

HHS REPORT: Infection Prevention Professionals, Hospital Representatives Recommend Steps to Simplify and Streamline Federal HAI Tracking System

By Don Wright, M.D., Deputy Assistant Secretary for Healthcare Quality, U.S. Department of Health and Human Services

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Hospital infection prevention professionals and state hospital association representatives participated in regional meetings sponsored in Denver, Chicago, and Seattle last summer by the U.S. Department of Health and Human Services (HHS) and suggested ways that a leading federal system for tracking health care–associated infections (HAI) could be made easier for hospitals to use.

Participants included hospital quality leaders representing the Colorado, Illinois, Indiana, Minnesota, Tennessee, Washington, and California hospital associations, hospital infection preventionists, information technology specialists, and state and local public health professionals. At the meetings, participants asked about the system—the Centers for Disease Control and Prevention’s (CDC) National Healthcare Safety Network (NHSN)—and recommended steps to reduce data-collection burdens and to increase usefulness for hospital infection prevention and quality improvement programs. NHSN is a secure, Web-based tracking and prevention tool for hospitals and state health departments to submit specific HAI infections and procedural information.

I convened the regional meetings to get stakeholders’ input into the HHS Action Plan to Prevent Healthcare-Associated Infections, an initiative my office is leading, as well as to hear about their experiences so far with NHSN. The HHS Action Plan sets specific targets for monitoring and preventing HAIs nationally and is a blueprint for HAI prevention. (You can find it at <http://www.hhs.gov/ophs/initiatives/hai/infection.html>.) Leaders and staff from the Agency for Healthcare Research and Quality (AHRQ), CDC, Centers for Medicare and Medicaid Services (CMS), the National Institutes of Health (NIH), and the HHS Office of Public Health and Science joined me in presenting the Action Plan and responding to questions and concerns at these regional meetings.

I have seen great progress over the last year within HHS in developing and implementing this strategy and have seen this initiative gain momentum across the country. In October 2009, AHRQ awarded \$17 million to fund 14 projects to fight HAIs.

Of the \$17 million, \$8 million will fund a national expansion of the Keystone Project. Keystone originally started by the Johns Hopkins University in Baltimore and the Michigan Health & Hospital Association, used the comprehensive unit-based safety program (CUSP) to

- Educate staff on the science of safety training.
- Help staff identify defects based on unit reports, liability claims, and sentinel events via a survey.
- Facilitate improved communications by partnering a senior hospital executive partners with the unit staff.
- Educate staff about unit defects.
- Improve teamwork, communication, and other systems of work.

The rate of blood stream infections from intravenous lines was reduced by two-thirds within three months, and the average ICU decreased its infection rate from 4% to 0. Over 18 months, CUSP successfully reduced the rate of central line–associated bloodstream infections in more than 100 Michigan intensive care units and saved 1,500 lives and \$200 million.

To learn more about the CUSP program, go to <http://www.ahrq.gov/qual/haicusp.htm>. The funding will expand the effort to more hospitals, extend it to other settings in addition to ICUs, and broaden the focus to address other types of infections. (A complete list of the institutions funded by the \$17 million in AHRQ resources is available at <http://www.ahrq.gov/qual/haify09.htm>.) AHRQ also plans to support additional projects aimed at reducing HAIs in late 2010.

Reporting with NHSN: Solutions on the Horizon

In an effort to complement the use of these and other HHS funds, the Department intends to use data from NHSN to help monitor progress toward the Action Plan goals. The Action Plan is guided by the information gathered through NHSN.

Many states have passed laws requiring reporting of facility-specific HAI data to state health departments with public disclosure of infection rates. Twenty-seven states require hospitals to report HAI publicly and most use NHSN. Hospital enrollment in NHSN has increased dramatically in the past few years, from 300 to more than 2,600 hospitals in early 2010.

Daniel Pollock, MD, the Surveillance Branch Chief for CDC's Division of Healthcare Quality Promotion, and I reported on CDC's efforts to update NHSN and improve its ease of use. We acknowledged that participants had valid concerns about some HAI case criteria and data requirements. We emphasized that simplifying and streamlining the system and assuring sufficient technical capacity and user support are top priorities.

For example, in 2009 CDC introduced changes in data collection requirements for healthcare-associated urinary tract infections into the NHSN application and plans to change the protocol for pneumonia are under way. Also in 2009, CDC established an NHSN steering work group of subject matter experts, NHSN users and stakeholders, and information technology specialists to help guide simplification of the system and to make other changes that will make it easier to use. More NHSN staff members were recently hired to perform comprehensive assessments and upgrades of the system's technical infrastructure and usability and to provide additional user support for enrollment and training.

Participants at our regional meetings asked technical questions about NHSN and encouraged the CDC to find ways to simplify and streamline the system. Many raised questions about the NHSN enrollment process, specifically the requirement that users obtain and install a digital certificate—an electronic security credential that is a prerequisite for NHSN participation. In response, NHSN will begin migrating this fall to a new system of authenticating users that will simplify user requirements. The new system is called SAMS for Secure Access Management System. For systems like NHSN, SAMS means moving from digital certificates to passwords.

Among other technical problems, they cited difficulties logging onto the NHSN application during peak use times, such as in the middle of the work day, and slow system response times when entering or analyzing data. NHSN web pages are being re-architected to address this issue. The changes will increase speed and efficiency of users' interaction with the system. Additional enhancements will alleviate loss of data resulting from pages that had been slow to refresh or disappear altogether.

Others spoke about the difficulties they experienced in applying NHSN case criteria to pediatric patients for some HAIs, and the need to minimize data collection requirements as much as possible for specific types of infections. Many participants said hospital infection professionals face mounting NHSN data-reporting burdens, as the turnover rate in the field is increasing. This, in turn, limits the hospitals' ability to use NHSN infection data for HAI prevention and quality improvement activities.

Stakeholders also called for NHSN to make greater use of health care data in electronic form and apply information technology that can automate case detection and reporting. Some NHSN users also reported technical difficulties using an NHSN feature that enables electronic imports of surgical procedure data. Dr. Pollock emphasized that CDC is committed to accelerating the transition from manual to electronic case detection and reporting for NHSN and leveraging advances in health information technology as a primary strategy for enhancing NHSN's functionality and usability. As part of that effort, NHSN now is accepting electronic infection records submitted by hospitals that use commercial infection control surveillance systems. The system will accept bloodstream infection and surgical site infection records generated in a standard file format known as Clinical Document Architecture (CDA).

CDA is also being used to streamlining NHSN option for Central Line Insertion Practices (CLIP) data collection. Efforts are under way to streamline data requirements, improve the web interface, and enable electronic reporting of CLIP data. As part of the new work, NHSN staff plan to meet with electronic health record system vendors at the APIC national conference in New Orleans this July to provide technical assistance for vendors who plan to implement CDA solutions for reporting CLIP data to NHSN.

CDC continues to work closely with AHRQ, CMS, and the Office of the National Coordinator for Health Information Technology to coordinate efforts to integrate federal information systems that provide HAI data. That is part of our commitment here in Washington to support hospitals' efforts to reduce and eliminate HAIs and to make health care safer for patients and families.

For more information on NHSN, visit <http://www.cdc.gov/nhsn>.