Local Health Department
Access to the National Healthcare Safety Network

January 23, 2018
Learning Objectives

• Describe the National Healthcare Safety Network (NHSN), its functions, and uses

• Identify upcoming changes to data use agreements and how these changes could impact access to NHSN data

• Explain how two local health departments gained access to NHSN data, lessons learned, strategies for success, and current and future uses for the data.

• Explore how other local health departments may use NHSN data for prevention
Polling Questions
Lauren Wattenmaker, MPH
Team Lead, NHSN Policy and Operations, Surveillance Branch, DHQP, NCEZID, CDC
Objectives

- Describe the National Healthcare Safety Network (NHSN), its functions, and uses
- Identify upcoming changes to data use agreements and how these changes could impact access to NHSN data
A Brief History of CDC’s Role in Disease Surveillance and Healthcare Surveillance

• Malaria, in 1950, became the first disease that CDC – then the Communicable Disease Center – brought under national surveillance
• By 1970, CDC had worked with state and local health departments to establish surveillance of nearly 30 communicable diseases, with approximately 60 diseases added since then
• CDC’s first system for surveillance of healthcare-associated infections (HAIs) was launched in 1970, when hospitals began reporting to the National Nosocomial Infection Surveillance (NNIS) system
• In 2005, CDC replaced the NNIS system with the National Healthcare Safety Network (NHSN), a healthcare surveillance system in which approximately 21,000 U.S. healthcare facilities currently participate
CDC’s NHSN –
A Web-Based Healthcare Surveillance System

Healthcare facilities: (1) Join NHSN, (2) complete an annual survey of their care capacities, (3) submit process and outcome data manually or electronically to one or more NHSN components, and (4) use their own data and NHSN benchmarks for analysis and action.

CDC: Collects, analyzes, summarizes, and provides data on healthcare-associated infections (HAIs), other adverse healthcare events, antimicrobial use and resistance, adherence to prevention practices, and use of antimicrobial stewardship programs.
A CDC Surveillance System With Multiple Users and Uses

**Facilities:** Use NHSN’s tools to analyze their own data, compare their summary statistics to national benchmarks, and apply their analyses to prevention efforts and antimicrobial stewardship

**CDC:** Uses healthcare-associated infection (HAI), antimicrobial use, and related data for surveillance and prevention purposes

**Centers for Medicare and Medicaid Services (CMS):** Uses facility-level, healthcare quality measure data in its public reporting and payment programs

**36 states and Washington, DC:** Require facilities to report to NHSN; most state and local agencies publicly disclose facility-specific data and use the data in prevention programs
The HAIs Reported to NHSN Account for Substantial Morbidity and Mortality

- Central line associated bloodstream infections (CLABSIs)
- Ventilator associated events (VAEs)
- *Clostridium difficile* laboratory identified events
- Surgical site infections (SSIs)
- Bacteremia in dialysis patients
- Catheter associated urinary tract infections (CAUTIs)
NHSN Protocol and Data Collection Form
HAI Data Submitted to NHSN are Entered into a CDC Database and Are Available for Immediate Analysis by NHSN Users
CDC HAI-AR Programs in States

- All 50 state health departments, 6 local health departments and Puerto Rico using HAI/AR programs to detect, respond and prevent to HAI/AR threats across healthcare settings

- State HAI/AR programs play an important role to facilitate public health and healthcare partnerships to ensure the successful prevention of infections
Public Reporting of HAI Data in Tennessee

### Figure 11: CLABSI Standardized Infection Ratio (SIR) for Adult and Pediatric Intensive Care Units in Acute Care Facilities, Tennessee, 01/01/2014 - 12/31/2014

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<tr>
<th>Facility Name</th>
<th>N</th>
<th>OBS</th>
<th>PRED</th>
<th>CLD</th>
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<td>Cumberland Medical Center**</td>
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<td>6</td>
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<td>0.4</td>
<td>255</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**Sig. low  **| **No difference** | **Sig. high** | **N/A SIR**
California’s Interactive HAI Map – 2015 data

My Hospital’s Infections

Search Hospital Name or City

San Francisco Bay Area
Los Angeles Area

LEGEND
Hospital infection rates for CDI, CLABSI, MRSA, VRE, and SSI are compared with the U.S. national average (Baseline) rates. Hospital VRE SSI rates are compared with California average rates.

LOWER infection rate than other similar hospitals
SAME infection rate as other similar hospitals
HIGHER infection rate than other similar hospitals
Not enough data for comparison

Altata Bates Summit Medical Center - Alta Bates Campus
2450 Ashby Avenue, Berkeley

CLABSI
Targeted Assessment for Prevention (TAP) Strategy

Target → Assess → Prevent

- Target facilities/units with high burden/excess of HAIs
- Assess gaps in infection prevention in targeted facilities/units
- Prevent infections by implementing interventions to address the gaps

A linear progression framework for quality improvement

http://cdc.gov/hai/prevent/tap.html
NHSN AND HEALTH DEPARTMENTS

- Since 2006, CDC has enabled state health departments in states with mandatory HAI reporting requirements to gain access to mandatorily reported data in their jurisdiction.
  - To date, 36 states, Philadelphia and Washington D.C. use NHSN for that purpose.

- Since 2011, States that do not have a mandate for HAI reporting, or that seek to complement their mandate with additional data, can also access data in NHSN by entering into a Data Use Agreement (DUA) with CDC and using the NHSN group function.
  - To date, CDC has a DUA with ten states.
THE DATA USE AGREEMENT (DUA)

Stipulates the data will be used solely for surveillance and prevention purposes and not for public reporting of facility-specific data or any regulatory or punitive actions against facilities, such as a fine or licensure action.
Extension of Data Access to Local Health Departments

- Currently there are several large local health departments that receive Epidemiology Laboratory Capacity (ELC) funding from CDC.
- NHSN access will greatly benefit Health Department efforts to track and manage ELC activities at the state and local level.
- Health Departments will better be able to assess the gaps in infection prevention using TAP reports:
  - Identify locations to target using the TAP Report.
  - Aim to capture awareness and perceptions among facility staff and healthcare personnel related to prevention policies and practices.
  - Assess potential gaps in infection control using the Facility Assessment Tools.
Leveraging DUAs for More Access

- The DUA can provide health departments with access to data that currently are outside the scope of most state and federal reporting mandates, such as Antimicrobial Use and Resistance data.
- CDC currently has DUAs with 10 state health departments, each of which is accessing NHSN data that are across various settings, and we welcome the opportunity to engage more states, localities, and territories in the DUA process.
- We expect that these changes will yield benefits for all parties to DUAs, and we will gladly discuss health department recommendations as we continue to develop our work-in-progress updates to the forms and processes.
Health Department Access to NHSN Data

- NHSN data access will be extended to local and territorial health departments for surveillance and prevention purposes – as is currently done for state health departments – via data use agreements.
- CDC will provide to state, local, or territorial health departments facility-level information to facilitate HAI prevention efforts.
- During outbreak investigations, CDC will provide state, local, or territorial health departments with facility-level data to assist case-finding or outbreak control. This does not replace the requirement for facilities to adhere to local and state public health reporting requirements including reporting outbreaks to public health authorities as mandated.

These new purposes of NHSN are part of the updated Consent, which should be accepted by all facilities by April 14, 2018.
What information can be shared with health departments for HAI prevention activities?

- NHSN data that identify facilities within a health department’s jurisdiction that would benefit most from HAI prevention initiatives.
  - i.e., specific facilities to target for prevention activities
- CDC can provide these additional data to requesting health departments regardless of their existing access to NHSN data.
- These new provisions are designed to extend NHSN data access to new public health users and uses, which broadens NHSN’s capacity and services, enables analysis and action at all geographic levels, and enhances the system’s value for HAI prevention and response.
What information can be made available to health departments during outbreaks?

- CDC can provide patient-level and facility-level data to assist in an outbreak response.
- Data from the Patient Safety Component that can be shared include:
  - Names of facilities within their jurisdiction with similar organisms or clusters (e.g., case finding)
  - Baseline rates for problem of interest within the jurisdiction
  - Standardized infection ratios (SIRs) for other HAIs at the outbreak facility (currently limited to C. difficile, CLABSI and CAUTI)
  - Requests for other data will be considered on a case by case basis
What does a health department need to do to receive this information?

1) Contact HAloutbreak@cdc.gov to communicate details of the situation/investigation and provide an outline of the information requested

2) Demonstrate that the information is being requested in support of an acute active public health response (i.e., outbreak)

3) Indicate how the data will provide actionable information that will assist in the response

4) Describe any relevant NHSN data access that is currently available via DUA, state or local reporting mandate, and/or voluntary NHSN group
CDC Reminds Health Departments...

- Requests for NHSN data outside of the health department’s jurisdiction will require consultation with CDC and the other health department(s) before data can be shared due to privacy requirements CDC must adhere.
- Delays in reporting to NHSN (up to 6 months) limit the utility of NHSN for case finding.
- CDC encourages health departments to use the NHSN data and tools that are already accessible to them via DUAs, state or local reporting mandates, and/or voluntary NHSN groups.
  - CDC can provide consultation to assist with these analyses.
How to Engage with CDC Regarding DUAs?

- Review the DUA template
  - [https://www.cdc.gov/hai/state-resources/dua-announcement.html](https://www.cdc.gov/hai/state-resources/dua-announcement.html)

- Contact the Division of Healthcare Quality Promotion (DHQP)
  - HAIAR@cdc.gov
Additional Information for Health Departments

- NHSN Consent information: [https://www.cdc.gov/nhsn/about-nhsn/technology.html](https://www.cdc.gov/nhsn/about-nhsn/technology.html)
- DUA Frequently Asked Questions: [https://www.cdc.gov/hai/state-resources/dua-faq.html](https://www.cdc.gov/hai/state-resources/dua-faq.html)
- Email: NHSNDUA@cdc.gov
The Los Angeles County NHSN Group Experience

Kelsey OYong
HAI Coordinator

Sandeep Bhaurla
Antimicrobial Resistance Epidemiologist

Los Angeles County Department of Public Health
LAC DPH Timeline

2003
Los Angeles County (LAC) Healthcare Outreach Unit created to assist in HAI prevention and emergency preparedness for ~100 LAC hospitals

2011
LAC NHSN group created

2017
LAC NHSN CRE group created
General process for obtaining NHSN data in LA County

1. Mandate through state legislation or local order
2. External partner nominates group
3. Create group
4. Inform facilities via letter, communication
5. Follow up with late adopters
California State mandate

- CA Senate Bill (SB) 739 (2006) required California Department of Public Health (CDPH) to develop a plan to obtain and analyze healthcare-associated infections (HAI) data
- CA SB 1058 (2008) required general acute care hospitals (ACHs) to report the following HAIs to CDPH via NHSN:
  - SSI
  - CLABSI
  - MRSA BSI
  - CDI
  - VRE
Informing hospitals, part 1

- April 2010: sent letter to all ACHs requesting voluntary conferral of rights of the same data being submitted to CDPH
  - Included steps to enroll in LAC PH group
  - Sent to CEO, QA director, ICC chair, IP

The Los Angeles County (LAC) Department of Public Health Acute Communicable Disease Control Program is asking you to confer rights to the National Healthcare Safety Network (NHSN) group – LA County Public Health. Conferring rights to the LAC group will allow the LA County Public Health group administrator to view healthcare associated infection (HAI) data that was reported to the state and provide assistance with NHSN reporting issues if needed.

General acute care hospitals are mandated by California Senate Bills 739 and 1058 to report HAIs. Each hospital must enroll with the Centers for Disease Control and Prevention NHSN, join the California Department of Public Health (CDPH) NHSN group, and confer rights to CDPH.

Joining the LAC NHSN group is voluntary; however we would like to have all LAC acute care facilities participate in order to characterize hospital associated infections. Please note that conferring rights to this group will not permit other facilities within the group to view your data. Only the group administrator of the LA County Public Health group may see the member facilities’ data.
Informing hospitals, part 2

- September 2010: similar letter sent to hospital NHSN administrator
- Clarified the following:

Recent state legislation requires you to share hospital associated infection data with the California Department of Public Health (CDPH) via the National Healthcare Safety Network (NHSN). We at the Los Angeles County (LAC) Department of Public Health Acute Communicable Disease Control Program are requesting access to the same data via our NHSN group - called “LA County Public Health.” Conferring rights to this group will allow the group administrator to view the data and provide assistance with NHSN reporting issues if needed. Giving LAC direct access to your NHSN data will allow us to assess local trends in a more timely manner, which can be essential to decrease the effects of disease.

Please note that joining and conferring rights to this group will not permit other facilities within the group to view your data. Only the group administrator may see the member facilities data. Data entered into NHSN will be aggregated when analyzed, and we will never publicly identify individual facilities. Furthermore, CDPH is solely responsible for public reporting of individual facility information.

At this time, joining our group is voluntary; however, we would like to have all LAC acute care facilities participate in order that we may perform a complete analysis of hospital associated infection trends.
Carbapenem-Resistant Enterobacteriaceae Surveillance

- CRE made reportable for all ACHs (including long-term acute care) and skilled nursing facilities in 2017

January 19, 2017

TO: All Acute Care Hospitals and Skilled Nursing Facilities in Los Angeles County

FROM: Jeffrey D. Gunzenhauser, M.D., M.P.H.
Interim Health Officer

RE: Health Officer Order for Reporting of Carbapenem-Resistant Enterobacteriaceae and Antimicrobial Resistance

Antimicrobial resistance, including carbapenem-resistant Enterobacteriaceae (CRE), is a growing public health problem. In order to better understand the magnitude of the problem and identify areas for public health intervention, I am issuing this Health Officer Order mandating that all acute care hospitals and skilled nursing facilities report clinical laboratory CRE-positive tests isolated from any specimen source to the Los Angeles County Department of Public Health (LAC DPH). In addition, I am requiring acute care hospitals, and skilled nursing facilities that generate an antibiogram, to provide LAC DPH the most recent antibiogram each year.
Why CRE via NHSN

• LabID Event reporting tracks positive laboratory results without clinical assessment
  – Much less labor-intensive method

• All hospitals are already enrolled in NHSN and reporting LabID events
  – More and more SNFs enrolling as well

• Reduced DPH data entry burden
Helping Facilities Get Ready

• Provided instructions on how to:
  – Join new LA County NHSN CRE Group
  – Confer rights
  – Add CRE to their monthly reporting plan
  – Create custom fields
  – Enter CRE events into NHSN

• Also conducted 2 live webinars, with time for Q&A
  – Compiled questions into FAQs document
CRE Website

- Link to website: [http://publichealth.lacounty.gov/acd/Diseases/CRE.htm](http://publichealth.lacounty.gov/acd/Diseases/CRE.htm)

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**CRE Frequently Asked Questions (FAQ)**  [English](#)  [Spanish](#)

- Health Officer Order for Reporting Carbapenem-Resistant Enterobacteriaceae (CRE) and Antimicrobial Resistance (1-19-17)

- Instructions for Complying with CRE Reporting Requirements

- Frequently Asked Questions (FAQ) about Reporting CRE

**CRE Case Report Form**

**Reporting Instruction Webinars**

- 2017 LACDPH CRE and AR Health Officer Order Webinar
  - Webinar Slides
  - Streaming Recording
  - Download Recording

For questions, please email us at hai@ph.lacounty.gov
Considerations

• To collect all data we deemed necessary, we had to create custom fields
  – Order and label are important
• New group was created for CRE surveillance rather than add to existing group
  – Patient identifiers for CRE only
• Group must be nominated by external partner
  – Encourages buy-in from area hospitals
• Support from state health department is crucial
• Reaching out to hospital CEO/CMO was effective
How we’ve used NHSN data

• 2011: conducted LAC Group validation
• 2012: provided quarterly HAI updates in ACDC internal reports
• 2016: disseminated 1st regional NHSN summary
• Outbreak response
• HAI cluster detection (NHSN data in SaTScan)
• Targeted interventions
  – CDI Collaborative recruitment
  – Healthcare personnel influenza vaccination improvement project
  – Antimicrobial resistance & stewardship assistance
NHSN Snapshots

• Annual review of NHSN data with each hospital
CDI Collaborative recruitment

You are being invited to participate in this CDI collaborative because 2014 data, reported through the National Healthcare Safety Network (NHSN), indicates your hospital has not met the 2013 national HAI reduction goals for CDI. The table below indicates the cumulative attributable difference (CAD), which is the number of infections that must be prevented within your facility to achieve the national standardized infection ratio (SIR) goal.
Cluster detection using NHSN data

**Hospital A, ICU**
Cluster Dates: 05/01/2017 - 06/30/2017
Cases Observed in Cluster=7 Expected=3 (p=0.019)

*CDI: Clostridium difficile infections
This report is preliminary data gathered from the National Healthcare Safety Network (NHSN) that is limited and meant for internal use only.*
Healthcare personnel influenza vaccination improvement project

Healthcare Personnel Influenza Vaccination Coverage by Hospital and Influenza Season

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Contact us at:

Kelsey OYong koyong@ph.lacounty.gov
Sandeep Bhaurla, sbhaurla@ph.lacounty.gov
National Healthcare Safety Network (NHSN) Data Access and Use, City of Philadelphia

January 23, 2018
Tiina Peritz, RN, BSN, MS
Phillip Hahn, MPH, CPH
Objectives

• Describe process for gaining access to NHSN data
• Describe current and future uses of NHSN data
Gaining Access to NHSN Data

TIINA PERITZ
Pursuing NHSN Access

- ELC funding for Hemodialysis Bloodstream Infection (BSI) Prevention Project
  - Request to voluntarily share NHSN data became a barrier for facility enrollment

- Initiated local legislative approach to gain access to NHSN data

Drafted “NHSN Reporting Amendment” Fall 2015
Approved by the Philadelphia Board of Health September 2016
Legislation in effect October 2016
Facility Enrollment - Option 1: Direct Outreach by PDPH

• Facilities need to join PDPH NHSN group in order to share data
  • Previously voluntary enrollment for hemodialysis facilities

• Targeting individual facilities reporting to NHSN
  • Facility identification
  • Points-of-contact in the facility
  • Communications
  • Follow up

• Possibly a long and labor-intensive process!!
Facility Enrollment - Option 2: NHSN Super Group

- Local legislation requiring NHSN data sharing enabled CDC to share data directly with PDPH
  - Data use agreements with CDC limited to state health departments due to NHSN User Agreement language

- PDPH NHSN Super Group established in April 2017
  - All Philadelphia facilities added by CDC
  - Notifications to facilities by email and within NHSN
  - Facilities required to accept enrollment
  - Data immediately available
Data Requested from Facilities

- Data to be requested needs to be specified by “defining templates” in NHSN
- Ideally completed prior to facility enrollment
- PDPH templates defined to include all data reported by Philadelphia facilities
  - All five NHSN components
  - All facility types
  - Unlimited time range
  - Unit level data
  - Patient identifiers
  - No identifiers for HCW data
Using NHSN Data

PHILLIP HAHN
Data for Presentations, Projects, and Publications

- City-wide data that individual facilities have never seen
- Easy to match data visualization strategies to what facilities are used to

### Philadelphia Healthcare Worker Influenza Vaccination Compliance, 2016-2017 Flu Season

<table>
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<tr>
<th>Facility Type</th>
<th>Mean % of Healthcare Workers Vaccinated</th>
<th>Range of Healthcare Worker Vaccination</th>
<th>Comparison to the Healthy People 2020 Goal (90%)</th>
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</thead>
<tbody>
<tr>
<td>Acute Care Hospitals (adults)</td>
<td>92.9%</td>
<td>77-99%</td>
<td>★ Better</td>
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<tr>
<td>Ambulatory Surgical Centers</td>
<td>78.5%</td>
<td>35-100%</td>
<td>× Worse</td>
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<tr>
<td>Hemodialysis Facilities</td>
<td>82.7%</td>
<td>58-100%</td>
<td>× Worse</td>
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<tr>
<td>Long Term Acute Care Hospitals</td>
<td>73.3%</td>
<td>46-97%</td>
<td>× Worse (SIR = 1)</td>
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<tr>
<td>Oncology Hospitals</td>
<td>91.0%</td>
<td>90-92%</td>
<td>★ Better</td>
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<tr>
<td>Pediatric Hospitals</td>
<td>97.0%</td>
<td>94-99%</td>
<td>★ Better</td>
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<td>Psychiatric Hospitals</td>
<td>70.0%</td>
<td>49-100%</td>
<td>× Worse</td>
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*Facility types with only one facility reporting were suppressed
**Based on annual NHSN Healthcare Personnel Safety module
Identifying Facilities with Highest Infection Rates

- Standardized Infection Ratio (SIR)
- CDC’s Targeted Assessment for Prevention (TAP) Strategy
  - Running TAP Reports in NHSN that rank facilities (and units) based on the highest burden of excess infections

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<thead>
<tr>
<th>Facility Rank</th>
<th>Facility Org ID</th>
<th>Facility Name</th>
<th>State</th>
<th>Type of Affiliation</th>
<th>Number of Beds</th>
<th>Location (LC)</th>
<th>Events (LC)</th>
<th>Device Days (LC)</th>
<th>DUR % (LC)</th>
<th>CAD (LC)</th>
<th>SIR (LC)</th>
<th>SIR Test</th>
<th>ICU No. Pathogens (EC,YS,PA,KS,PM,ES)</th>
<th>Ward+ No. Pathogens (EC,YS,PA,KS,PM,ES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12382</td>
<td></td>
<td>PA</td>
<td>M</td>
<td>740</td>
<td>23 (6, 17)</td>
<td>114 (72, 42)</td>
<td>50546 (20914, 20120)</td>
<td>22 (63, 13)</td>
<td>42.8 (25.6, 17.1)</td>
<td>1.2 (1.2, 1.3)</td>
<td>73 (25, 0, 9, 1, 4, 7)</td>
<td>47 (19, 0, 0, 1, 5, 4)</td>
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<tr>
<td>2</td>
<td>10219</td>
<td></td>
<td>PA</td>
<td>M</td>
<td>730</td>
<td>26 (5, 21)</td>
<td>102 (71, 31)</td>
<td>62751 (34869, 27862)</td>
<td>16 (55, 9)</td>
<td>30.3 (24.9, 5.4)</td>
<td>1.1 (1.2, 1.0)</td>
<td>76 (21, 0, 9, 16, 4, 7)</td>
<td>31 (11, 0, 4, 9, 1, 5)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11508</td>
<td></td>
<td>PA</td>
<td>M</td>
<td>760</td>
<td>44 (11, 33)</td>
<td>118 (63, 50)</td>
<td>68038 (31047, 36961)</td>
<td>22 (60, 14)</td>
<td>26.5 (17, 12.5)</td>
<td>1 (1, 1)</td>
<td>65 (30, 0, 10, 7, 2, 10)</td>
<td>51 (15, 0, 12, 2, 4, 4)</td>
<td></td>
</tr>
</tbody>
</table>
Target Facilities with Highest Infection Rates for Follow Up

• Infection Control Assessment and Response (ICAR) Assessments
• TAP Assessments
• In-services for healthcare facilities
• PDPH resource prioritization
Supplement Other Data Sources

• Combining NHSN data with other surveillance or programmatic data can answer questions that otherwise could not be answered

• Simple process to extract line lists and frequency tables to make datasets

• Example
  • *Impact of an Infection Control Assessment and Response Visit on Dialysis Event Rates*
    • NHSN → monthly dialysis event counts; patient-months
    • PDPH → ICAR data (date, company of facility, reason for assessment, etc.)
Future Plans for NHSN

- Healthcare-associated Infections & Antimicrobial Resistance newsletter to disseminate to regional healthcare providers and public health officials
- Guiding HAI/AR Collaborative Advisory Group priorities, topics, and projects
- Facility-specific updates based on various metrics devised from NHSN data
Thank you!

• Questions??

Tiina Peritz, Tiina.Peritz@phila.gov

Phillip Hahn, Phillip.Hahn@phila.gov
Thank you!

To ask the presenters a question, please type it into the Q&A box.

You will receive an evaluation following this webinar to help shape and improve future content.
For other information, feedback, or questions visit www.naccho.org or email infectiousdiseases@naccho.org