



NSSP

National Syndromic
Surveillance Program

BioSense Platform

2016 NSSP Grantee Meeting

Monday, May 16, 2016

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



10:00 – 5:00 PM **Registration:** Andrea Perry, Christa Johnson, Permecia Winston
Location: Lobby, Building 2500

11:15 – 12:15 PM **Project Officer 1:1** (by appointment)
Philip Baptiste, Room 1200-1201
Kim Raymond, Room 1200-1201
Dawn Thomas, Room 1200-1201

12:15 – 1:00 PM **Lunch** (on your own)

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



1:00 – 4:30 PM ESSENCE

Location: Room 1200-1201

1:00 – 3:00 PM Orientation

Instructor: Aaron Kite-Powell

3:00 – 3:15 PM Break

3:15 – 4:30 PM Q&A

4:30 PM Adjourn for Day 1

2016 NSSSP Grantee Meeting

Tuesday, May 17, 2016



8:30-9:00 AM

Welcome and Introductions!

Paula Yoon, ScD, MPH

**Director, Division of Health Informatics
and Surveillance**

**Center for Surveillance, Epidemiology, and
Laboratory Services**

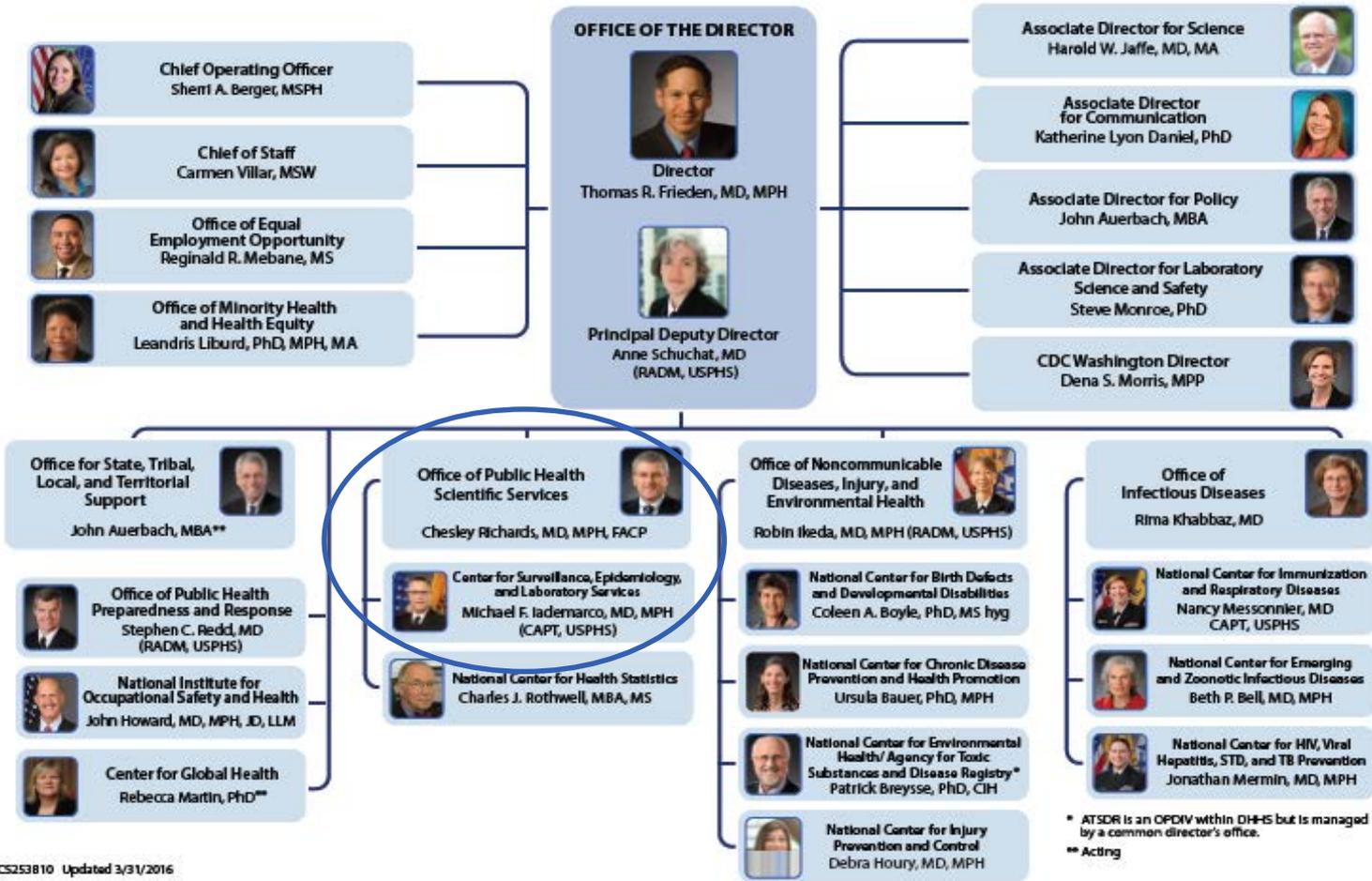
Office of Public Health Scientific Services

Moderator: Violanda Grigorescu, MD, MSPH

Branch Chief, Partnership and Evaluation Branch



ORGANIZATIONAL CHART



Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



CSELS Mission:

The Center for Surveillance, Epidemiology, and Laboratory Services (CSELS) provides scientific services, expertise, skills, and tools in support of CDC's national efforts to promote health; prevent disease, injury, and disability; and prepare for emerging health threats.

CSELS Objectives:

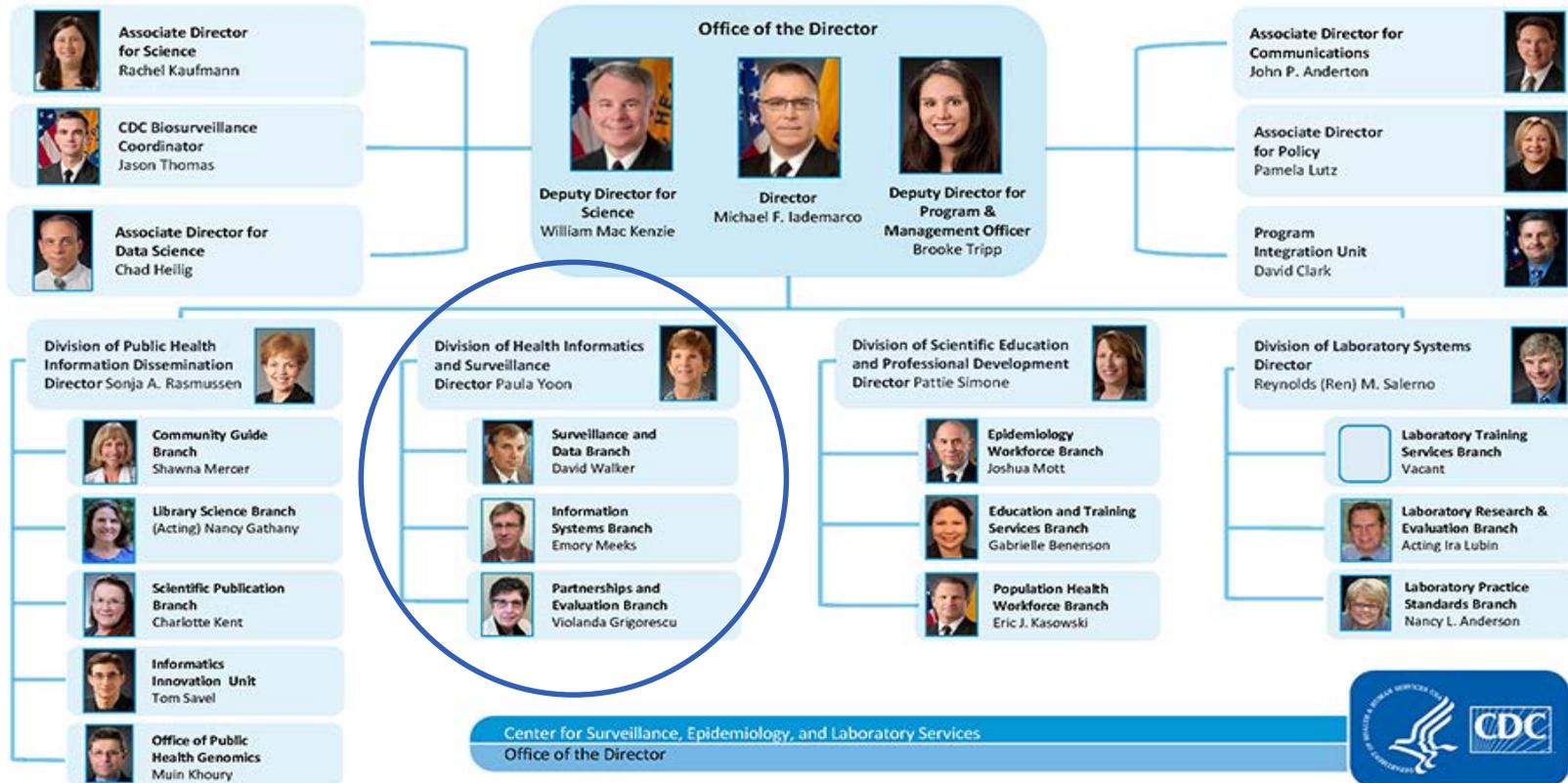
- Be a strong partner within CDC and for its external stakeholders;
- Be a leader in developing, adopting, and integrating sound public health surveillance and epidemiologic practices, based on advances in informatics, epidemiology, laboratory science, and public health research; and
- Be the leader in the science of public health workforce development, with educational programs, instructional materials, and other CDC resources renowned for superior quality and relevance, including highly qualified, high-performing public health practitioners.

Center for Surveillance, Epidemiology, and Laboratory Services

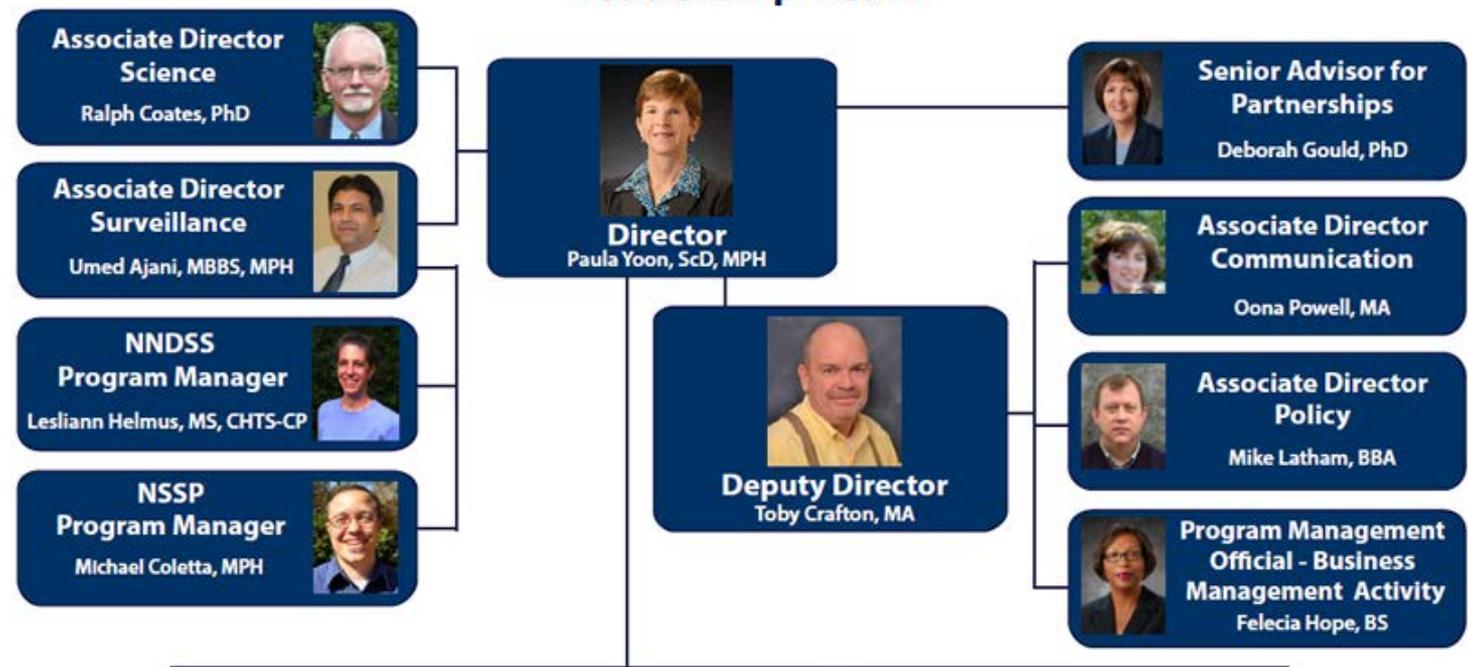
Division of Health Informatics and Surveillance



Center for Surveillance, Epidemiology, and Laboratory Services (CSELS)



Division of Health Informatics and Surveillance (DHIS) Leadership Team



Information Systems Branch (ISB)
Chief
Emory Meeks, BS

Electronic Messaging, System Support, and Data Transport Team
Emergency Preparedness and Public Health Support Team
Epi Info Team
Surveillance Systems Team

Surveillance and Data Branch (SDB)
Chief
David Walker, MPH, BA

Analytic Data Management Team
Data Analytics Team
Data Processing Team
Surveillance Operations Team

Partnerships and Evaluation Branch (PEB)
Chief
Violanda Grigorescu, MD, MSPH

Data Coordination and Collaboration Team
Partnership and Support Team
Program Evaluation Team



DHIS Vision:

Health decisions and actions are guided by timely and useful information.

DHIS Mission:

DHIS provides leadership and crosscutting support in

- ✓ developing public health information systems,
- ✓ managing public health surveillance programs, and
- ✓ providing health-related data required to monitor, control, and prevent the occurrence and spread of diseases and other adverse health conditions.

Evolution of BioSense

Bioterrorism focused
CDC centric
Limited hospital coverage

BioSense



2003

National
Syndromic
Surveillance
Program



2015

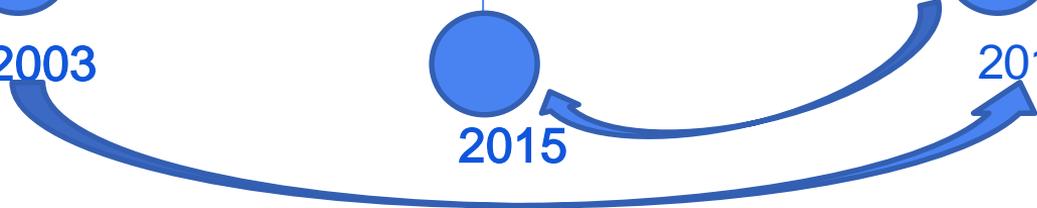
Technology focused
Stakeholder driven
Limited functionality

BioSense 2.0



2011

Community focused
User-preferred tools
Data quality assurance
Innovation





9:00 – 10:00 AM

**DHIS, National Syndromic Surveillance Program
(NSSP) Panel**

**Moderator: Umed Ajani, MBBS, MPH; Associate
Director for Surveillance**

Presenters:

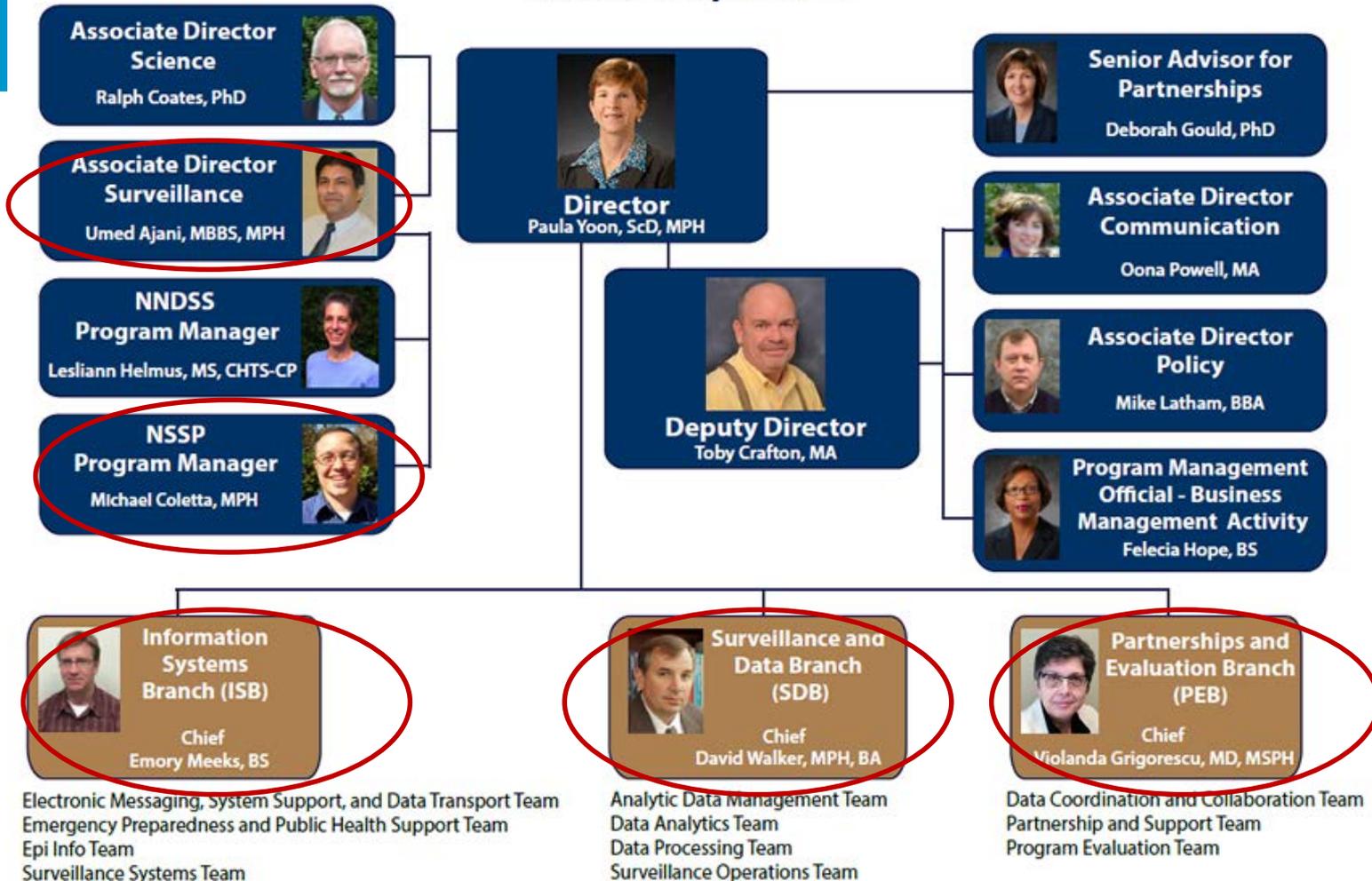
Michael Coletta, MPH; NSSP Manager

Emory Meeks, BS; Branch Chief, ISB

David Walker, MPH, BA; Branch Chief, SDB

Violanda Grigorescu, MD, MSPH; Branch Chief, PEB

Division of Health Informatics and Surveillance (DHIS) Leadership Team





NSSP Overview

Michael Coletta, MPH
NSSP Manager

Thanks to the BioSense Governance Group

- *Oscar Alleyne*
- *Erin Austin*
- *Atar Baer*
- *Michelle Barber*
- *Laurel Boyd*
- *Ann Burke*
- *JP Chretien*
- *Sarah Chughtai*
- *Natasha Close*
- *James Collins*
- *Brian Dixon*
- *Rosa Ergas*
- *Jay Fielder*
- *Joseph Gibson*
- *Harold Gil*
- *Stacey Hoferka*
- *Mark Holodniy*
- *James Howgate*
- *Hither Jembere*
- *Bryant Karras*
- *Jeffrey Lee*
- *Meredith Lichtenstein*
- *Laura McCrary*
- *Farah Naz*
- *Melissa Powell*
- *Marcus Rennick*
- *Bill Stephens*
- *Laura Streichert*
- *Mark Sum*
- *Amanda Wahnich*
- *Jessica White*
- *Holly Whittaker*
- *Caleb Wiedeman*

NSSP - the last 2 years

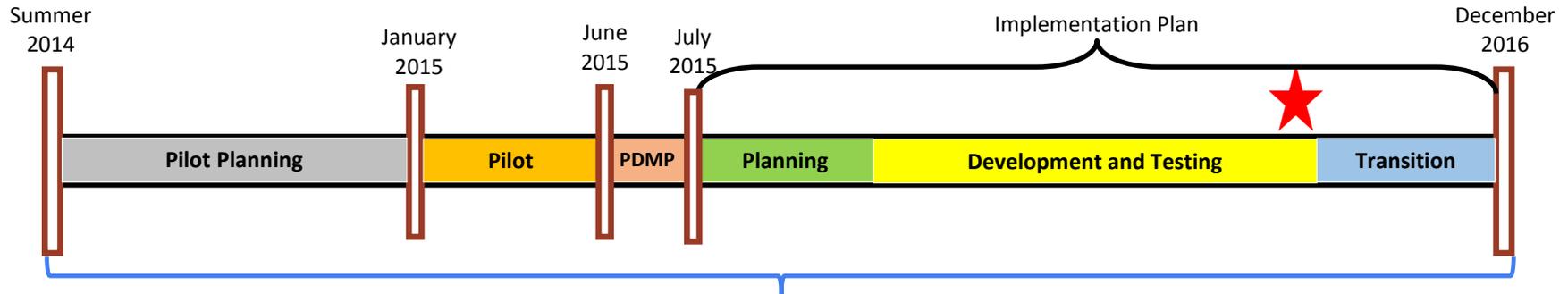
- Reviewed input from:
 - Community via BioSense Governance Group
 - BioSense Investment Review
- Conducted an ESSENCE Pilot with 8 jurisdictions
- Conducted a formal planning and decision-making process
- Developed and now executing an implementation plan

Quote from a Governance Group member

"I want to thank the NSSP – this project is becoming a real program with true project management and is much appreciated."

Quote from a Pilot Participant

"It is a good tool that will address many of the complaints and system enhancement requests that users have made and that have been noted in the functional requirements gathering process."



Community engagement throughout entire process

NSSP 6 Major Objectives

1. Develop Access and Management Center (Webinar: 10/22/2015; Workgroup: 11/04/2015 - 01/07/2016)

- First release: User management, data access rules
- Future releases: Data templates, user groups, shared facility, restricted accounts, reports

Thanks To:

Hwagan Chang
Jianhua Chen
Yushiuan Chen
Karen Felicetta
Harold Gil
Sara Imholte
Melissa Powell
Caleb Wiedeman

The screenshot shows the NSSP Access & Management Center interface. At the top, there is a blue header with the NSSP logo (National Syndromic Surveillance Program, BioSense Platform) and the title "Access & Management Center" with the subtitle "A Product of the Centers for Disease Control and Prevention". Below the header is a navigation bar with tabs for "MY INFO", "MANAGE USERS", "DATA ACCESS", "USER GROUPS", "DATA TEMPLATES", "REPORTS", and "LOG OUT". The "MY INFO" tab is selected, showing a "MY INFORMATION" section with a list of links and their descriptions:

Link	Description
Change Password	Change your password
Update Profile	Change my personal information(e.g. name and email)
BioSense Application	BioSense web application home page
HttpMyAdmin	PhpMyAdmin - for MySQL Queries
Adminer	Adminer - for DataMart SQL Queries
RStudio	RStudio
ESSENCE Staging	ESSENCE Staging

At the bottom of the page, there is a small "Terms Approved" section with a date of 06/20/2015 and a disclaimer: "The public reporting burden of this collection of information is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. No agency may conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: [redacted] (0-2900) and to the Office of Management and Budget, Paperwork Project (0-5600) and to the Office of Management and Budget, Paperwork Project (0-5600)."

NSSP 6 Major Objectives

2. Master Facility Table clean-up process (Webinar: 12/03/2015; Workgroup: September 2015)

- Cleanup package: Crosswalk, summary reports, exception reports
- Companion guide

Thanks
To:

Laurel Boyd
Anne Burke
Rosa Ergas
Harold Gil
Stacey Hoferka
Farah Naz



NSSP 6 Major Objectives Cont.

3. Begin new data flow

(Webinar: 02/11/2016; Workgroup: 02/25/2016 - 03/10/2016; Data flow begins: 03/11/2016)

- Replace phpMyAdmin with Adminer
- Provide access to raw HL7 messages
- Provide access to stable structured databases reflecting processed HL7 messages
- Prime the data with various calculated fields to allow for flexibility in analysis

Thanks To:



Katie Arends
 Erin Austin
 Yushuan Chen
 Natasha Close
 Karen Felicetta
 Stacey Hoferka
 Jeff Johnson
 Karl Soetebier
 Bill Stephens

Adminer 4.2.4

Table:

DB: Staging_Archive

Schema: dbo

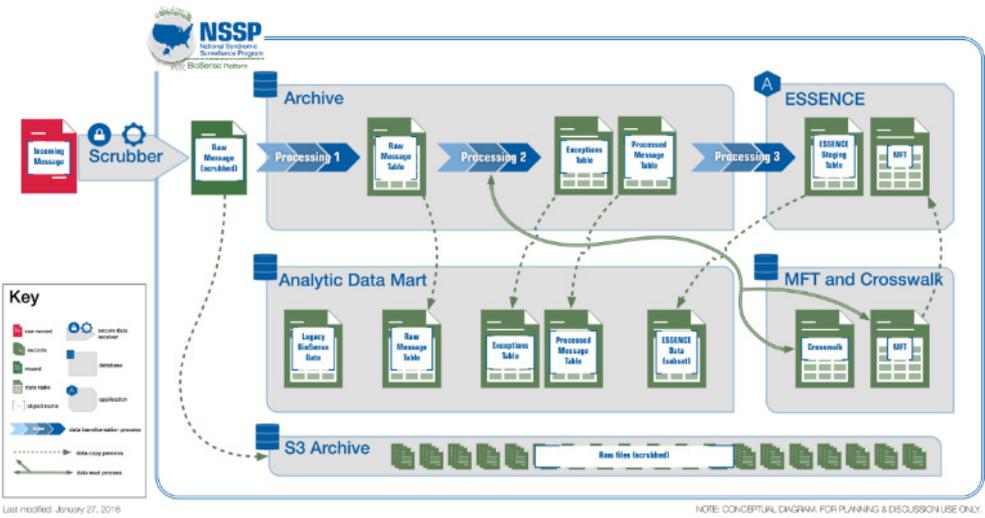
Column	Type
Processed_ID	bigint Auto Increment
Message_ID	bigint
Str_Arrived_Date_Time	varchar(24)
	datetime2
	varchar(80)
	datetime2
	varchar(200) NULL
	varchar(200) NULL

SQL command:

```
select * from Exceptions_Reason
```

Your tables include:

- Raw
- Processed
- Exceptions
- Exceptions_Reason



NSSP 6 Major Objectives Cont.

4. Determine ESSENCE settings
(BGG: 06/29/2015, 07/16/2015;
Webinar: 03/24/2016; Workgroup:
03/31/2016 - 04/21/2016)

- Default display and order of data elements for “full details” view
- National View: High-level view aggregated data by age group and HHS Region
- Chief Complaint Query Validation
- Defined appropriate regional and hospital syndrome alert views
- Proposed *NEW* alert (HHS Region)
- Suggested descriptive labels



ESSENCE Settings – National View

Data Elements

- Encounter Date
- Patient Gender
- HHS Region
- Patient Class
- Categorized Age:
 - Standard Groups (5 strata)
 - ILI Reporting Age Groups
 - 10-Year Age Groups
- Syndrome
- Sub-Syndrome
- Disposition

National View

- Restricted, high-level view granted to BioSense Platform ESSENCE users by default. The National View aggregates data by HHS Region.
- Users can only see local details if granted permission.

Who contributed to decision?

- Pilot group discussion (Spring 2015)
- BioSense Governance Group (Summer 2015)
- Extensive communication with site partners (via participants and informally)

NSSP 6 Major Objectives Cont.

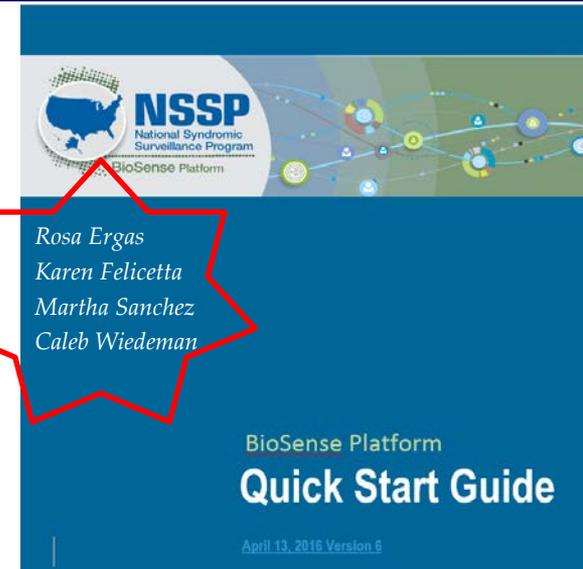
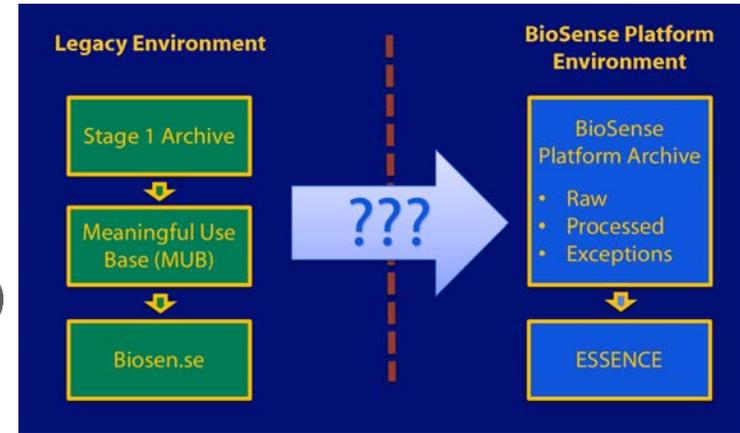
5. Convert legacy data

(Webinar: 05/05/2016; Workgroup: 05/12/2016)

- Identify Stage 1 fields that map to columns in archive processed table
- Determine processing
 - Map data directly (where possible)
 - Identify needed processing modifications

6. Develop technical assistance documentation

- NSSP document review folder
- Quick Start Guides
- Future training materials

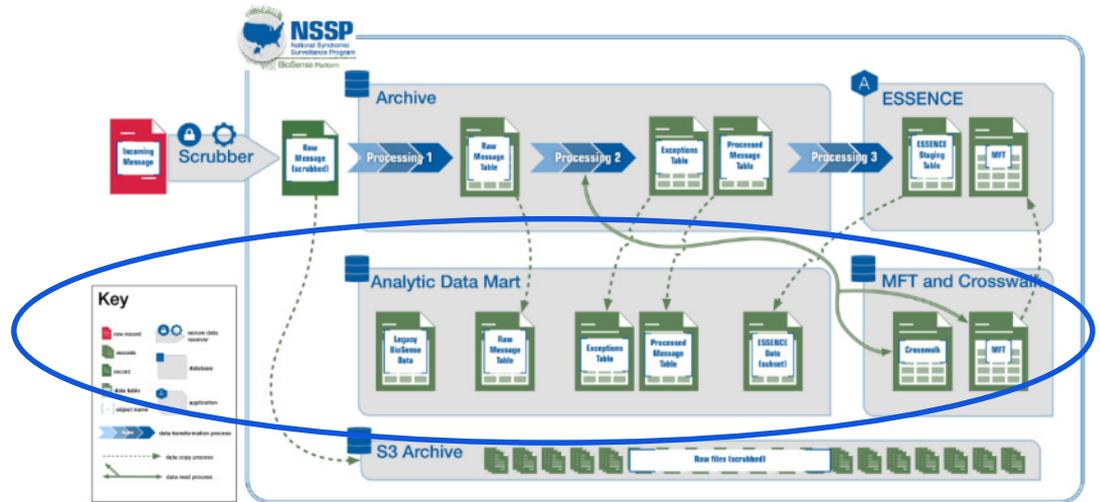
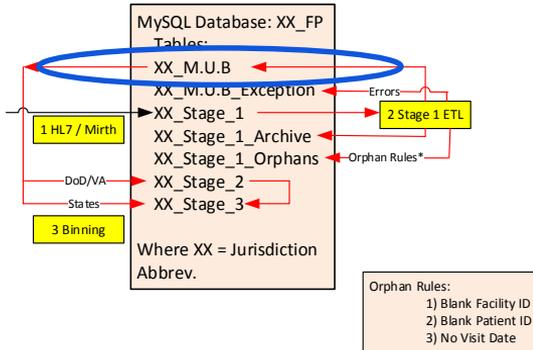


Thanks To:

Rosa Ergas
Karen Felicetta
Martha Sanchez
Caleb Wiedeman

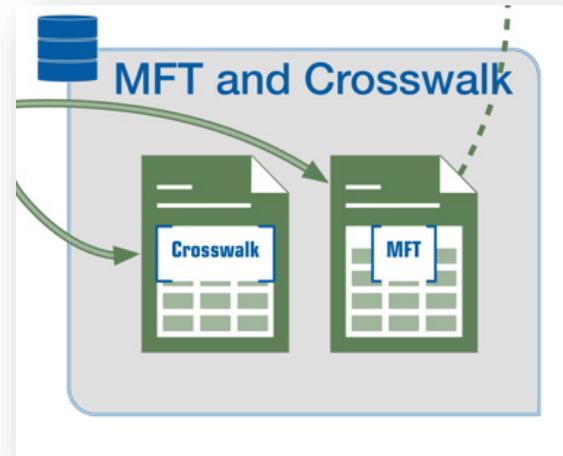
Immediate Benefits

- Local Back-end Data Access
 - Before: Locker access only
 - After: Raw messages, processed views, calculated field views, filter views with reasons, exception views with reasons



Immediate Benefits, cont.

- Facility:
 - Before: No clean facility list, no efficient method to update
 - After: Clean facility list with metadata, update using a look-up table
 - Future: Jurisdiction web-enabled facility management tool



Immediate Benefits, cont.

- Flexibility in Data Sharing
 - Before: State aggregate or details, on or off for whole agency
 - After: Site Admin controlled by individual, aggregate, details, groups, agency, etc. (easily turned on and off)

Data Sharing Interface

The interface shows two main sections: 'General Sharing' and 'Bilateral Sharing'. Each section has a 'Create Level' dropdown menu and an 'Additional sharing settings' text input field. Below these are 'Site Level' dropdowns and 'Jurisdiction Name' text input fields. Arrows point from the 'Additional sharing settings' fields to the 'General Sharing' section. Below the main interface are two examples, 'Example 1' and 'Example 2', showing different configurations for the 'Create Level' and 'Site Level' dropdowns.

Example 1

Example 2

NSSP National Syndromic Surveillance Program
BioSense Platform

Access & Management Center

A Product of the Centers for Disease Control and Prevention

Welcome! test02

MY INFO | MANAGE USERS | DATA ACCESS | USER GROUPS | DATA TEMPLATES | REPORTS | LOG OUT

DATA ACCESS

Build New Data Access Rule

View and modify existing Data Access Rules

Site: Status: Filter Read

Select on Type: Select on Type: Filter Read

Select	Site	Rule Name	Rule Description	Rule Status
<input type="checkbox"/>	GA	teststage	teststage	Draft
<input type="checkbox"/>	GA	StageTest	stageTest	Active
<input type="checkbox"/>	GA	AssignTestUser	assignTest user to rule.	Active
<input type="checkbox"/>	GA	Example Rule Name		Draft

Select a user/group and click "Edit"

Edit

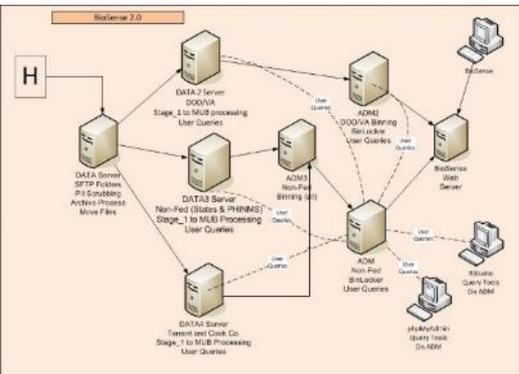
Form Approved
OMB No. 0920-0024
Registration Number: 46-3094916
The public reporting burden of this collection of information is estimated to average 5 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Do not send this report unless it is requested by an official of the Department of Health and Human Services. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: CDC/AV/SD/1, Reports Clearance Officer, 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30333-4278, PMA 0912-9014.

Immediate Benefits, cont.

- More robust tools, servers, processes

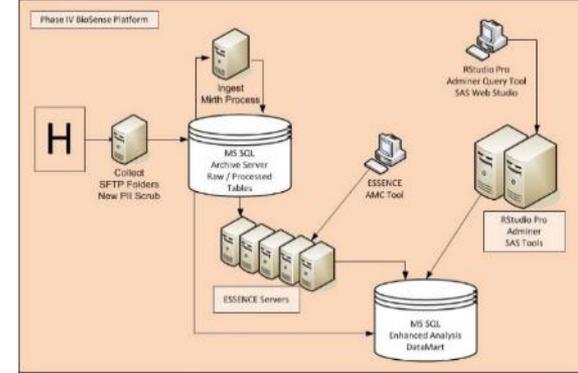
— Before:

- MySQL
- Oldest generation AWS servers
- Clustered processing
- BioSense 2.0
- Free version of R-Studio



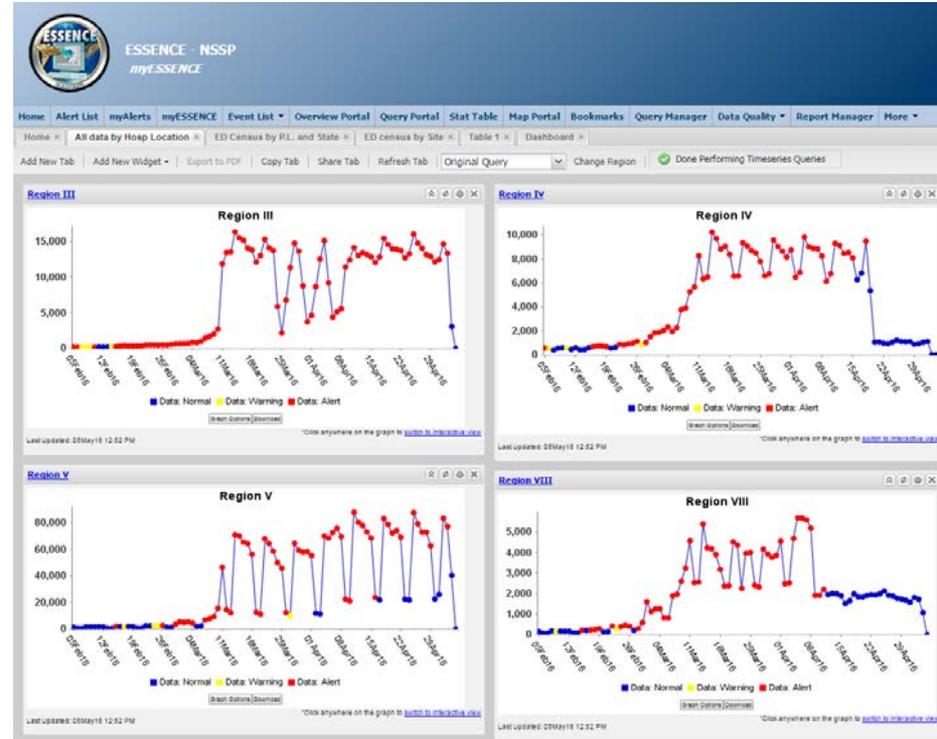
— After:

- SQL Server
- Newest generation AWS servers
- Separate transactional data from data analysis
- Separation of processing
- New analysis tools distributed over more servers
- ESSENCE
- R-Studio Professional
- Latest version of R language



Immediate Benefits, cont.

- Workflow improvements for local analysts
 - Access to more functionality
- Reduce administrative and technology barriers to accessing data
 - Access for all users across a broad range of capabilities
- Sharing capabilities opens many new opportunities for collaboration, data quality understanding, and enhancement
- Community contributes to the future development of ESSENCE



Consider this...

Imagine a national Opioid Overdose Dashboard that capitalizes on national, state, and local expertise.

Users can collaboratively develop the queries and analyses that enhance understanding of size and spread of problem and inform intervention.

Code can be shared immediately and run at different levels of data access to show a national, state, or local picture.



Tool Suite

- ✓ ESSENCE
- ✓ SAS
- ✓ R-Studio

Data Quality
National Picture
Surveillance Support
System Development



Injury Program



DHIS / NSSP



State
Local



Thanks to the NSSP Team

- *Nelson Adekoya*
- *Umed Ajani*
- *Philip Baptiste*
- *Mary Catherine Bertulfo*
- *Lindsay Brown*
- *Robert Brown*
- *Eric Brown*
- *Adam Browning*
- *Thomas Clay*
- *Ralph Coates*
- *Corey Cooper*
- *Jenny Couse*
- *Toby Crafton*
- *Alan Davis*
- *Cassandra Davis*
- *Achintya Dey*
- *Matthew Dollacker*
- *Girum Ejigu*
- *Roseann Englis*
- *Kim Gadsden-Knowles*
- *Shayne Gallaway*
- *Guy Garnett*
- *Rose Glass-Pue*
- *Violanda Grigorescu*
- *Matt Guajardo*
- *Leslie Hausman*
- *Peter Hicks*
- *Nimi Idaiakadar*
- *Charlie Ishikawa*
- *Abdul Ismail*
- *Dennis Jarosz*
- *David King*
- *Aaron Kite-Powell*
- *Travis Mayo*
- *Paul McMurray*
- *Emory Meeks*
- *Ernst Melias*
- *Matthew Miller*
- *Randy Mitchell*
- *Farah Naz*
- *Sanjeev Pal*
- *Ryan Palmer*
- *Rick Polson*
- *Oona Powell*
- *Kim Raymond*
- *Sebastian Romano*
- *Craig Saeed*
- *Bob Sheppard*
- *Jamie Smimble*
- *John Stinn*
- *Sue Swenson*
- *Dawn Thomas*
- *Calvin Tubbs*
- *David Walker*
- *Permecia Winston*
- *Niketta Womack*
- *Max Worlund*
- *Paula Yoon*
- *Hussain Yusuf*
- *Hong Zhou*



Information Systems Branch Contribution to NSSP

Emory Meeks, BS
Branch Chief



Mission

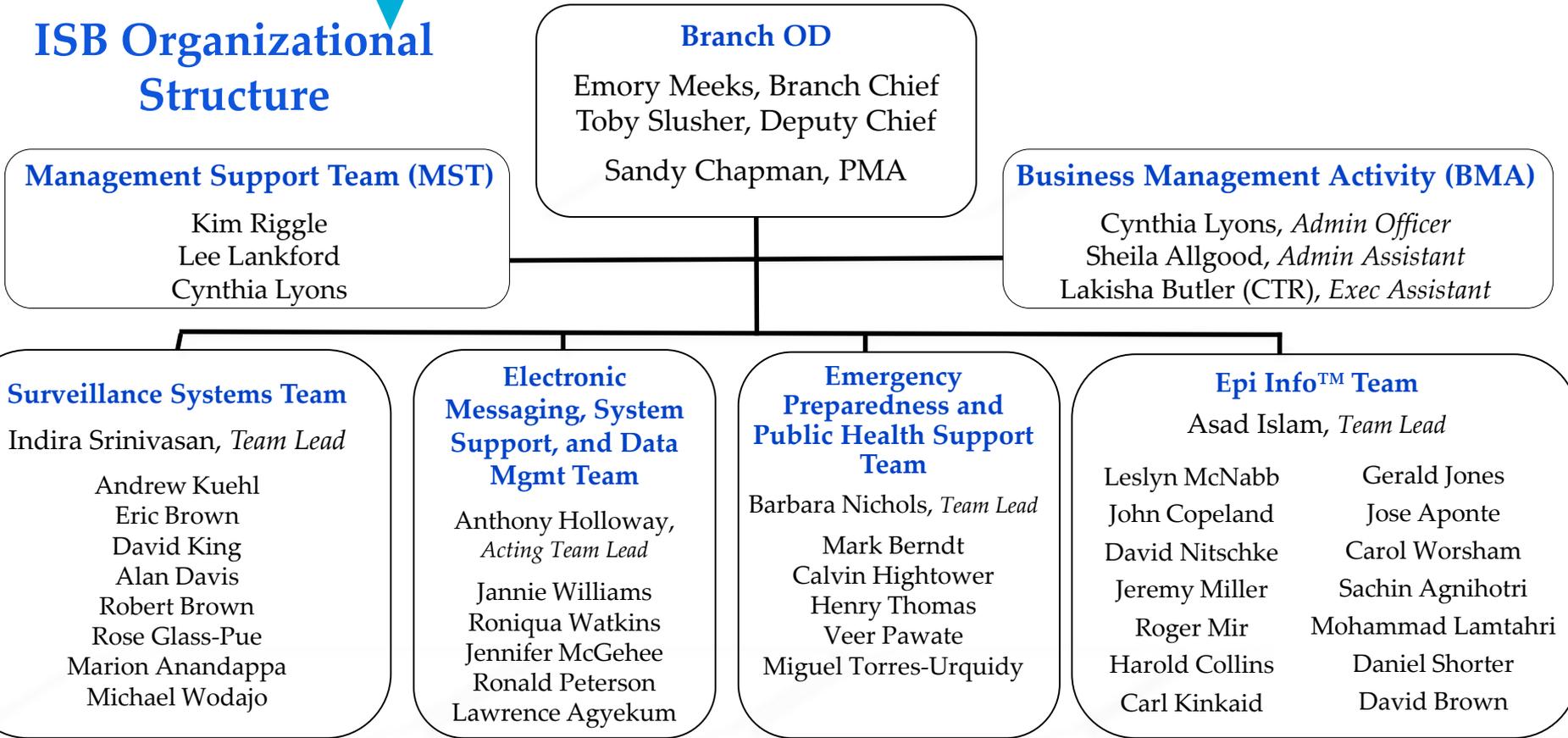
We are entrusted with operating crucial systems that give health officials access to information they need to protect against disease outbreaks and other health threats. Our systems reach CDC programs, state and local health departments, and state public health laboratories, as well as international public health officials.

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



ISB Organizational Structure



Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Surveillance Systems Team

- BioSense Application
- BioSense Platform
- Message Validation, Processing and Provisioning System (MVPS)
- NEDSS Base System (NBS)

Electronic messaging, System support, and Data transport Team

- PHIN Messaging System (PHINMS)
- Message Transport System (MTS)
- Data Messaging & Brokering (DMB)
- Message Quality Framework (MQF)
- Vocabulary Access & Distribution System (VADS)
- Helpdesk
- Directory Services

Emergency Preparedness and Public Health Support Team

- Countermeasure Tracking System (CTS)
 - Countermeasure Response and Administration (CRA)
 - Inventory Management and Tracking System (IMATS)
 - Countermeasure Inventory Tracking (CIT)
- Laboratory Response Network (LRN) Data Exchange
 - LRN Results Messenger
 - LRN Results Viewer
 - LIMS Integration

Epi Info™ Team

- Epi Info™ for Windows
- Epi Info™ for Mobile
- Epi Info™ for Web & Cloud
- Viral Hemorrhagic Fever (VHF) Application



What does ISB do for NSSP?

- SAS Support
 - SAS User Administration
 - SAS System Configuration
- Infrastructure Support/Management
 - Server Maintenance
 - Backups
 - Patches
 - Optimization
 - Configuring new servers
 - Retiring old servers
 - System performance
- Software Development
 - AMC tool



What does ISB do for NSSP? (cont.)

- Security
 - Ensures that the platform C&A is current
 - Properly documents all changes to the platform via change requests or updated system documentation
- Investment Management
 - Monthly Cost and Scheduling
 - Stage gate reviews
 - Annual Operational Readiness Review
- Help Desk Support
 - Monitor JIRA request to ensure that they are responded to in a timely manner, per the contracts statement of work



Surveillance and Data Branch

David Walker, MPH, BA
Branch Chief



Mission

SDB serves public health data needs by defining and implementing notifiable disease surveillance data collection; by providing data technical expertise in the acquisition, management, and analysis of notifiable disease and health services-generated data; and by supporting the dissemination of CDC-sourced surveillance and related data to federal, state, and local public health and the general public.

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



SDB Organizational Chart

Branch OD

David Walker, Branch Chief
Calvin Tubbs, Acting Deputy Chief
Tara Strine, *Data Science Advisor*
Cary Cox (CTR), *Executive Assistant*
Mary Catherine Bertulfo, *Mgmt Fellow*

Surveillance Operations Team

Ruth Ann Jajosky, *Team Lead*

Delicia Carey
Sundak Ganesan
Bill Morell
Kim Thomas
Loretta Foster
Melinda Thomas
Tony Winters

Data Processing Team

Sigrid Economou, *Acting Team Lead*

Deborah Adams
Willie Anderson
Diana Onweh
Bill Parks
Mark Puckett
Alan Schley
Pearl Sharp

Analytic Data Management Team

Roseanne English, *Team Lead*

Paul McMuray
Niketia Womak
Shayne Gallaway
Girum Ejigu
Jamie Smimble

Data Analytics Team

Achintya Dey, *Acting Team Lead*

Peter Hicks
Hong Zhou
Jenny Couse
Nimi Idaikkdar
Aaron Kite-Powell
Matt Miller

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Surveillance Operations Team

- NNDSS Message Mapping Guide development
- CDC NNDSS program coordination
- NNDSS state implementation
- MMWR Infectious and Non-Infectious Disease Summary coordination

Data Processing Team

- NETSS and NEDSS data receipt
- MMWR Weekly and Annual summary reports
- NNDSS data set provision
- WONDER hosting and technical support
- Data.Gov support

Analytic Data Management Team

- BioSense Platform data workflow redesign and implementation
- NSSP data quality assurance and analysis technical support services
- Data hub analytic technical support
- Consultation to state/local and CDC programs on data utilization

Data Analytics Team

- NSSP standard report production oversight
- NSSP situation awareness report production
- NSSP analytical support to CDC programs and state/locals
- Analytic consultation on non-syndromic use of NSSP data sources



What does SDB do for NSSP?

- Message Mapping Guide Development and Implementation
 - Syndromic Surveillance guide development and documentation
 - Coordination with CDC and NIST standards vetting entities
- Analytic data management
 - BioSense Platform data processing workflow technical guidance
 - Facility tables management and technical support
 - Data stewardship for federal and federally-acquired data sources



What does SDB do for NSSP? (cont.)

- Operational data analysis
 - Data quality assurance processes and report development
 - Aberration detection algorithm guidance and technical support
 - BioSense Platform system quality assurance
 - Data access administration
- Surveillance data analysis
 - Syndrome binning algorithm development and technical support
 - National and regional monitoring and situation awareness reporting
 - Jurisdiction event-specific surveillance technical assistance
 - Study-specific technical assistance



Partnership and Evaluation Branch

Violanda Grigorescu, MD, MSPH
Branch Chief

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Mission

Enhance stakeholders' capacity and public health evidence-based decision making through technical assistance and expertise on evaluation and epidemiology, with a focus on NSSP, NNDSS, and Data Hub

Goals:

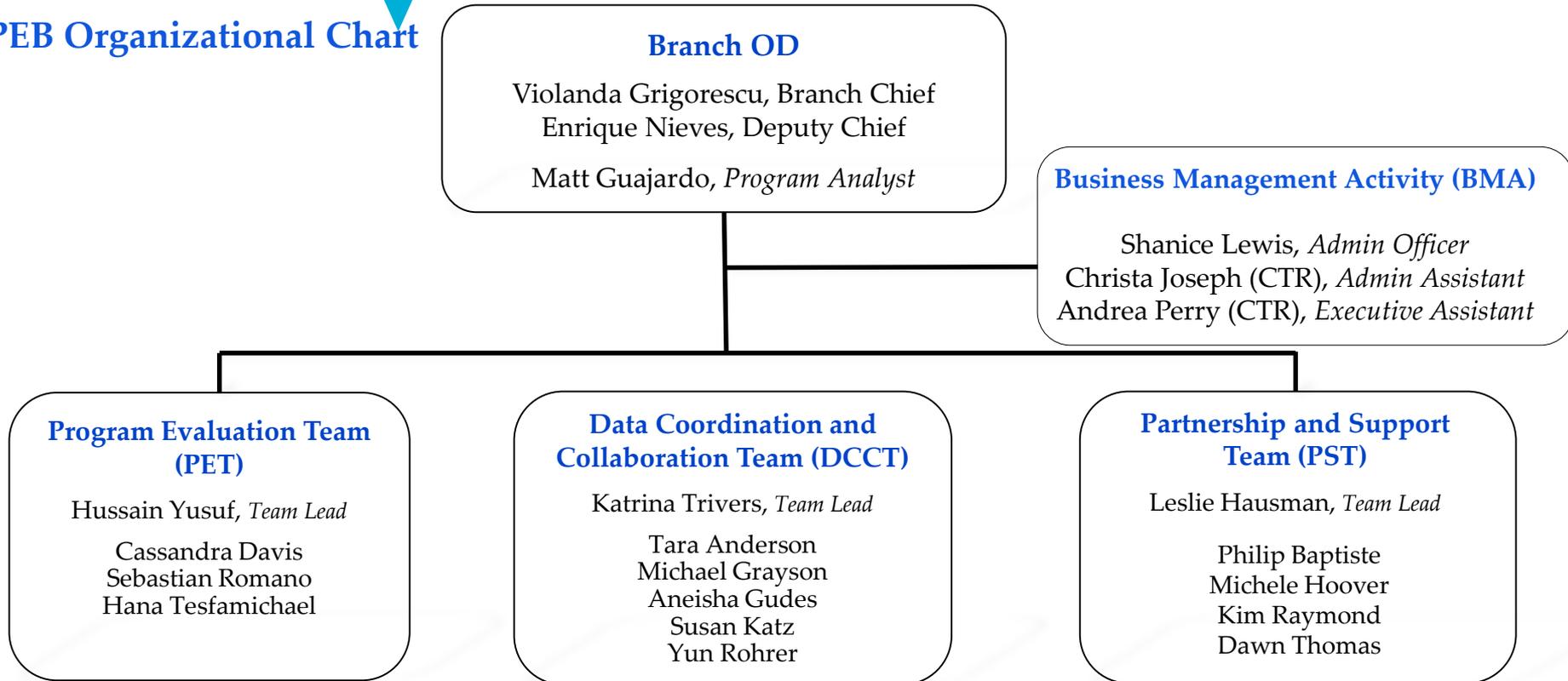
1. To enhance timely and active participation in national programs by providing technical assistance to state and local government agencies, and engaging with different stakeholders and community partners
2. To increase program performance and effectiveness by providing evaluation expertise and implementing evaluation projects/activities
3. To enhance the access to and use of different acquired data sources through science-driven coordination and collaboration
4. To increase the number of collaborative projects across teams within and outside PEB through epidemiology/science-driven partnership and coordination

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



PEB Organizational Chart



Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Program Evaluation Team (PET)

Provides evaluation expertise and support to:

- Nssp
- NNDSS
- Data Hub

Develops and analyzes evaluation performance metrics in collaboration with Nssp grantees

Develops and conducts special analytical projects to inform programs and strengthen the evaluation efforts

Responds to any evaluation-related requests

Data Coordination and Collaboration Team (DCCT)

Coordinates the collaboration with partner agencies to acquire, grant access to, and monitor the use of external data within CDC

Manages interagency agreements (IAAs) with partner agencies (CMS, AHRQ, AHA and Truven Health Analytics)

Coordinates the training for HCUP, CMS, and MarketScan provided in collaboration with partner agencies

Enhances knowledge sharing through webinars, fact sheets, and reports

Assesses users' needs and satisfaction through annual assessments

Partnership and Support Team (PST)

Manages Cooperative Agreements, including 31 with Nssp grantees

Provides guidance and technical assistance (TA) to:

- 31 Nssp grantees
- All jurisdictions implementing case notification messages (NNDSS)

Monitors Epidemiology and Laboratory Capacity, Electronic Laboratory Reporting Health Information System (ELC/ELR HIS) Cooperative Agreement

- Develops protocols and conducts site visits to monitor ELR HIS



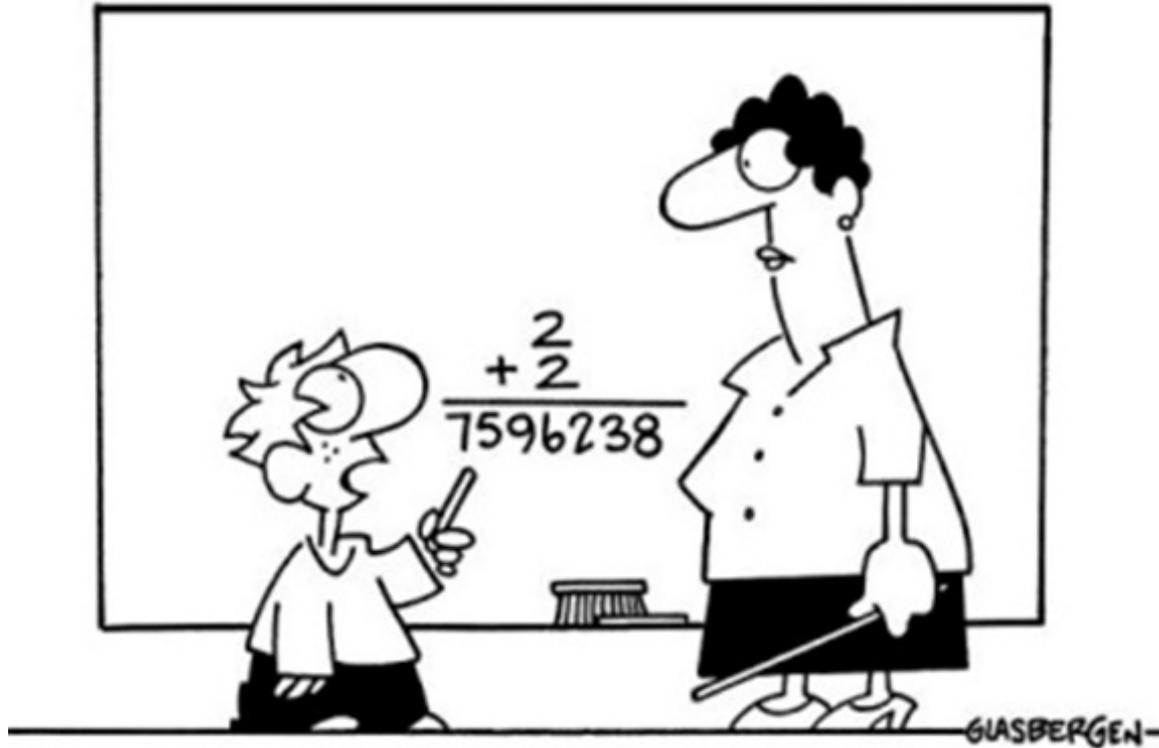
What does PEB do for NSSP?

- Manages Cooperative Agreements with 31 NSSP grantees
 - Working with Grants Management Officers/Specialists (GMO/GMS) to plan, award, and manage the cooperative agreements
- Provides Technical Assistance (TA) to 31 NSSP grantees
 - Monthly calls with grantees and quarterly regional calls
 - Site visit scheduled as needed
 - Collaboration and coordination with NSSP Team and Analytic and Data Management Team
 - Planning for the annual grantee meeting

What does PEB do for NSSP? (cont.)

- Provides evaluation expertise and support to NSSP grantees and non-grantees
 - Development and review of evaluation plans and performance metrics
 - User Acceptance Testing of BioSense Platform tools
 - Development of tools to strengthen and inform evaluation processes
 - Development of a cross-collaborative workgroup to provide data, tools, and other processes to support programmatic activities

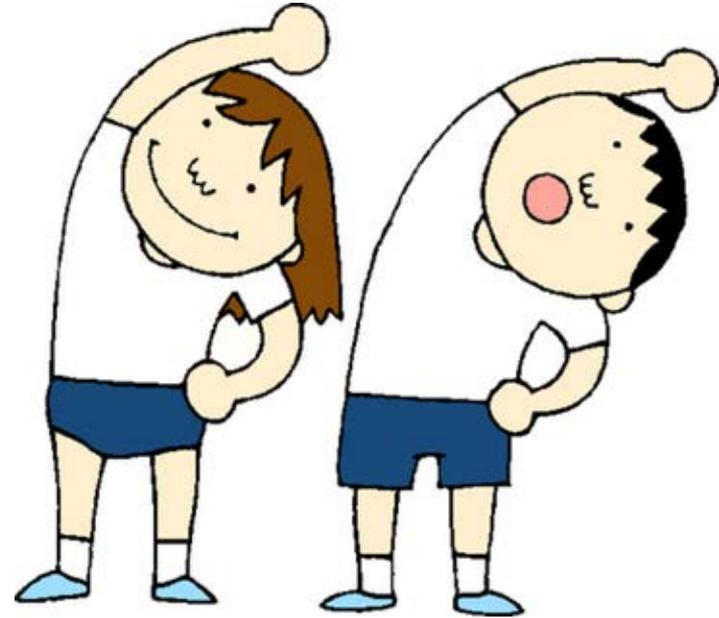
- Analytical projects by using different data sources
 - American Hospital Association (AHA) Annual Survey
 - Trends in hospital characteristics including MU and ED visits (fact sheets)
 - Truven Health Analytics MarketScan[®] Databases—health-insurance claims data for over 150 million unique patients since 1995 that can be also used for longitudinal studies
 - Assess major types of acute care health visits and differences in the distribution of selected characteristics (presentation at PHI)



**“In an increasingly complex world, sometimes old questions
require new answers.”**

Break

10:00 – 10:15 AM





10:15 – 11:30 AM

NSSP Success Stories from the Field Panel

Moderator: Michele Hoover, MS; Public Health Advisor

Presenters:

1/ Midwest: Marion County

2/ West Region: Nevada

3/ North East Region: Massachusetts and New York

4/ South Region: Alabama



11-30 – 11:40 AM

Overview of the Roundtables Session

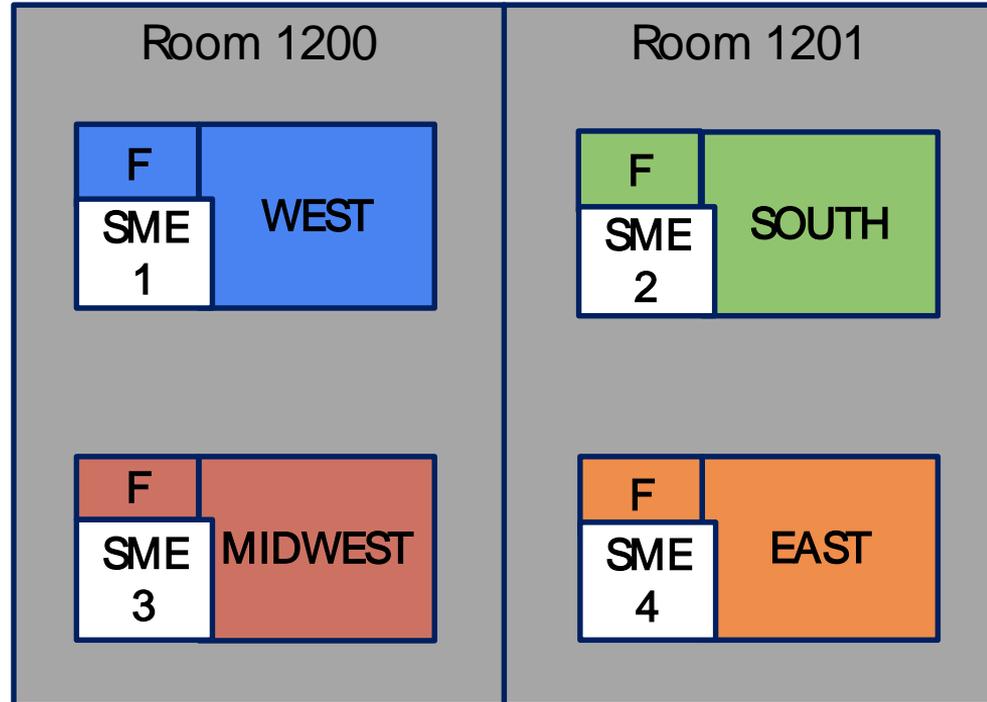
Sebastian Romano, MPH

Program Evaluation Team

Partnership and Evaluation Branch

Roundtables Session

- Four regions
- Four facilitators
- Four discussion topics
- Four sets of SMEs who will rotate to each table
- 30 minutes per topic with a break halfway through





Representativeness and Recruitment

- What are the best strategies to improve representativeness in syndromic surveillance data?
- What challenges have you faced in improving representativeness within your jurisdiction?
- What are the aspects of representativeness that we aren't currently thinking about?
- How can jurisdictions engage with their state's hospital association to enhance representativeness?

Data Quality and Data Flow

- What are the best strategies to improve data quality and flow in syndromic surveillance data?
- What challenges have you faced in improving data quality and flow within your jurisdiction?
- What are the aspects of data quality and flow that we aren't currently thinking about?
- What are strategies to consider for addressing those aspects of data quality and flow?



Strengthening Syndromic Surveillance

- What is the current state of syndromic surveillance capacity and practice in your jurisdiction?
- What does it take to build jurisdictional capacity in syndromic surveillance?
- What resources are currently available that serve as sources of information on syndromic surveillance?
- How can grantees build support in or engage with their state health departments to enhance syndromic surveillance practice?

Meaningful Use and Healthcare Transformation

- What is the state of meaningful use implementation in your jurisdiction?
- How does meaningful use implementation affect syndromic surveillance practice and implementation in your jurisdiction?
- What practice and policy changes are occurring due to healthcare transformations in your jurisdiction that can influence syndromic surveillance practice?
- What strategies can be used to facilitate stronger syndromic surveillance practice in this rapidly changing environment?



Before you go...

- **Roundtable session starts promptly at 1:00!**
- Region tables will be divided in rooms 1200 AND 1201
- Please note that in your welcome folder you have information on lunch options



11:40 AM – 1:00 PM Lunch (on your own)

1:00 – 3:15 PM

Roundtables Session - Rooms 1200-1201

Table 1: West Region – Room 1200

(AK, AZ, ID, NM, NV, OR, UT, WA)

Table 2: Midwest Region – Room 1200

(IL, KS, MI, MO, ND, NE, OH, Marion Co IN, Denver/Tri-County)

Table 3: South Region – Room 1201

(AL, FL, GA, LA, Tarrant Co TX, TN, VA, WV)

Table 4: East Region – Room 1201

(CT, MA, ME, NH, NJ, NY)



Round 1:

West Region – Representativeness and Recruitment

- What are the best strategies to improve representativeness in syndromic surveillance data?
- What challenges have you faced in improving representativeness within your jurisdiction?

Midwest Region – Data Quality and Data Flow

- What are the aspects of data quality and flow that we aren't currently thinking about?
- What may be strategies to consider for addressing those aspects of data quality and flow?

South Region – Strengthening Syndromic Surveillance

- What resources are currently available that serve as sources of information on syndromic surveillance?
- How can grantees build support in or engage with their state health departments to enhance syndromic surveillance practice?

East Region – Meaningful Use and Healthcare Transformation

- What is the state of meaningful use implementation in your jurisdiction?
- How does meaningful use implementation affect syndromic surveillance practice and implementation in your jurisdiction?



Round 2:

West Region – Data Quality and Data Flow

- What are the aspects of data quality and flow that we aren't currently thinking about?
- What may be strategies to consider for addressing those aspects of data quality and flow?

Midwest Region – Representativeness and Recruitment

- What are the best strategies to improve representativeness in syndromic surveillance data?
- What challenges have you faced in improving representativeness within your jurisdiction?

South Region – Meaningful Use and Healthcare Transformation

- What is the state of meaningful use implementation in your jurisdiction?
- How does meaningful use implementation affect syndromic surveillance practice and implementation in your jurisdiction?

East Region – Strengthening Syndromic Surveillance

- What resources are currently available that serve as sources of information on syndromic surveillance?
- How can grantees build support in or engage with their state health departments to enhance syndromic surveillance practice?



Round 3:

West Region – Strengthening Syndromic Surveillance

- What is the current state of syndromic surveillance capacity and practice in your jurisdiction?
- What does it take to build jurisdictional capacity in syndromic surveillance?

Midwest Region – Meaningful Use and Healthcare Transformation

- What practice and policy changes are occurring due to healthcare transformations in your jurisdiction that can influence syndromic surveillance practice?
- What strategies can be used to facilitate stronger syndromic surveillance practice in this rapidly changing environment?

South Region – Representativeness and Recruitment

- What are the aspects of representativeness that we aren't currently thinking about?
- How can jurisdictions engage with their state's hospital association to enhance representativeness?

East Region – Data Quality and Data Flow

- What are the best strategies to improve data quality and flow in syndromic surveillance data?
- What challenges have you faced in improving data quality and flow within your jurisdiction?



Round 4:

West Region – Meaningful Use and Healthcare Transformation

- What practice and policy changes are occurring due to healthcare transformations in your jurisdiction that can influence syndromic surveillance practice?
- What strategies can be used to facilitate stronger syndromic surveillance practice in this rapidly changing environment?

Midwest Region – Strengthening Syndromic Surveillance

- What is the current state of syndromic surveillance capacity and practice in your jurisdiction?
- What does it take to build jurisdictional capacity in syndromic surveillance?

South Region – Data Quality and Data Flow

- What are the best strategies to improve data quality and flow in syndromic surveillance data?
- What challenges have you faced in improving data quality and flow within your jurisdiction?

East Region – Representativeness and Recruitment

- What are the aspects of representativeness that we aren't currently thinking about?
- How can jurisdictions engage with their state's hospital association to enhance representativeness?



3:15 – 5:00 PM: Consultation Sessions I

- Project Officer 1:1 (by appointment)
 - Philip Baptiste (Room 1200-1201)
 - Kim Raymond (Room 1200-1201)
 - Dawn Thomas (Room 1200-1201)
- ESSENCE Q&A
 - Aaron Kite-Powell (Room 3029)
- Data Flow Q&A
 - Roseanne English, Paul McCreary, Shayne Gallaway, Niketta Womack (Room 3218)
- Onboarding Q&A
 - Travis Mayo, Corey Cooper, and Farah Naz (Room 4223)
- Evaluation Q&A
 - Hussain Yusuf, Cassandra Davis, Sebastian Romano (Room 4029)



5:00 – 5:30 PM: Zika Roundtable Discussion

Location: Room 1200-1201

Moderator: Florida Department of Health:
Janet Hamilton, David Atrubin, Allison Culpepper

5:30

Adjourn for Day 2



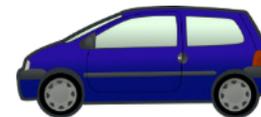
6:30-8:30 **Group Dinner at Violette's**

2948 Clairmont Rd
Atlanta, GA 30329

Transportation provided.

Pick up locations/time:

- Marriott - Hotel shuttle/6:00 PM
- 2500 Century Blvd - Van and cars/6:00 PM



2016 NSSSP Grantee Meeting

Wednesday, May 18, 2016



8:00 – 9:00 Networking (Rooms 1200-1201)

8:00 – 9:00 Consultation Sessions II

- ESSENCE Q&A
Aaron Kite-Powell (Room 3029)
- Data Flow Q&A
Roseanne English, Paul McCreary, Shayne Gallaway, Niketta Womack (Room 3218)
- Onboarding Q&A
Travis Mayo, Corey Cooper, and Farah Naz (Room 5029)



9:00 AM – 10:30 AM

Performance Measurement and Evaluation

Moderator: Hussain Yusuf MD, MPH

Team Lead, Program Evaluation Team

Presenter: Cassandra Davis, MPH

Program Evaluation Team



Evaluation and Performance Measurement Activities

Hussain Yusuf, MD, MPH
Team Lead, Program Evaluation Team



“Evaluation is the systematic investigation of the merit, worth, or significance of an object, hence assigning “value” to a program’s efforts means addressing those three interrelated domains”

Ref Sources: Scriven M. *American Journal of Evaluation*, 1998;
CDC: www.cdc.gov/eval/framework/index.com



Purpose of evaluation

Outlined in the FOA

- Monitor the extent to which activities planned were successfully completed
- Demonstrate how activities contribute toward program outcomes
- Inform decisions about future programming that drive continuous program improvement for more efficient and effective program performance



Evaluation and Performance Measurement Strategy

Focusing on both process and outcomes

- Process measures (e.g., recruitment plan, trainings)
- Outcome measures:
 - Short-term outcomes: e.g., increased number of facilities sending data, increased representativeness of data, improved data quality, improved syndromic surveillance
 - Mid-term outcomes: e.g., improved syndromic surveillance, use cases, data sharing, monitoring and identification of syndromes, reports and presentations, community of practice activities
 - Long-term outcomes (e.g., enhanced situational awareness)



Program Evaluation Team Activities to Support Evaluation and Performance Measurement

- Assisting with development of evaluation and performance measurement plans
 - Identifying performance measures
- Developing measurement and evaluation processes
 - Assisting with evaluation and performance measurement plan implementation and updating considerations and questions
 - Assisting with other performance measurement and evaluation activities during the project period when applicable



Update on Performance Measurement

Cassandra Davis, MPH
Program Evaluation Team



Objectives

1. Provide information about the definitions of the current performance measures in the FOA
2. Provide information on how performance measures will be used for continuous program improvement
3. Discuss avenues for continued feedback



Performance Measurement

- Ensures the program is operating as intended
 - Program data is collected continuously
- Allows for planning to modify programs or processes
- Establishes benchmarks to measure progress



Evaluation and Performance Measurement Plans

- Identify evaluation and performance measurement to improve program effectiveness
- Align to the priorities of NSSP
- Focused on both process and outcome

These are the key attributes of performance measurement

Performance Measures for Program Improvement

- Used for management support and technical assistance
 - Develop a common set of measures and definitions
 - Consider developing targets and goals
 - Collaboration and partnership will help achieve this

Annual Progress Reports Analysis

- Across the 17 grantees, all have a recruitment plan

Performance Measure	Mean	Range	Quartile 1 (25%)	Quartile 2 (50%)	Quartile 3 (75%)	Quartile 4 (100%)
# of facilities* with EDs identified	101	0-239	44 (5 out of 17 grantees)	94 (4 out of 17 grantees)	128 (4 out of 17 grantees)	239 (4 out of 17 grantees)
# of facilities with EDs sending data	58	0-187	16 (6 out of 17 grantees)	19 (3 out of 17 grantees)	95 (4 out of 17 grantees)	187 (4 out of 17 grantees)
Percentage of facilities with EDs sending data	49%	0-100%	18% (4 out of 17 grantees)	53% (5 out of 17 grantees)	76% (4 out of 17 grantees)	100% (4 out of 17 grantees)

*Facilities refers to hospitals with emergency departments

Annual Progress Reports Analysis

Performance Measure	N	Mean	Range
# state or local users registered to access data	17	13	0-68
# of staff participating in NSSP CoP projects	16	3	0-12
# of staff participating in trainings	14	1	0-6
# of staff participating in webinars	16	1	0-9
# of staff participating in conferences	17	1	0-7



What does all this mean?

- Hospitals are being identified, but challenges may exist to getting facilities to send data to the platform
- Broad range of users registered on the platform and participating in professional development activities
- Reporting approaches and formats varied



Performance Measures

Focus Area: Representativeness

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Measure	Denominator	Numerator	Data Source
Proportion of all hospital EDs that submitted ED data to the BioSense Platform	Sum of the number of hospitals that reported having one or more ED visits (or that AHA estimated for non-reporting hospitals)	Sum of hospitals with EDs sending data to the BioSense Platform of hospitals reporting having one or more ED visits	Denominators are based on the most recent AHA database. Numerators are from jurisdiction provided input and onboarding records.
Proportion of total ED visits where ED data were submitted to the BioSense Platform	Sum of visits reported to AHA or estimated by AHA for hospitals that reported having an ED visit that year for that jurisdiction	Sum for each jurisdiction of total number of hospital ED visits in the AHA database for hospitals that are both 1) on the master facilities tables and 2) in the AHA database.	Denominators are from the most recent AHA database. Numerators from jurisdiction provided input and onboarding records.



Performance Measures

Focus Area: Data Quality

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Measure	Denominator	Numerator	Data Source
Proportion of ED records with missing fields in data fields	Sum of visits for a given time period for the hospital EDs that are in production and submitting data to the platform.	For all data elements in stage 1, numerators are column specific and reflect the sum of visits that were missing data for that specific data element	BioSense Platform stage 1 data elements at the "raw" level
Proportion of ED records with invalid values in data fields	Sum of records for each jurisdiction for a given time period for hospital EDs that are onboarded and submitting data to the platform	Sum of records failing data processing validation	BioSense Platform Orphans and Exceptions tables
Proportion of records available in the front-end application of the BioSense Platform within less than 48 hours after patient admission to the ED	Sum of records from all facilities for each site for a given time period for the hospital EDs that are onboarded and submitting data to the platform	Sum of records for each jurisdiction that were less than 48 hours from the calculation (Create_Date_Time minus Earliest_Date_Time)	BioSense Platform



Performance Measures

Focus Area: Syndromic Surveillance Practice

Measure

of syndromic surveillance stakeholders participating in grantee jurisdictional workgroup

Jurisdictional workgroup plan with annual measurable objectives that align to NSSP priorities

of grantee staff participating in NSSP CoP projects

of grantee staff who engaged in peer-to-peer mentoring

Description of syndromic surveillance trainings grantee staff attended

Participation in annual grantee meeting



Performance Measures

Focus Area: Outcome Measures

Center for Surveillance, Epidemiology, and Laboratory Services

Division of Health Informatics and Surveillance



Measure

of use cases for syndromic surveillance

of distinct public health events/mass gatherings/etc. where data were shared with local/regional partners or with CDC

of ED hospitals/urgent care facilities that have achieved Meaningful Use Stage 2 compliance for syndromic surveillance

List of syndromic surveillance reports or publications

List of syndromic surveillance presentations

Syndromic surveillance success stories

Other Measures

Measure	Addition/ Deletion or Replace
Proportion of records available in the front-end application of the BioSense Platform within 24 hours of patient admission to the ED	Replace
Proportion of ED visit data that meet quality criteria defined by the NSSP work group*	Deletion
Number of grantee staff participating in NSSP professional development activities	Addition



Feedback Process

- Call for volunteers to provide continuous feedback on performance measures
- Discuss the frequency and format of interaction
- Engage the community at large after agreement
- Identify ways CDC can better support evaluation and performance measurement activities



Next Steps

- Support grantees discussion on ways to strengthen or modify the measures
- Breakout discussions will be divided into 4 groups based on performance measure area
- Use the grantee performance measures matrix as discussion point
- Identify ways to strengthen performance measures:
 - **How to best align measures to activities and outcomes**
 - **How to ensure performance measures and evaluation best guide project success**

9:30 – 10:00 AM

Breakout Discussions: Enhancing Performance Measurement and Evaluation Activities

Data Quality, Timeliness, and Utility

Table 1: West

(AK, AZ, ID, NM, NV, OR, UT, WA)

Facilitator: Philip Baptiste

Subject Matter Experts: Sebastian Romano, Shayne Gallaway, Roseanne English

Representativeness

Table 2: Midwest

(IL, KS, MI, MO, ND, NE, OH, Marion Co IN, Denver/Tri-County)

Facilitator: Dawn Thomas

Subject Matter Experts: Cassandra Davis, Niketta Womack, Roseanne English

Syndromic Surveillance Practice

Table 3: South

(AL, FL, GA, LA, Tarrant Co TX, TN, VA, WV)

Facilitator: Kim Raymond

Subject Matter Experts: Hussain Yusuf, Virolanda Virolanda Grigorescu

Outcome Measures

Table 4: East

(CT, MA, ME, NH, NJ, NY)

Facilitator: Leslie Hausman

Subject Matter Experts: Farah Naz, Achintya Dey

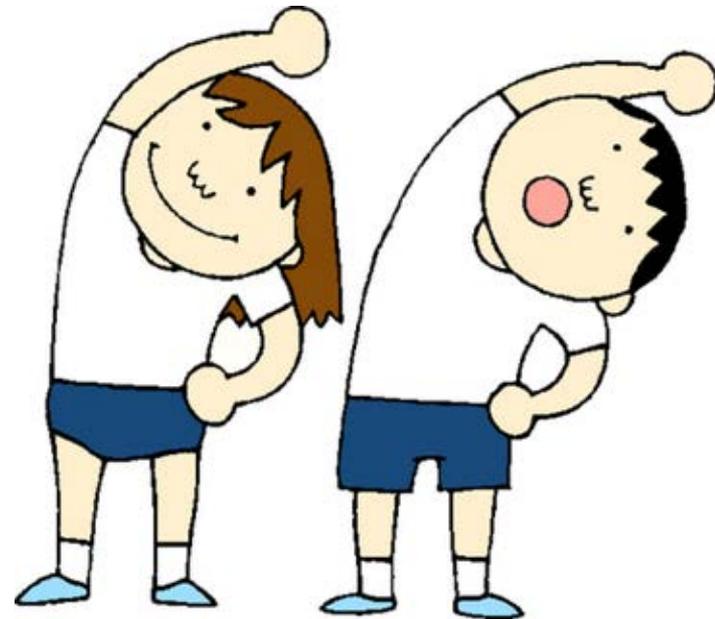


10:00 – 10:30 AM

**BREAKOUT DISCUSSIONS
REPORT OUT**

Break

10:30 – 10:45 AM





10:45 – 11:45 AM Partnership Discussion

**Moderator: Leslie Hausman, MPH, RN;
Team Lead, Partnership and Support Team**

Presenters:

**Stacey Hoferka, IL (Governance Group) and
Michael Coletta (CDC NSSP Manager)**

Closing Remarks

Violanda Grigorescu, MD, MSPH

Branch Chief, Partnership and Evaluation Branch





Enhancing syndromic surveillance capacity and practice

Key to Success:

- *Collaborate*: Trust, Respect, Partnership
- *Share and Learn*
- *Participate* in Joint Decisions
- *Consult* on Data Use and Exchanges





11:50 - 12:30 Consultation Sessions III

- Project Officer 1:1 (by appointment)
 - Philip Baptiste (Room 1200-1201)
 - Kim Raymond (Room 1200-1201)
 - Dawn Thomas (Room 1200-1201)

- ESSENCE Q&A
 - Aaron Kite-Powell (Room 3029)

- Data Flow Q&A
 - Roseanne English, Paul McCreary, Shayne Gallaway, Niketta Womack (Room 3218)

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 - Travis Mayo, Corey Cooper, and Farah Naz (Room 5029)

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 - Hussain Yusuf, Cassandra Davis, Sebastian Romano (Room 4029)



NSSP@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

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.

