ Facility Onboarding Planning

○ Planning and Prioritization Process

- Used Master Facility Table to capture site planning information
- Implemented quarterly planning processes to ensure project and sites are on path to meet representativeness requirements
- Set up process to review site plans quarterly and to determine Onboarding Team's capacity to fulfill requests
- Set up prioritization guidelines to support ED onboarding goals
- Documented prioritization guidelines in the *NSSP Onboarding Guide to the BioSense Platform*.

Improved Planning

■ Quarterly Updates to Master Facility Table

- Update “planned” facilities only
- Update “non-planned” facilities separately (outside quarterly window)

“Planned” facilities are not replicated to ESSENCE; therefore, minimum data are needed. (Minimum required fields include Facility Name, Facility Type, and Date Planned.)

■ Quarterly Deadlines

- Listed in *Onboarding Guide to the BioSense Platform, v1.5*, section 2.1.8

■ Missed Deadlines

- Requests received after deadline will be considered on “best-effort” basis
- If schedule is full, requests may be deferred until next quarterly review

Improved Planning

- **Quarterly Planning Guidelines**
 - Sites should consider 90- and 180-day forecasting to improve scheduling
 - Lightly sophisticated guesswork is encouraged—nothing scientific required!
- **180-day Forecast**
 - Include a “best guess” target month,
 - Use the first day of the month as target date, and
 - Include facility name and type (required); other fields are optional.
- **90-day Forecast**
 - Include a “best guess” target week,
 - Use the first day of the week as target date in lieu of date requirement,
 - Include facility name and type (required); other fields are optional, and
 - Include AHA ID for ED and urgent care facilities (recommended).

Improved Planning

■ Prioritization (site-planning considerations)

- Site should prioritize facilities internally
- Sites should consider BioSense Platform prioritization factors

Examples:

- Facility type
- Facility volume
- Facility vendor/electronic health record capability
- Interface developer experience and capability
- Sites should note special prioritization factors in comments dialogue box

Example: A site may place higher priority on a childbirth and women's center than on a local non-specialty hospital

Improved Planning

■ BioSense Platform Prioritization Factors

- Facility type:
 1. Emergency Department
 2. Urgent Care
 3. Inpatient
 4. Ambulatory
- Facility volume
- Onboarding support model
- Site experience and capability
- Facility vendor/electronic health record capability
- Interface developer experience and capability

Improved Onboarding Support: Documentation

- **Added details to site facility planning and prioritization sections**
 - Important planning dates
 - Master Facility Table uploads and maintenance
 - Forecast and date planning instructions
- **BioSense Platform Onboarding Process Acknowledgement (BOPA)**
 - Site BOPA—should be signed by site administrator
 - Facility BOPA—should be signed by site administrator
 - Facility BOPA—should be signed by each HL7 development manager/lead in charge of developing HL7 messages for a facility or group of facilities
 - Not a binding agreement
 - Acknowledgement of onboarding process
- **Data Validation**
 - Updated required data elements in *Onboarding Guide*
 - Documented data validation instructions

Improved Onboarding Support: Checklists

- **Site Onboarding Checklist**—Assists new sites with capturing all activities needed to onboard the site and prepare the site to onboard facilities.
- **Site Onboarding Checklist for Facilities**—Used by sites to manage each new facility onboarding to the BioSense Platform.
- **Facility Onboarding Checklist**—Used by facilities to guide and track facility actions required to onboard to the BioSense Platform.

Improved Onboarding Support

- **Updated Onboarding Website**
 - Converted guide into an online resource
 - Provided centralized location for onboarding materials
 - Documentation
 - Training
 - Calendar
- **Developed training processes and resources (weekly training schedules for onboarding and validation)**
- **Developed feed monitoring and alert processes**
- **Developed Feed Profile Template**

Improved Onboarding Support

■ Updated Onboarding Website

[Onboarding Home](#) >

Onboarding Guide

Onboarding Home

Site Checklist

Facility Checklist

Onboarding Guide

Planning

Onboarding
Methodology

Data
Integration

Data Security

Support & FAQs

Appendices

The most recent version of the BioSense Onboarding Document is found [here](#).

Purpose

This website describes the processes, tools, and activities for onboarding new data feeds and sites into the Centers for Disease Control and Prevention's (CDC) National Syndromic Surveillance Program's (NSSP) BioSense Platform.

All the information included on the website is accessible in its entirety in the BioSense Onboarding Guide, the primary guide for onboarding new data feeds into the program.

Onboarding Process

This page contains the following sections:

- [Purpose](#)
- [Audience](#)
- [Website Organization](#)
- [BioSense Overview](#)
- [Terminology](#)

Improved Onboarding Support: Training

■ Onboarding Process

- Meetings each Tuesday: 1:00 – 3:00 pm
- Onboarding process discussed and questions answered in group forum
- Requests received during the week will be handled during this meeting

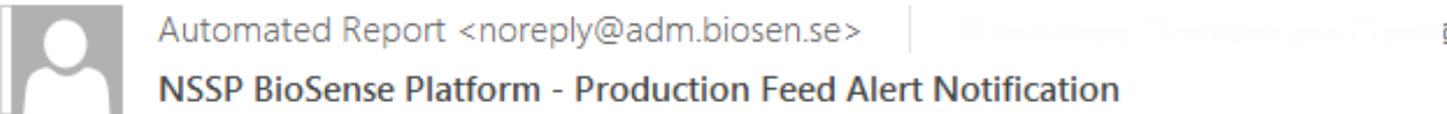
■ Data Validation Processes and Resources

- Meetings each Thursday: 1:00 – 3:00 pm
- Data validation compliance template available for download
- Guided instructions available for performing data validation tasks
- Dedicated Service Desk support
 - Questions answered
 - Issues discussed openly during the call (facility info kept confidential on request)

Improved Production Support

■ Feed Monitoring and Alerts

- CDC will monitor feeds and alert site admins of data not being received.
- For direct feeds, site admins may choose to have vendor or facility contacts receive notification.



Automated Report <noreply@adm.biosen.se>
NSSP BioSense Platform - Production Feed Alert Notification

Feed Alert

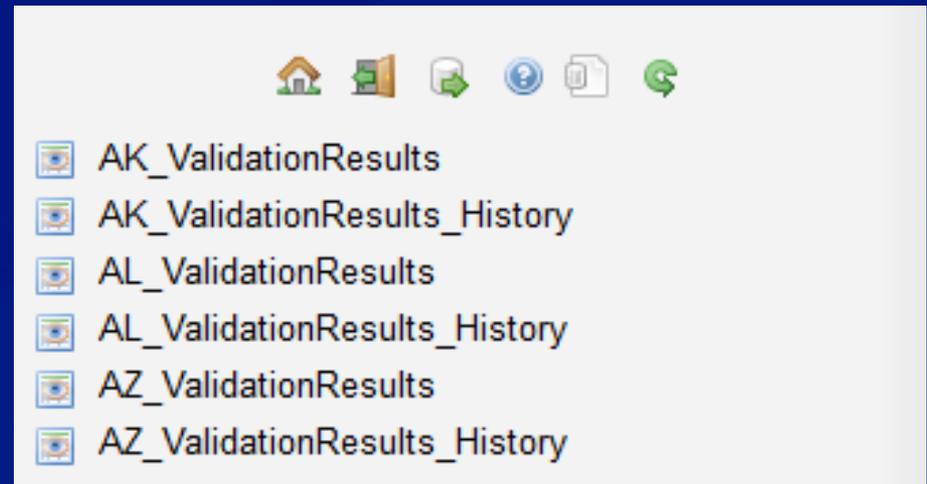
Environment	Feed Name	# Days	Last Message Date
Production	[REDACTED]	20	2016-04-02 18:59:58
Production	[REDACTED]	9	2016-04-13 12:48:17
Production	[REDACTED]	28	2016-03-25 08:30:57

Please investigate the issue with your feed.
If you need assistance from the NSSP BioSense Platform Service Desk, please create a ticket.
<http://support.syndromicsurveillance.org>

Developed Site Validation Resources

■ Data Validation – Legacy Architecture

- Legacy data validation uses phpMyAdmin
- Legacy data validation uses current staging server: datatrans2.biosen.se



■ Data Validation – New Architecture

- Architecture validation tables are being developed
- New architecture validation uses Adminer
- ETA – Summer 2016

Onboarding Versus Production Data Validation

■ Onboarding Data Validation

- Performed on staging servers using staging data
- Validates data complies with PHIN messaging requirements
- Executed daily to generate previous day metrics

■ Production Data Validation (Summer 2016)

- Performed on production servers using production data
- Used by Analytics Data Management (ADM) Team to validate data for reports
- Used to generate and deliver monthly reports (other aggregate levels are available, including daily aggregates)
- Supports legacy and new data flow:
 - MySQL Validation Table = *Stage_1_Archive*
 - MSSQL Validation Table = *Processed*
- Process applicable to legacy and new data flow

Developed Site Validation Resources

- Data Validation Template: Legacy Architecture Example

	A	B	C	D	E	F	G	H
1	PHIN Table 4.2 Data Element	Stage_1 Process Info	HL7 Segment	BioSense Platform Usage	Facility_Name	Medical Center A	Medical Center B	Medical Center C
2					FacilityID_UUID	1000	1001	1002
3					Feed_Name	Training_Feed_1	Training_Feed_2	Training_Feed_3
4					Report_Date_Time	3/17/16 8:00 AM	3/17/16 8:00 AM	3/17/16 8:00 AM
5					Begin_Date	3/16/2016	3/16/2016	3/16/2016
6					End_Date	3/17/2016	3/17/2016	3/17/2016
7					NumVisits	513	57	1246
14	Link	PID.2.1	O	PID_2_1_Patient_ID_External	0%	0%	0%	
15	Link	PID.4.1	O	PID_4_1_Alternate_Patient_ID	0%	0%	0%	
16	Link	PID.18.1	O	PID_18_1_Patient_Account_ID	0%	0%	100%	
17	Link	Multiple	R	PID_First_Patient_ID	100%	100%	100%	
18	Link	PV1.19.1	R	PV1_19_1_Patient_Visit_ID	100%	100%	100%	
19	Link	PV1.50	X	PV1_50_1_Alternate_Visit_ID	0%	0%	0%	
20	Link	PID.8.1	RE	PID_8_1_Patient_Gender	100%	100%	100%	
21	Link	Multiple	RE	PID_10_Patient_Race	100%	100%	100%	
22	Link	Multiple	RE	PID_22_Patient_Ethnic_Group	100%	98%	100%	
23	Link	OBX.5.1	RE	OBX_5_1_Patient_Age_Reported	0%	100%	100%	
24	Link	OBX.6.2	RE	OBX_6_2_Patient_Age_Reported_Units	0%	100%	0%	
25	Link	OBX.5.1	RE	OBX_5_1_Patient_Age_Calculated	0%	0%	0%	
26	Link	OBX.6.2	RE	OBX_6_2_Patient_Age_Calculated_Units	0%	0%	0%	
27	Link	PID.7.1	O	PID_7_1_Date_Time_of_Birth	100%	100%	100%	
28	Link	PID.11.5	RE	PID_11_5_Patient_Zip	100%	98%	100%	
29	Link	PID.11.3	RE	PID_11_3_Patient_City	0%	98%	100%	
30	Link	Multiple	R	PID_First_Patient_County	52%	16%	100%	
31	Link	PID.11.4	RE	PID_11_4_Patient_State	100%	98%	100%	
32	Link	PID.11.6	RE	PID_11_6_Patient_Country	100%	100%	100%	
33	Link	Multiple	R	OBX_5_1_Chief_Complaint	56%	100%	0%	

Data Analysis Instructions

Approval Status

Table Data

Percentages

Visit Counts

Stage_1

Message Guide Table ...



Demonstration and Discussion

- Onboarding Website
- Data Validation Tables
- Data Validation Compliance Report

Questions and Answers

For more information, please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30329-4027

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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