

NHSN Members' Meeting

APIC 2010

New Orleans, LA

Monday July 12



Agenda

- Welcome Dan Pollock
- Migration from digital certificates to SAMS Dan Pollock
- Changes to confidentiality and data sharing policies in NHSN Dan Pollock
- Online training courses Teresa Horan
- Upcoming system changes Teresa Horan
- Criteria Changes- Limited to 2x/year Kathy Allen-Bridson
- NHSN Data Validation Projects Kathy Allen-Bridson
- PAICAP Grace Lee
- PNICE update Pat Stone



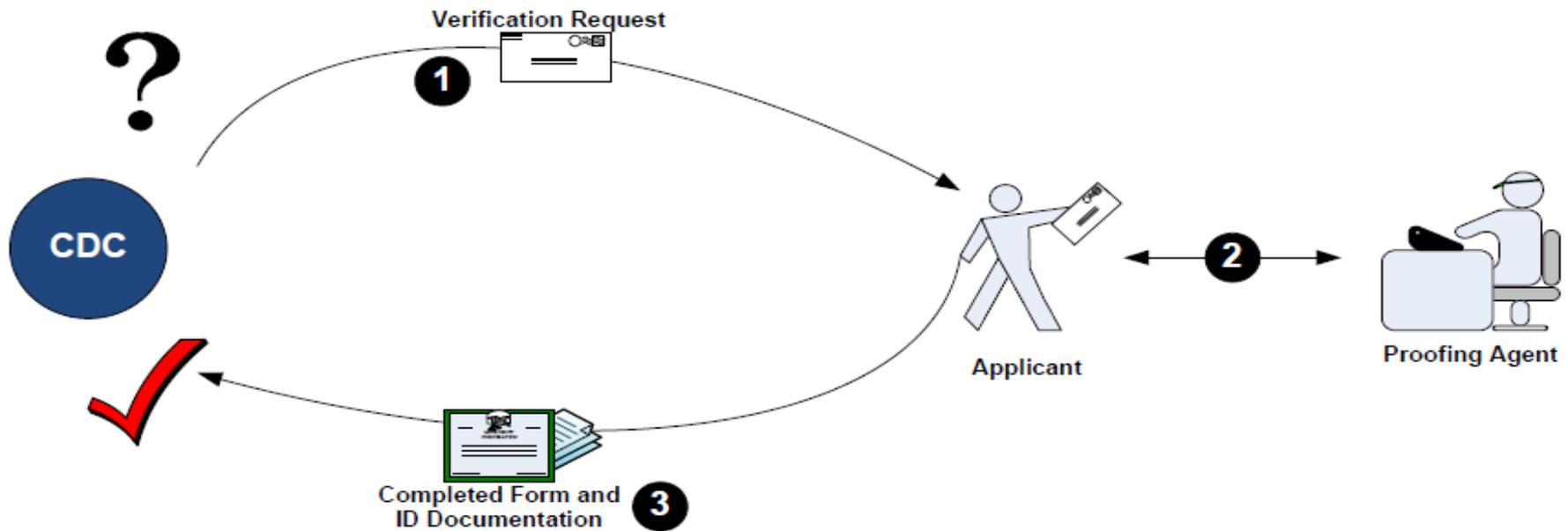
Migration from Digital Certificates to SAMS

The Secured Access Management System (SAMS) will be used to replace CDC's Secured Data Network (SDN). It is an ongoing effort to migrate from digital certificates to passwords; NHSN is the first to migrate.

- SAMS will:
 - Run in parallel with SDN, users can retain digital certificate in the event it is used for another program (e.g., Epi-X) however, NHSN Reporting will no longer appear
 - Require a transition period of a year, users will be migrated gradually starting Q4 2010
 - Provide self-service features e.g., password reset
 - Replace digital certificates for NHSN



Getting 'SAM-ified'



Obtaining a SAMS password will involve 3 major steps:

1. Receipt of invitation from NHSN program to register in the system
2. Completion of verification form (i.e., have it signed by notary)
3. Fax form back to CDC SAMS Help Desk and await final approval

Note: Only has to be done once, no yearly "reSAMification" required



SAMS Project Timeline

2010

2011

Q3-2010

Q4-2010

Q1-2011

Q2-2011

Preparation Phase

Migration Pilot Phase

Mass Migration Phase

- Assess & redesign processes
- Update documentation/training
- Complete development
- Undergo CDC security clearance

- 2 pilots: Alpha and Beta, respectively
- Alpha: internal CDC DHQP group
- Beta: external 5 facilities identified
- Provides immediate feedback
- Provides ability to refine process

- Mass migration of existing user base
- New facilities will go straight to SAMS
- Users will provide ongoing feedback



Changes to Confidentiality and Data Sharing Policies in NHSN

- NHSN launched as a voluntary system
- Rapid growth in enrollment due mostly to state HAI reporting mandates
- Many states want access to NHSN data even if HAI reporting is not mandatory
- CMS' proposed rule for HAI reporting would establish a de facto federal mandate
- Rapid evolution in NHSN's purposes necessitate changes in confidentiality and data sharing policies



Council of State and Territorial Epidemiologists (CSTE) Position Statement

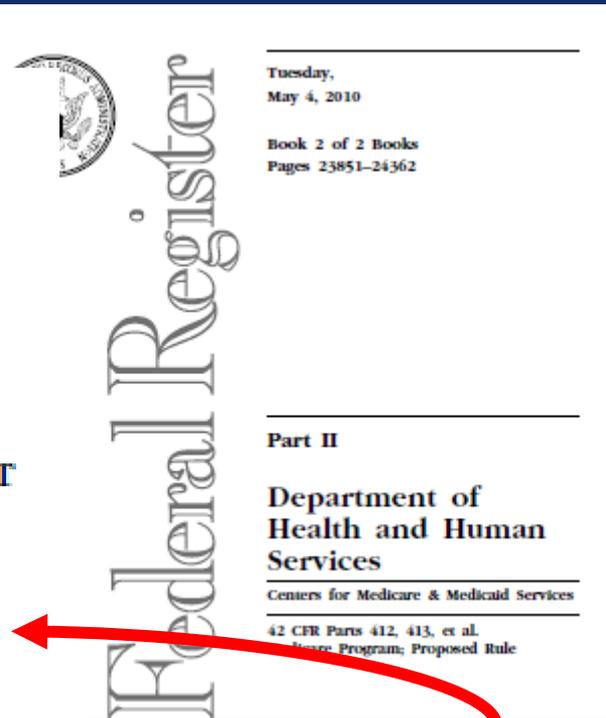
10-SI-05: Healthcare-Associated Infection Reporting

1. Access for each local, state, tribal, and territorial health dept., if requested, to open, immediate, and complete NHSN information collected in its jurisdiction
2. Model language for use in laws and/or rules to protect HAI data and practices/procedures to allow local, state, and territorial health dept. access to NHSN data
3. CDC, CSTE, and state, local, tribal, and territorial health officials should work to refine surveillance definitions, standardize methods, and ensure complete and accurate HAI reporting in a manner similar to nationally notifiable diseases



Proposed HAI reporting via NHSN to CMS

In the FY 2009 and FY 2010 IPPS rulemakings, we listed several Healthcare Associated Infection (HAI) measures as being under consideration for future adoption. Commenters to the FY 2010 IPPS/RY 2010 LTCH PPS proposed rule supported the HAI measures that were listed as being under consideration for the future and encouraged CMS to consider others as well (74 FR 43876). For the measure set to be used for the FY 2013 payment determination, we are proposing to adopt two new measures of Healthcare Acquired Infections that are currently being collected by the CDC via the National Healthcare Safety Network (NHSN). These measures are: (1) Central Line Associated Blood Stream Infection (NQF #0139) and (2) Surgical Site Infection (NQF #0299).



Proposed Inpatient Prospective Payment System (IPPS) rule would add CLABSI and SSI measures to the RHQDAPU program

NQF #0139 – Central line-associated bloodstream infections among ICU and high-risk nursery patients

Numerator – Laboratory-confirmed primary bloodstream infections that are not secondary to another infection and that occur in ICU or high risk nursery patients in whom a central line or umbilical catheter was in place at the time of, or within 48 hours before, onset of the infection

Denominator – Device days, i.e., number of ICU or high risk nursery patients with one or more central lines or umbilical catheters enumerated daily and summed over the measurement interval



NQF #0299 – Surgical site infections following select procedures

Numerator – Deep incisional or organ/space infections occurring within 30 days after an operative procedure* if no implant is in place or within 1 year if an implant is in place, detected on admission or readmission to the facility of original procedure

Denominator – Number of operative procedures*

*Procedures in scope for the measure are coronary artery bypass graft and other cardiac surgery, hip or knee arthroplasty, colon surgery, hysterectomy (abdominal or vaginal), and vascular surgery



Technical Options for HAI Reporting via NHCN to CMS

1. Facility-specific HAI summary measures generated quarterly and made accessible within NHCN to CMS through the confer rights function
2. Facility-specific HAI summary measures generated quarterly and transferred from NHCN to CMS via NHIN Connect Gateway or a comparable file transfer mechanism



Revision of NHSN Purposes, Assurance of Confidentiality, Eligibility Criteria, and Consent Form

- NHSN purposes to be updated to include:
 - Compliance with requirements for mandatory reporting
 - Providing states with information identifying healthcare facilities in their state that participate in NHSN
 - Providing to states, at their request, facility-specific, NHSN data for surveillance, prevention, or mandatory public reporting
 - Enable reporting of quality measurement data to CMS
- Confidentiality assurance stipulates that voluntarily reported data that would permit identification of any individual or institution will be held in strict confidence, used only for stated purposes, and not otherwise released without consent
- Consent agreement highlights that signatory agrees with the updated purposes





Online Training Courses



Online Training Courses

- Brief – 20-30 minutes each
- Interactive
- Case studies
- Practical tips and knowledge checks
- Short exam
- Documentation of completion
- CE credit available



Initial Topics

- How to enroll
- Setting up a facility
- Introduction to Patient Safety Module
- Introduction to Device-Associated Module
 - CLABSI
 - CLIP
 - CAUTI
 - VAP
- Introduction to Procedure-Associated Module
 - SSI
 - PPP
- MDRO and CDI Module



Online Training Requirements

- Required for all
 - New users
 - Current users
- Based on user rights
- Current users will be notified via email of training requirements
 - 60 days to complete





National Healthcare Safety Network (NHSN)

Catheter-associated Urinary Tract
Infection (CAUTI)

[Begin](#)



Department of Health and Human Services

Centers for Disease Control and Prevention



Key Terms: Transfer Rule

If the UTI develops in a patient within 48 hours of transfer from an [inpatient location](#), indicate the transferring location on the infection report.

Example: A patient with a Foley catheter is transferred from the Medical ICU to the Medical-Surgical ward on Friday. Saturday afternoon, he is determined to have a CAUTI. The location of the CAUTI is recorded as the Medical ICU on the infection report.

NOTE: There is no requirement to monitor for CAUTIs after the patient is discharged from the facility, however, if discovered, they should be reported to NHSN. No additional catheter days are recorded.



Catheter-associated UTI (CAUTI)

Event Details: Secondary BSI

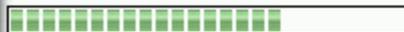
Menu

Circle "Yes" if there was a culture confirmed bloodstream infection that is secondary to the UTI, otherwise circle "No."

*Secondary Bloodstream Infection: Yes	<input checked="" type="radio"/> No			
** Died: Yes	No	UTI Contributed to Death: Yes	No	
Discharge Date:		*Pathogens Identified: Yes	No	*If Yes, specify on page 2



When the specific event is ABUTI, secondary BSI should be answered as "Yes."



Review UTI Definitions

Page 4 of 12

Which of the following organisms is considered a uropathogen for the criteria of ABUTI?

- A. Yeasts
- B. *Staphylococcus aureus*
- C. *Escherichia coli*
- D. *Enterobacteriaceae*
- E. *Pseudomonas aeruginosa*



Cancel Test



Congratulations!



You have successfully completed the “Catheter-associated Urinary Tract Infection (CAUTI)” training course.

Your score is **94 %** [Click here to print your certificate of course completion.](#)

If you are interested in receiving Continuing Education credit, you must also complete these NHSN courses:

- [Introduction to the Device-associated Module](#)
- [Central Line-associated Bloodstream Infection \(CLABSI\)](#)
 - [Ventilator-associated Pneumonia \(VAP\)](#)

When you have completed all 4 courses, you will receive an email with instructions to obtain Continuing Education credit.

For more information about NHSN, please visit:
http://www.cdc.gov/ncidod/dhqp/nhsn_members.html.

Changes Planned for NHSN Through Q4 2010

- Develop audit trail for tracking user actions
- Create alerts for missing numerators and denominators
- Add ability to report zero events (= 0 not missing)
- Enhance Confer Rights features to provide ability to withhold specific identifiers (e.g., name, SSN) and without facility identifiers; shift confer rights template to be a Group function
- Remove forced regeneration of datasets (Group)
- Enable CDA for LabID Event reporting
- Launch new NHSN website posting area for release content



Changes Planned for NHSN Through Q1 2011

- Migrate to SAMS and away from digital certificates
- Update Patient Safety Annual Survey to include questions about specific laboratory testing practices
- Revise Custom Fields for easier, more flexible use
- Streamline required variables for monitoring NHSN operative procedures
- Update required drug list for specific pathogens so that full susceptibility panels are collected
- Enable CDA for Antimicrobial Use reporting (in aggregate)
- Enable CDA for Biovigilance reporting



Updates to Criteria/Manual

- Will be limited to twice a year
 - January
 - July
- Matters needing immediate attention will be exceptions
- Always outlined in NHSN Newsletter



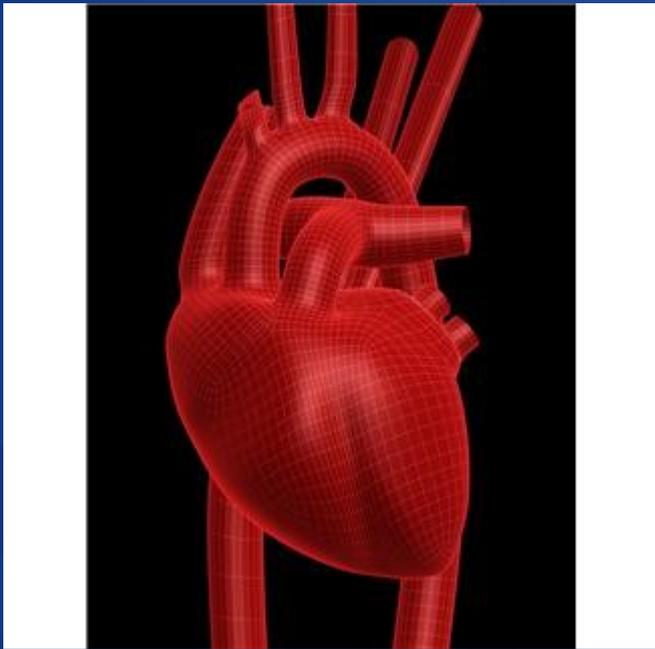
NHSN Validation Projects

- Integrity of the NHSN data is important to ALL NHSN facilities
- Increased NHSN staff provides more resources for data validation
- Recent Projects
 - CBGB and CBGC for same patient on same day
 - SSI rates $\geq 50\%$



NHSN Validation Projects

*CBGB and CBGC in same patient
in same day*

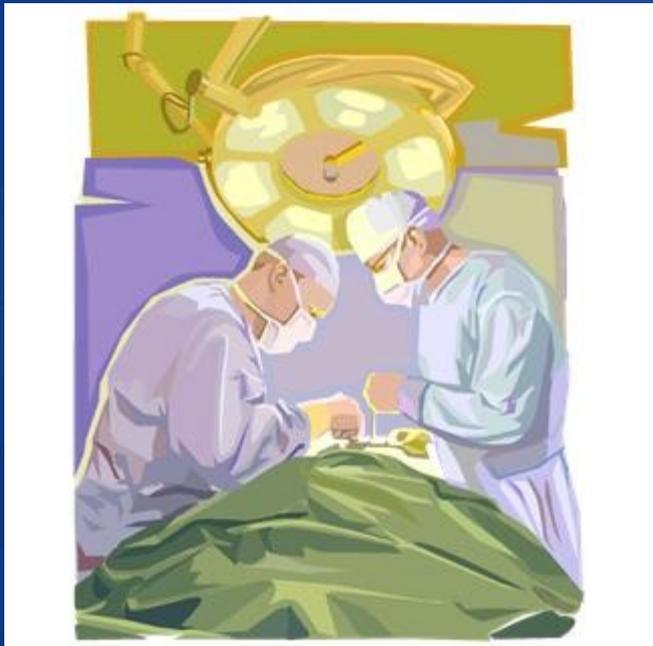


- We identified 5940 instances in 90 facilities where a CBGC and a CBGB were reported on the same day for single patient
- Included 26 SSIs
- All 90 facilities contacted to resolve by deleting the CBGC; 84% of instances resolved as of July 9th
- As of May, 2010, facilities can no longer enter/import CBGC and CBGB on same day for single patient



NHSN Validation Projects

SSI rates equal to or exceeding 50%



- Concern for missing procedures
- Jan., 2006- May, 2009
- 199 facilities
- 95% response rate
- 52% (104) facilities' data correct
- 47% (93) facilities data incorrect
- 97% of the 93 facilities were missing procedure data
- All incorrect data corrected

-
- Please analyze your data in NHSN.
 - Must enter procedure information for every procedure you are monitoring not just those with

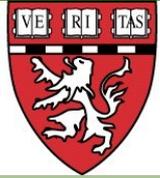
SSI



NHSN Validation Projects

- Upcoming Priorities
 - Importation data
 - Default data
 - Outliers
 - Device-associated module denominators
 - Illogical data
 - Outliers
 - Others





THE PAICAP PROJECT

Conducted by Harvard Medical School and Harvard Pilgrim Health Care Institute



Preventing Avoidable Infectious Complications by Adjusting Payment (PAICAP)

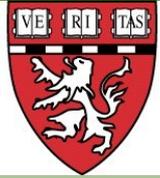
Grace M. Lee, MD MPH

Harvard Medical School & Harvard
Pilgrim Health Care Institute

AHRQ-R01HS018414-01

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Phone: (617) 509-9959



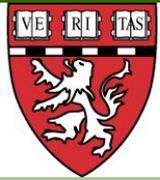
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Goal

To assess the impact of the CMS policy of adjusting payment for healthcare-associated infections on health outcomes and costs in the U.S.



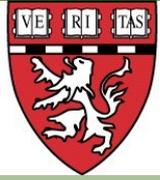
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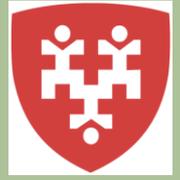
Specific Aims

1. To evaluate the impact of the CMS policy on HAI billing rates reported by Medicare
2. To evaluate the impact of the CMS policy on true infection rates reported through NHSN
3. To explore whether the CMS policy reduces both billing and true infection rates in hospitals
4. To assess whether reduced reimbursement for HAIs disproportionately affects hospitals that care for a high proportion of poor and minority patients



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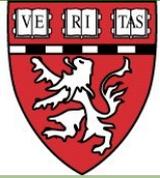


To Participate

- ◆ Hospitals that report to NHSN are eligible
- ◆ Please let us know you are interested!
 - ◆ Sign-up sheet, website, email, phone

Time Commitment

- ◆ 15-20 min in total to join the NHSN PAICAP group
- ◆ **No** additional data collection needed



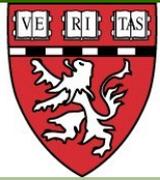
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Eligible NHSN Hospitals

- ◆ Acute care hospitals or long-term acute care hospitals
- ◆ Reporting data on at least 1 of the following:
 - ◆ CLABSI
 - ◆ CAUTI
 - ◆ SSI—Mediastinitis after CABG
 - ◆ VAP



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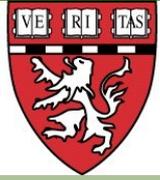


We are committed to protecting confidentiality

- ◆ No patient identifiers needed
- ◆ Your hospital will NOT be identified in any presentations or publications

Benefits

- ◆ Participants will receive regular updates on study findings over the next 4 years
- ◆ You can play a key role in helping policymakers shape future healthcare decisions



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Policy Advisory Board

APIC: Denise Graham

CDC: Scott Fridkin

CDC: John Jernigan

CMS: William Kassler

IHI: Don Goldmann

SHEA: Neil Fishman

Infection Prevention Advisory Board

John Jernigan

Teresa Horan

Deborah Yokoe

Susan Huang

Vicky Fraser

Bob Weinstein

Jeanmarie Mayer

Kurt Stevenson

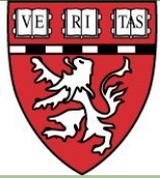
Consequences Of Medicare Payment adjustment (COMP)

Grace M. Lee, MD MPH

NIH-1R21AI083888

COMP Study

- ◆ Aim 1: Qualitative interviews with IPs to identify key factors that may affect infection prevention practices in the context of the CMS policy
 - ◆ Posters 8-074 and 8-067 (7/13/10 11:30-12:30)
- ◆ Aim 2: Validate a survey instrument on the perceived impact of the CMS policy on hospitals
 - ◆ Coming this Fall 2010



THE PAICAP PROJECT

Conducted by Harvard Medical School and Harvard Pilgrim Health Care Institute



Contact Us

- ◆ www.PAICAP.org
- ◆ Email us at PAICAP@hphc.org
- ◆ 1-877-97-PAICAP (1-877-977-2422)
- ◆ www.APIC.org to link to the PAICAP website

Prevention of Nosocomial Infections and Cost-Effectiveness Analysis (PNICE Study)

Funded by the National Institute of Nursing Research Grant #R01NR010107

Conducted in collaboration by investigators and consultants from Columbia University School of Nursing, RAND, CDC, IHI, Joint Commission, Southwestern Medical Center, Harvard, University of Pittsburgh, University of Maryland, and the University of Illinois in Chicago

Patricia Stone, Principal Investigator

Phone : 212 305-1738

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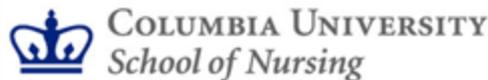
E-mail: ps2024@columbia.edu

Monika Pogorzelska, Project Coordinator

Phone: 212 305-3431

Fax : 212 305-6937

E-mail : mp2422@columbia.edu



Study Aims

- ▣ To describe infection control staffing and resource allocation
- ▣ To describe infection control activities in ICUs
- ▣ To estimate long-term health and cost outcomes attributable to healthcare associated infections
- ▣ To investigate the cost effectiveness of infection control practices

Phase I (ended in spring of 2008)

- ▣ Survey of eligible NHSN hospitals
- ▣ 289 hospitals participated (415 ICUs)
- ▣ 66% response rate

Phase II (data collection ended in Fall of 2009)

- ▣ Collection of data from subsample of NHSN hospital
 - Medicare and HAI data for 2007
 - Patient Census
 - RN Staffing Data
- ▣ 46 NHSN hospitals enrolled

Dissemination

Published			
Hospital Staffing and Healthcare Associated Infections: A Systematic Review of the Literature	Stone, Pogorzelska, Kunches and Hirshorn	CID	Published: 2008;47(7):937-44
Staffing and Structure of Infection Prevention and Control Programs	P. Stone, A. Dick, M. Pogorzelska, T. Horan, Y. Furuya, E. Larson	AJIC	Published: Am J Infect Control. 2009;37(5): 351-357.
Economic Burden of HAI: An American Perspective	Stone PW	Pharm Eco Outcome Res	Published: 2009 Oct;9(5):417-22.
Changes in the IRB submission process for multicenter research over six years	Pogorzelska M, Stone PW, Larson E	Nursing Outlook	In press
In Progress			
Central Line Bundle Implementation in US Intensive Care Units and Impact on Bloodstream Infections	Furuya EY, Dick A, Perencevich EN, Pogorzelska M, Goldmann D, Stone PW	PLOS Medicine	In process of being submitted
Infection control policies related to multi-drug resistant organisms in a National sample of hospitals	Pogorzelska M, Stone PW, Larson EL		In Preparation
Prevention of Catheter Associated Urinary Tract Infections: Presence and Implementation of Policies Nationally and In California ICUs	Pogorzelska M, Jordan S, Stone PW		In Preparation

Staffing and structure of infection prevention and control programs

Patricia W. Stone, PhD, RN, FAAN, MPH,^a Andrew Dick, PhD,^b Monika Pogorzelska, MPH,^a Teresa C. Horan, MPH,^c E. Yoko Furuya, MD, MS,^d and Elaine Larson, RN, PhD, FAAN, CIC^a

New York, New York, Pittsburgh, Pennsylvania, and Atlanta, Georgia

Background: The nature of infection prevention and control is changing; however, little is known about current staffing and structure of infection prevention and control programs.

Methods: Our objectives were to provide a snapshot of the staffing and structure of hospital-based infection prevention and control programs in the United States. A Web-based survey was sent to 441 hospitals that participate in the National Healthcare Safety Network.

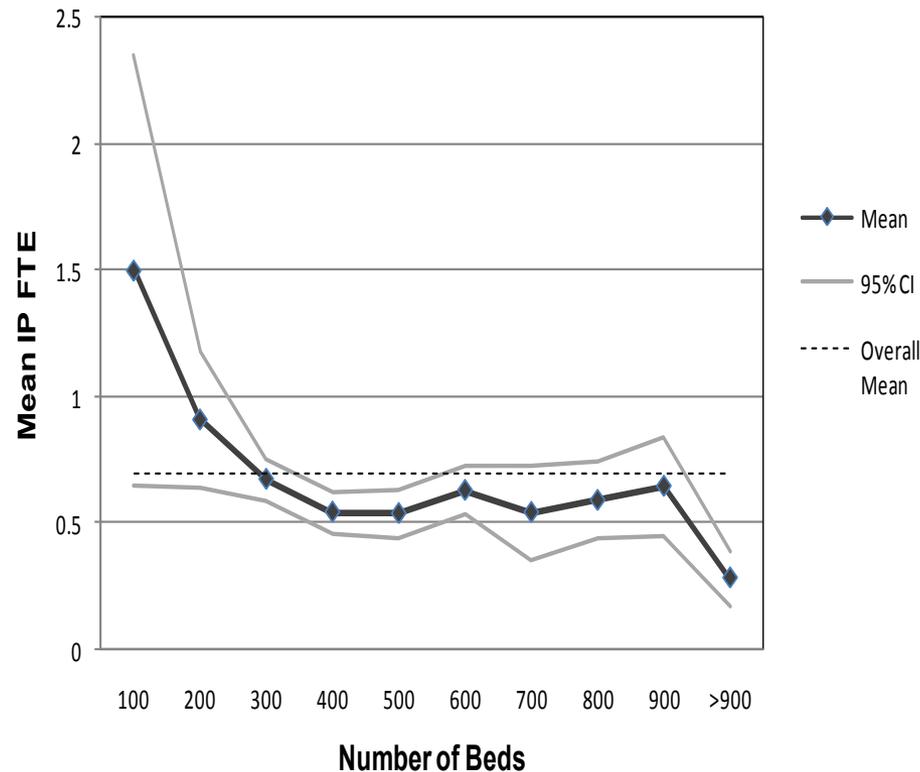
Results: The response rate was 66% (n = 289); data were examined on 821 professionals. Infection preventionist (IP) staffing was significantly negatively related to bed size, with higher staffing in smaller hospitals ($P < .001$). Median staffing was 1 IP per 167 beds. Forty-seven percent of IPs were certified, and 24 percent had less than 2 years of experience. Most directors or hospital epidemiologists were reported to have authority to close beds for outbreaks always or most of the time (n = 225, 78%). Only 32% (n = 92) reported using an electronic surveillance system to track infections.

Conclusion: This study is the first to provide a comprehensive description of current infection prevention and control staffing, organization, and support in a select group of hospitals across the nation. Further research is needed to identify effective staffing levels for various hospital types as well as examine how the IP role is changing over time.

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(*Am J Infect Control* 2009;37:351-7.)

Decreased IP Staffing in 2008

Infection Preventionist (IP) Full-time Equivalent
(FTE) per 100 Beds



- IP Staffing significantly related to hospital size with higher staffing in smaller hospitals ($p < 0.001$)
- IP FTE staffing was 0.69 (sd +/- 0.54) per 100 beds
 - 1 IP per 144 beds
- NNIS hospitals in 1999
 - 1 IP per 115 beds

Presentation at APIC

- ▣ *Impact of the Ventilator Bundle on Ventilator-Associated Pneumonia (VAP) Rates in Intensive Care Units (ICU).*

Pogorzelska M, Furuya EY, Dick A, Perencevich EN, Goldmann D, Stone PW.

Presentation #180

Tuesday, 1:45 – 2:00 pm in the Centennial Ballroom (Hyatt Regency Atlanta)

New Funding: Prevention of Nosocomial Infections and Cost-Effectiveness Refined (PNICER) Study

Prevention of
Nosocomial
Infections &
Cost
Effectiveness
Refined

*The P-NICER
Study*

Aim 1: Use a qualitative approach to describe the phenomena of infection prevention, surveillance and control in hospitals

Aim 2: Assess the impact of intensity of infection control processes on device associated and organism specific HAI rates in ICUs across the U.S.

Aim 3: Determine the impact of state regulated mandatory reporting on infection control processes and HAI rates

PNICER Timeline

Prevention of
Nosocomial
Infections &
Cost
Effectiveness
Refined

*The P-NICER
Study*

Phase I:

- ▣ Summer/Fall 2010
- ▣ Qualitative in-depth interviews in 12 hospitals that participated in PNICE
 - Interviews with multiple personnel including IPs, HEs, hospital administrators, nurses and ancillary service personnel
 - \$1000 honorarium per hospital (\$100 per participant)

Phase II:

- ▣ Summer 2011
- ▣ Web-based survey of eligible NHSN hospitals
 - Collect up to 6 years of ICU specific NHSN data (2006-2011)

Study Website

Prevention of
Nosocomial
Infections &
Cost
Effectiveness
Refined

**The P-NICER
Study**

The screenshot shows a Microsoft Internet Explorer browser window displaying the website for the P-NICE Study. The browser's address bar shows the URL <http://cumc.columbia.edu/studies/pnice/>. The website content includes a navigation menu on the left, a main heading, a mission statement, and logos for the funding organizations.

The P-NICE Study
Prevention of Nosocomial Infections & Cost Effectiveness

- Home
- Background
- Research Team
- Expert Consultants
- Advisory Board
- Study Aims
- Scientific Abstract
- Study Participation
- Brochure
- Announcements
- Timeline & Events
- Publications
- Links
- Contact Us

Prevention of Nosocomial Infections & Cost Effectiveness

The P-NICE Study

"To address the clinical effectiveness and cost-effectiveness of infection control staffing levels and intensity of infection control interventions and to examine the long term outcomes attributable to healthcare associated infections (HAI)"

Funded by the National Institute of Nursing Research (NINR) (R01NR010107)

<http://cumc.columbia.edu/studies/pnice/>

**Prevention of
Nosocomial
Infections &
Cost
Effectiveness
Refined**

The P-NICER Study



COLUMBIA UNIVERSITY
School of Nursing



NATIONAL INSTITUTE OF
NURSING
RESEARCH



[www.cumc.columbia.edu/
studies/pnice](http://www.cumc.columbia.edu/studies/pnice)

Study Brochure