NHSN
National Healthcare
Safety Network

The Centers for Disease Control and Prevention (CDC)

NHSN e-News

ARRA CDC Funding

Healthcare-Associated Infections CDC Funding

Your state health department wants your help!

In September 2009 the CDC distributed $40 million to state health departments to help prevent healthcare-associated infections (HAIs). Funded by the American Recovery and Reinvestment Act (ARRA), the money was distributed through cooperative agreements to 49 states, Washington, D.C., and Puerto Rico to maximize prevention efforts such as:

- Creating or expanding state and local efforts to implement recommendations in the U.S. Department of Health and Human Services HAI Action Plan (http://www.hhs.gov/ophs/initiatives/hai/infection.html)

- Increasing health care facilities' and health departments' use of CDC's National Healthcare Safety Network (NHSN), a surveillance system that allows HAI data to be tracked, analyzed, and compared for prevention efforts

- Hiring and training public health staff to promote and lead HAI prevention initiatives

- Complementing HAI investments from other HHS agencies

We strongly encourage you to participate in your state's efforts to prevent HAIs. You may find state-specific contact information, as well as information about the HAI activities that are being conducted in your state at http://www.cdc.gov/HAI/recoveryact/map.html.

Emerging Infection Program Sites Expand Their Work in HAIs

Emerging Infections Programs (EIPs) are located in 10 state health departments. Their collaborators include local health departments, academic institutions, other federal agencies, and public health and clinical laboratories, infection preventionists, and healthcare providers. Proposed EIP HAI activities comprise an expansion of NHSN surveillance, a national prevalence survey of HAIs, and active laboratory-based surveillance for multi-drug resistant gram negative organisms. If your facility is in California, Colorado, Connecticut, Georgia, Maryland, Minnesota, New Mexico, New York, Oregon, or Tennessee, and you would like more information about EIP HAI activities, please contact Laura McAllister (Lmcallister@cdc.gov).

For more information about CDC's HAI Recovery Act funding, go to http://www.cdc.gov/HAI/recoveryact/.

Release of Biovigilance Component for Transfusion-associated Adverse Events

The Biovigilance Component is open for enrollment! The Hemovigilance Module is the first release of the new Biovigilance Component of NHSN. Biovigilance is the collection and analysis of adverse event data for the purpose of improving outcomes in the use of blood products, organs, tissues, and cellular therapies.

The Hemovigilance Module is designed for staff in healthcare facility transfusion services departments to monitor adverse events, including recipient adverse reactions and quality control inci-

Inside this issue:

Highlighted Special Points of Interest!

Release of New Healthcare Personnel Safety Module

Nearly 9 million healthcare personnel (HCP) are at risk of acquiring infections from occupational exposures in the United States. Risks include bloodborne (e.g., hepatitis B and C viruses, human immunodeficiency virus) and respiratory (e.g., influenza, tuberculosis) pathogens. Although recommendations, guidelines, and regulations to minimize exposure to such hazards have been developed, compliance has been difficult to measure.

In late August 2009, NHSN launched the Healthcare Personnel Safety component to replace its predecessor system, the National Surveillance System for Health Care Workers (NaSH), which was retired in 2007. The HPS component allows participating facilities to enter data about individual occupational blood/body fluid exposure events and exposure management (e.g., exposure circumstances, use of safety devices, postexposure prophylaxis, and laboratory test results). The module for bloodborne pathogen exposures allows facilities to also generate their OSHA-300 logs.

For seasonal influenza immunization uptake, facilities may enter data on acceptance/declination of and adverse reactions to vaccination, as well as medications used for prophylaxis/treatment and adverse reactions to such medications. Through an annual survey, baseline data are collected including use of safety devices, implemented strategies to increase immunization, and denominator data regarding the numbers of healthcare personnel stratified by occupational group. Training materials are available online to assist facilities and institutions with successful enrollment in and implementation of this new surveillance system for healthcare personnel. Data are available for users to generate their own line lists, or rates of activity, and compare performance with aggregated national data.

At the national level, the NHSN HPS component will aid in monitoring rates and trends, identifying emerging hazards for HCP, assessing risk of occupational infection, and evaluating preventive measures, including engineering controls, work practices, protective equipment, postexposure prophylaxis, and immunization uptake strategies.

For further enrollment and training information on the NHSN HPS component, go to www.cdc.gov/nhsn/hps.html or contact NHSN@cdc.gov.

"Risks include bloodborne (e.g., hepatitis B and C viruses, human immunodeficiency virus) and respiratory (e.g., influenza, tuberculosis) pathogens."

...Biovigilance Component

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dents, related to blood transfusion. Please share this information with your transfusion services staff and refer them to the NHSN web site for further information: http://www.cdc.gov/nhsn/bio.html.

The component went live on February, 9, 2010. Facilities are able to enter hemovigilance data back dated to January 2010, once enrollment is complete.

NHSN Announcements

Fifth Decennial Conference

The 5th Decennial International Conference on Healthcare-associated Infections, co-sponsored by the Centers for Disease Control and Prevention, Society for Healthcare Epidemiologists of America, Association for Professionals in Infection Control and Epidemiology, and the Infectious Disease Society of America, was held March 18-22, 2010, at the Hyatt Regency in Atlanta, Georgia. Numerous abstracts utilizing data collected through NHSN were presented at the meeting. To see how your work is making a contribution to the knowledge base of infection control and prevention, please visit the following link http://www.decennial2010.com/.

As always, the NHSN team thanks you for your continued efforts to make NHSN a high-quality surveillance system and infection prevention tool.

Join CDC to Prevent Infections in Hemodialysis

CDC invites you to join its Infection Prevention Collaborative aimed at prevention of bloodstream infections (BSIs) in hemodialysis patients.

The prevention collaborative is open to freestanding and hospital-based outpatient dialysis facilities throughout the United States. Participating facilities measure BSIs using the dialysis event module in NHSN, and are creating an implementation "bundle" of evidence-based practices to prevent these devastating infections.

During this collaborative effort, participants have an opportunity to share best practices and interact regularly with national dialysis and BSI experts. Participants have access to intervention implementation tools, educational materials, and forums to discuss dialysis infection control issues, and are given dialysis event data reports that include facility-specific and aggregate collaborative rates to facilitate benchmarking and evaluation of interventions.

Facilities that are participating in NHSN, particularly those already reporting to the dialysis event module, are encouraged to be part of this novel initiative to prevent BSIs in this important patient population.

To learn more, email the NHSN mailbox at nhsn@cdc.gov or Dr. Priti Patel at pgp0@cdc.gov.

Updates to NHSN Application

The NHSN Manual and documents have been modified to reflect recent changes to processes and procedures made in the NHSN application.

	Manual and Document Updates
Manual Chapter:	
4 CLABSI	Central line-associated bloodstream infection (CLABSI) As of January 1, 2010, Clinical Sepsis (CSEP) is no longer an NHSN Specific Event for BSI. The CLABSI chapter (4) of the NHSN Manual has been revised. However, Chapter 17, CDC/NHSN Surveillance Definitions of Healthcare-Associated Infection and Criteria for Specific Types of Infection in the Acute Care Settings, has not yet been updated and published in AJIC. Therefore, please disregard the information included on page 316 regarding CSEP, and do not report such events in NHSN. The definitions will be updated with the next publication.
5 CLIP	Central Line Insertion Practices (CLIP) Table 3 in the Tables of Instructions, Instructions for Completion of CLIP form has been updated to reflect this. The CLIP data collection form has been updated to include "Other" as a skin prep option.
7 CAUTI	Catheter-associated Urinary Tract Infection (CAUTI) Table 5 in the Tables of Instructions, Instructions for Completion of UTI form has been updated to state, "For SUTI with secondary BSI and ABUTI, report only isolates from both blood and urine specimens."
9 SSI	Surgical Site Infection (SSI) Updated the NHSN Operative Procedure Codes (February 2010). See details under web site updates below.
11 AUR	Antimicrobial Use and Resistance (AUR) Options: The AUR options are currently undergoing revision, and no AUR data may be entered. NHSN users will be notified when the options are operational again.
12 MDRO/CDAD	Multidrug-resistant Organism (MDRO) and *Clostridium difficile*-associated Disease (CDAD) Module We have updated the details regarding calculation of Location Percent Admission Prevalence that is Community Onset: • Clarifies CDI Surveillance not to be done in Well Baby Nurseries, Well Baby Clinics nor NICUs. • Added further details for MDRO calculations: MDRO, BSI Admission Prevalence Rate; MDRO, BSI Incidence or Incidence Density Rate • Added overall facility–wide blood specimens only surveillance option • Clarifies specimens collected for AST should not be reported in Lab ID Event
Documents:	

NHSN Operative Procedure Categories (February 2010) Updates	**AVSD:** Added 39.53 Repair of arteriovenous fistula
	BILI: Added 50.14 Laparoscopic liver biopsy
	FUSN: Removed 81.61 Non existent code
	                  Removed 84.51 Insertion of interbody spinal fusion device (represents a secondary code)
	PACE: Added 17.51 Implantation of rechargeable cardiac contractibility modulation (CCM) system
	                  Added 17.52 Implantation replacement CCM rechargeable pulse generator only

NHSN Variable List (February 2010)	This reference list of variable names used within NHSN and their meanings has been expanded. For example, adminDate YQ= Administered year/quarter.
MDRO/CDAD Module Lab ID Event Specimen Source Codes (January 2010)	Newly added document on the Resource Library Page in the NHSN codes and variables section which lists the new specimen source codes used in LabIDevent reporting as well as the old codes. Check this out if participating in Lab ID Event option of the MDRO/CDAD module.

Spotlight on the NHSN Application Development Contractor

Since 2003, CDC's Division of Healthcare Quality Promotion (DHQP) has contracted with Science Applications International Corporation (SAIC) to lead the NHSN application development efforts. Key SAIC personnel on this contract are Paula Mossaides, project manager; David McClanahan, lead developer; and Lane Chambers, lead for the eSurveillance hospital pilot. SAIC team members include business analysts, Java programmers, testers, data base programmers, SAS programmers, and Clinical Document Architecture (CDA) and Health Level Seven (HL7) experts.

The SAIC IT team:

- evaluates CDC system requirements,

- develops a plan for approaching new features,

- estimates the work effort involved,

- schedules the changes after gaining agreement with CDC on what is to be done,

- develops the code and Web pages to make that happen, and finally

- assists with testing and deployment of the application.

Changes range from entirely new components for NHSN, such as the recently released Biovigilance component, to minor changes and correction of defects.

They also include new initiatives such as the CDA/HL7 v3 data import feature which facilitates the exchange of case reports from NHSN facilities to CDC. These features allow facilities to use commercially-available products like infection control software and laboratory information systems and then import data from that product into NHSN application, thus reducing or eliminating the need for data entry.

SAIC team members like the opportunity to contribute in a positive way to help improve healthcare. Though there are many stakeholders and reaching consensus on requirements can take a lot of time, they believe that the effort is well worth it. Over the years, the SAIC team has built close relationships with DHQP staff and the other contractors, and this facilitates a great sense of purpose and camaraderie.

The NHSN staff is aggressively looking to improve the user experience with upgraded technologies that will make it easier to provide users with what they need to assist CDC in improving healthcare delivery. With NHSN's huge growth over the last couple of years in particular, it has become both challenging and rewarding to improve the NHSN application.

Recently, the SAIC team has been working hard on improving the application (such as shortening page refresh times) and identifying ways to streamline user experience.

Pictured during a quarterly strategy meeting in Atlanta are from front left to right: Vineeta Jain, Mindy Durrance, Paula Mossaides, Bobbie Bridges, Shannon Joyce, Lanes Chambers, Silas Johnson, Teresa Petitt-Smith, Austin Kreisler, Romaine Tenney, Peter Cheung, David McClanahan, Charles Muhammad, and Joseph Esquibel. Not pictured is Margaret Marshburn.

NHSN Questions & Answers

Q: Are intraaortic balloon pumps (IABP) considered central lines?

A: No. Because IABPs are not generally used for infusion, blood withdrawal or for hemodynamic monitoring, they are not considered central lines.

Q: When might aggregate data applying the new CAUTI definitions be published?

A: CAUTI definitions were changed to revise SUTI criteria, remove ASB, and add ABUTI in January, 2009. Therefore sufficient data will need to be reported before rates will be meaningful and can be published. It is possible, but not certain, that sufficient data will be available for the NHSN Report to be published at the end of 2010. Stay tuned and thanks for continuing to enter your CAUTI data!

Q: Several of the IPs that I have networked with state that they consider a C-section a clean-contaminated wound class if the amniotic membranes were ruptured prior to surgery. Some actually go further and determine whether it would be a clean-contaminated or a contaminated wound based on how long the membranes were ruptured. In addition to that some also classify a C-section as clean wound if the membranes were not ruptured at all such as with a scheduled C-section. What would you recommend?

A: C-sections without any signs of infection are considered clean-contaminated operations. There are no parameters associated with length of membrane rupture before delivery to determine the wound class. Uneventful C-section in the case of prolonged membrane rupture would be a clean-contaminated surgical wound unless there was evidence of chorioamnionitis at the time of surgery; such a case would fall in the dirty/infected wound class.

Q: Can you suggest methods for a small hospital with fewer HAI events to analyze their HAI data in a meaningful way?

A: Facilities of all sizes contribute to the NHSN aggregate database. However, small denominators can be a challenge to making sense of HAI data. We suggest a few principles:

- Look at rates quarterly instead of monthly. This will enlarge your denominators and provide more meaningful data.

- Follow your rates over time. Internal comparisons are more important than external comparisons.

- Consider the use of a Standardized Infection Ratio (SIR), which compares the observed number of infections with the expected number, which can be derived from a reference (or standard) population's experience. This method accounts for differences in risk factors between the studied population (i.e., your hospital) and the standard population and is well suited for use by smaller hospitals. Currently, there are options in the NHSN analysis menu for SSI SIRs, and additional SIRs for device-associated infections will be added later this year.

Did You Know...?

1 Many of you have become aware of the intent of **NHSN to replace the digital certificate** with another means of user authentication. The projected time line for the transition is not yet finalized, but it seems likely that a phased approach will be used and will not begin before fourth quarter 2010. Therefore, you should not delay enrolling in NHSN or renewing a soon-to-expire digital certificate because of the pending new authentication process. Please check the Communications Updates section of the NHSN Web site for status reports on this topic.

2 Some users have been submitting questions related to NHSN to NHSN staff mailboxes directly. Unless otherwise directed, **please send all questions to** NHSN@cdc.gov. Sending your questions in this manner allows your question to be triaged to an available staff person and will result in a quicker response to you. We thank you for your assistance in this.

The National Healthcare Safety Network (NHSN) is a voluntary, secure, internet-based surveillance system that integrates patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion (DHQP) at CDC.

During 2008, enrollment in NHSN was opened to all types of healthcare facilities in the United States, including acute care hospitals, long term acute care hospitals, psychiatric hospitals, rehabilitation hospitals, outpatient dialysis centers, ambulatory surgery centers, and long term care facilities.