CMS Infection Control Standards

What Hospitals Need to Know.

Speaker

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Infection Control

- The CDC says there are 1.7 million healthcare infection (HAI) in America every year
- There are 99,000 deaths in American hospitals every year
- CMS gets 50 million dollar grant to enforce infection control standards in 2010
- Leadership need to make sure there is adequate staffing and resources to prevent and manage infections
- Healthcare-Associated Infections (HAIs) are one of the top ten leading causes of death in the US

www.cdc.gov/hai/
Healthcare-Associated Infections HAI

- 32 percent of all healthcare-associated infection are urinary tract infections
- 22 percent are surgical site infections
- 15 percent are pneumonia (lung infections)
- 14 percent are bloodstream infections

Source: CDC website at http://www.cdc.gov/ncidod/dhqp/hai.html
See the 2009 CDC document called Prevention and Control of Catheter-Associated Urinary Tract Infections (UTI) at http://www.cdc.gov/ncidod/dhqp/dpac_uti_pc.html
CDC also has CAUTI Guideline Fast Facts at http://www.cdc.gov/hicpac/CAUTI_fastFacts.html#1

The Conditions of Participation (CoPs)

- Regulations first published in 1966
  - Final revision 10-17-08 (red lined copy), and amended Tag 450 on June 5, 2009 (anesthesia ones last issued May 21, 2010 as third change)
- Published in the Federal Register at 42 CFR Part 482
- CMS publishes Interpretive Guidelines and some have Survey Procedures
- Check this website monthly for changes

1 www.cms.hhs.gov/transmittals/downloads/R37SOMA.pdf
2 http://www.gpoaccess.gov/fr/index.html
Center for Medicaid and State Operations/Survey & Certification Group

DATE: September 4, 2009

TO: State Survey Agency Directors

FROM: Director Survey and Certification Group

SUBJECT: Flash Sterilization Clarification - FY 2010 Ambulatory Surgical Center (ASC) Surveys

*****Memo revised to correct regulation citation and contact information*****

Memorandum Summary

Flash Sterilization Clarification: State survey agencies (SAs) using the new survey process in FY 2009, including completing the Infection Control Surveyor Worksheet, have experienced challenges in evaluating use of “flash sterilization” by ASCs. Attachment 1 clarifies what this term means, and how to distinguish appropriate from inappropriate use of...
Sterilization cycle is likely to be effective are found in the manufacturer's instructions for the various devices involved.

Surveys should utilize the following questions to assess the appropriateness of the ASC's sterilization practices:

1. Is the sterilizer labeled for this cycle by the manufacturer?
2. What is the sterilizer manufacturer-recommended load for that cycle?
3. Is the containment device used labeled by its manufacturer for use in that cycle?
4. For what load is the containment device recommended by its manufacturer?
5. Is the chemical indicator used labeled for use in this cycle by its manufacturer?
6. If a biological indicator is used is it labeled for use for this cycle by its manufacturer?
7. If the cycle is used frequently, is it checked regularly with a biological indicator?

If an ASC is properly using short sterilization cycles for wrapped/contained loads, then it should not be cited for a violation of the ASC infection control requirements.

Note the emphasis on the manufacturer's instructions for use, which have been validated by the journals.
Preventing Surgical Site Infection

How to Use Rapid Cycle Sterilization of Surgical Instruments

The Joint Commission decided to refocus its survey efforts on all of the critical processes included in sterilization.

Joint Commission released a statement updating its position on this type of sterilization. Rapid cycle sterilization involves a process that begins with physical cleaning and decontamination of the instruments. This process remains.

National Patient Safety Goal NPSG.07.03.01 requires organizations to implement best practices to prevent surgical site infections (SSIs). Sterilization of surgical instruments is a key part of SSI prevention. The Joint Commission, May 2010.

"The Joint Commission updated its position on steam sterilization in June 2009. (See The Joint Commission Takes a Second Look at Rapid Cycle Sterilization, page 9, for details.)"

CMS Manual System

Pub. 100-07 State Operations
Provider Certification

Department of Health & Human Services (DHHS)
Centers for Medicare & Medicaid Services (CMS)

Transmittal 57 Date: October 17, 2008

SUBJECT: Revises Appendix A, “Interpretive Guidelines for Hospitals”

I. SUMMARY OF CHANGES: Appendix A is being revised to reflect amended regulations and survey and certification policy issuances concerning the Conditions of Participation for Hospitals, 42 CFR Part 482. It also contains new guidance related to the Patients’ Rights Final Rule, 42 CFR 482.13(e), (f), and (g), published in the Federal Register December 8, 2006 (71 FR 71378). In addition, Regulatory text that appears in brackets was included in a previous tag, but is repeated for clarity and accuracy in representing the regulatory citation.

NEW/REVISED MATERIAL - EFFECTIVE DATE*: Upon Issuance
IMPLEMENTATION DATE: Upon Issuance

Disclaimer for manual changes only: The revision date and transmittal number apply to the revised material only. Any other material was previously published and remains unchanged. However, if this revision contains a table of contents, you will receive the new/revised information only, and not the entire table of contents.
How to Keep Up with Changes

- So in keeping up with the changes for CMS periodically check to see you have the most current manual.
- Once a month go out and check the survey and certification website ²
- Once a month check the CMS transmittal page ³

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² http://www.cms.gov/SurveyCertificationGenInfo/PMSR/list.asp#TopOfPage
³ http://www.cms.gov/Transmittals
### CMS Transmittals

The CMS Transmittals page provides information about policy changes and updates to the Medicare and Medicaid programs. Here are some key points from the page:

#### Transmittals Overview
- Program transmittals are used to communicate new or changed policies, and procedures that are being incorporated into a specific Centers for Medicare & Medicaid Services (CMS) program manual. The cover page (transmittal page) summarizes the new changed material, specifying what it is changed.

#### Transmittals by Year
- **2010 Transmittals**
- **2009 Transmittals**
- **2008 Transmittals**
- **2007 Transmittals**
- **2006 Transmittals**
- **2005 Transmittals**
- **2004 Transmittals**
- **2003 Transmittals**
- **2002 Transmittals**
- **2001 Transmittals**
- **2000 Transmittals**

#### Recent Transmittals
- Current transmittals are listed with details such as date and title. For example:
  - **07/20/2010**
    - Title: Developing Evidence-Based Practice Guidelines for Posthospital Avoidable hospitalization (AHCA). 08/20/2010 6912
  - **07/19/2010**
    - Title: Medical Necessity of Clinical Laboratory Services (CLIA) that are billed by laboratories (not hospitals) and are not separately payable. 08/30/2010 7040
  - **07/18/2010**
    - Title: Coverage of Chest Tuberculosis (C/T) for the Use of/via an Oxygen Concentrator. 09/30/2010 7029

The CMS Transmittals page is a valuable resource for staying informed about changes in Medicare and Medicaid policies and procedures.
Mandatory Compliance

- Hospitals that participate in Medicare or Medicaid must meet the Conditions of Participation (COPs)
  - For all patients in the facilities
  - Not just those who are Medicare or Medicaid
- Hospitals accredited by TJC, DNV Healthcare and AOA have what is called **deemed status**
- This means hospitals can be reimbursed for M/M patients without going through a state department of health survey

CMS Hospital CoPs

- Interpretative guidelines on CMS website under state operations manual¹
  - Appendix A, Tag A-0001 to A 1163
  - Interpretative guidelines updated June 5, 2009
  - 370 pages long
  - Consider placing copy on intranet
- Manuals found at website

Medicare State Operations Manual
Appendix

- Each Appendix is a separate file that can be accessed directly from the SOM Appendices Table of Contents, as applicable.

- The appendices are in PDF format, which is the format generally used in the IOM to display files. Click on the red button in the 'Download' column to see any available file in PDF.

- To return to this page after opening a PDF file on your desktop, use the browser "back" button. This is because closing the file usually will also close most browsers.

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<tr>
<th>App. No.</th>
<th>Description</th>
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<td>C</td>
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<tr>
<td>E</td>
<td>Outpatient Physical Therapy or Speech Pathology Services-Interpretive Guidelines</td>
<td>234 KB</td>
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<td>Physical Therapists in Independent Practice</td>
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<tr>
<td>H</td>
<td>End-Stage Renal Disease Facilities</td>
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Survey Procedure

- Interpretive guidelines provide instructions to the surveyors on how to survey the CoPs
  - Like questions to the test

- **Survey procedure** instructions-determine the hospital policy for notifying patients of their rights
  - Ask patients to tell you if the hospital told them about their rights

- Deficiency citations show how the entity failed to comply with regulatory requirements and not the guidelines!
Infection Control

- Made major revisions to IC standards November 21, 2007 and continued into 2010
- There were 12 pages of changes in the interpretive guidelines
- Reflected new tag numbers, A-0747 thru 750, and 756
- Updated to reflect changing infectious and communicable disease threats
- Includes current knowledge and best practices

Infection Control (continued)

- Included four major sections
- Active infection control program
- Investigations and control of infections
- Infection control log
- CEO, CNO, and MS must ensure hospital-wide training program and correction plan for problem areas
CMS Infection Control

A-9747

(Rev. 37; Issued: 10-17-08; Effective/Implementation Date: 10-17-08)

§482.42 Condition of Participation: Infection Control

The hospital must provide a sanitary environment to avoid sources and transmission of infections and communicable diseases. There must be an active program for the prevention, control, and investigation of infectious and communicable diseases.

Interpretive Guidelines §482.42

This regulation requires the hospital to develop, implement, and maintain an active, hospital-wide program for the prevention, control, and investigation of infectious and communicable diseases. The National Institute of Allergy and Infectious Diseases defines an infectious disease as a change from a state of health to a state in which part or all of a host's body cannot function normally because of the presence of an infectious agent or its product. An infectious agent is defined by the NHID as a living or quasi-living organism or particle that causes an infectious disease, and includes bacteria, viruses, fungi, protozoa, helminthes, and prions. NHID defines a communicable disease as a disease associated with an agent that can be transmitted from one host to another. (NHID website glossary)

TJC Infection Prevention and Control

- TJC has a chapter on Infection Prevention and Control that is 8 pages long
- 11 standards and 60 EPs
- Organized into planning, implementation and evaluation
- Also 4 important ones in 2010 NPSGs on reduce the risk of HAIs (Goal 7) hand hygiene, prevent surgical site infections, MDROs, and central line infections, central line infections (see at end)
- Need to be aware of both and most stringent applies
Chapter: Infection Prevention and Control
Program: Hospital

SII Chapter Outline: IC

I. Planning
   A. Responsibility (revised IC.01.01.01)
   B. Resources (revised IC.01.02.01)
   C. Risks (revised IC.01.03.01)
   D. Goals (revised IC.01.04.01)
   E. Activities (revised IC.01.05.01)
   F. Influx (revised IC.01.06.01)

II. Implementation
   A. Activities (revised IC.02.01.01)
   B. Medical Equipment, Devices, and Supplies (revised IC.02.02.01)
   C. Transmission of Infections (revised IC.02.03.01)
   D. Influenza Vaccinations (revised IC.02.04.01)

III. Evaluation (revised IC.03.01.01)

Accreditation Program: Hospital   Chapter: Infection Prevention and Control

**Standard IC.01.01.01**
The hospital identifies the individual(s) responsible for the infection prevention and control program.

**Elements of Performance for IC.01.01.01**

1. The hospital identifies the individual(s) with clinical authority over the infection prevention and control program.
2. When the individual(s) with clinical authority over the infection prevention and control program does not have expertise in infection prevention and control, the hospital consults with someone who has such expertise in order to make knowledgeable decisions.
3. The hospital assigns responsibility for daily management of infection prevention and control activities. (See also HR.01.02.01, EP 1: LD.03.06.01, EP 3)
4. For hospitals that use Joint Commission accreditation for deemed status purposes: The individual with clinical authority over the infection prevention and control program is responsible for the following:
   - Developing policies governing control of infections and communicable diseases
   - Implementing policies governing control of infections and communicable diseases
   - Developing a system for identifying, reporting, investigating, and controlling infectious and communicable diseases

**Standard IC.01.02.01**
Hospital leaders allocate needed resources for the infection prevention and control program.

**Elements of Performance for IC.01.02.01**

1. The hospital provides access to information needed to support the infection prevention and control program. (See also IC.02.02.03, EP 2)
2. The hospital provides laboratory resources when needed to support the infection prevention and control program.
3. The hospital provides equipment and supplies to support the infection prevention and control program.
**CDC Cost of HAI**

- 4.5 HAIs per 100 admissions
- Direct medical costs ranges from $28.4 to $33.8 billion dollars a year
- Benefit of prevention range from $5.7 to $6.8 billion dollars based on 20% are preventable
- This is why IC is being hit hard and reason for 50 million grant to enforce

**HHS Action Plan to Prevent HAIs**

Healthcare-associated infections (HAIs) exact a significant toll on human life. They are among the top ten leading causes of death in the United States, accounting for an estimated 1.7 million infections and 99,000 associated deaths in 2002. In hospitals, they are a significant cause of morbidity and mortality. In addition to the substantial human suffering caused by HAIs, the financial burden attributable to these infections is staggering. It is estimated that HAIs incur nearly $20 billion in excess healthcare costs each year.

For these reasons, the reduction of HAIs is a top priority for the U.S. Department of Health and Human Services (DHHS). The inter-agency task force for the Prevention of Healthcare-associated Infections was established in July 2003. The steering committee was charged with developing a national strategy to reduce HAIs and issuing a plan which establishes national goals for HAI prevention and outlines key actions for achieving identified short- and long-term objectives. The plan is also intended to enhance collaboration with external stakeholders to strengthen coordination and impact of national efforts.

The development process of the DHHS Action Plan to Prevent Healthcare-associated Infections is intended to be inclusive. The effort represents a culmination of several months of deliberation by subject matter experts across HHS to identify key actions in the prevention of HAIs. The document established national goals for enhancing and coordinating HHS-supported efforts. The links listed below will take you to the Action Plan documents.

**Funding Topics**
- hhs Action Plan to Prevent Healthcare-associated Infections (in sections)
- dhhs Action Plan (complete document, downloadable PDF, 624 KB)

Office of Public Health and Science, U.S. Department of Health and Human Services

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**Number of HAIs by Site**

**Table 3: Estimated Number of HAIs by site of infection**

<table>
<thead>
<tr>
<th>Major site of Infection</th>
<th>Estimated Number of Infections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare-Associated Infection (all HAI)</td>
<td>1,737,125</td>
</tr>
<tr>
<td>Surgical Site Infection (SSI)</td>
<td>290,465</td>
</tr>
<tr>
<td>Central Line Associated Bloodstream Infections (CLABSI)*</td>
<td>92,011</td>
</tr>
<tr>
<td>Ventilator-associated Pneumonia (VAP)**</td>
<td>52,543</td>
</tr>
<tr>
<td>Catheter associated Urinary tract Infection (CAUTI)**</td>
<td>449,334</td>
</tr>
<tr>
<td>Clostridium difficile-associated disease (CDI) 16</td>
<td>178,000</td>
</tr>
</tbody>
</table>

* Total BSI adjusted to estimate CLABSI (246.0/8 x 0.3793) = 92,011
** Total Pneumonia infections adjusted to estimate VAP (250.3/45 x 0.021) = 52,543
*** Total UTI's adjusted to estimate CAUTI (661.0/67 x 0.067) = 449,334

**Table 4: The average attributable per patient costs of HAI by selecte**
**HHS Action Plan**

- Estimated that HAIs incur nearly $20 billion in excess healthcare cost each year
  - Many are preventable
- Top priority of HHS now
- Develop HHS Action Plan to Prevent HAIs
- Every infection preventionist (IP) should have a copy of this document

1http://hhs.gov/ophs/initiatives/hai/index.html

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**Infection Control  Follow the Money!**

- This area is very important now
- Now if you do not do this right it could cost the hospital money
- CMS has 10 hospital acquired condition (HAC) in which no additional payment is made for Medicare patients
- Many states agree not to bill for some or all of the 28 never events
- Insurance companies are putting it into their contracts that hospitals will not bill for any of 28 never events
Infection Control

- Make sure you have a qualified infection control coordinator, nurse, or epidemiologist
  - Now called infection preventionist or IP by APIC
- There will be no additional payment if the patient gets a hospital acquired conditions
- Do you have enough FTEs devoted to the area of infection control or is your facility woefully underfunded and understaffed??
  - June 14, 2010 Hospital Infection Control weekly reported on APIC study where half of the 2,075 IPs said they spend so much on surveillance no time to work on CR-BSI prevention

CMS Hospital Acquired Conditions

- CMS has no additional payment for these HACs or never events
- Studies show hugh cost to hospitals
- Vascular catheter-associated infection
- Surgical site infection such as mediastinitis after coronary artery bypass graft surgery
- Catheter-associated urinary tract infections
- Surgical-site infections following certain orthopedic procedures (repair, replacement or fusion of joints)
MEDICARE AND MEDICAID MOVE AGGRESSIVELY TO ENCOURAGE GREATER PATIENT SAFETY IN HOSPITALS AND REDUCE NEVER EVENTS

The Centers for Medicare & Medicaid Services (CMS) announced today it is taking several actions to improve the quality of care in hospitals and reduce the number of “never events” -- preventable medical errors that result in serious consequences for the patient.

“Never events cause serious injury or death to beneficiaries and result in unnecessary costs to Medicare and Medicaid due to the need to treat the consequences of the errors,” said CMS Acting Administrator Kerry Weems. “The steps taken today reflect our strong conviction that these events, in fact, should be prevented, and our commitment to protecting Medicare and Medicaid patients from them.”

A new acute care inpatient prospective payment (IPPS) rule that went on display today at the Office of the Federal Register for publication August 19, 2008 updates Medicare payments to hospitals for fiscal year (FY) 2009 and provides additional incentives for hospitals to improve the quality of care provided to people with Medicare. As part of these quality of care incentives, the rule includes payment provisions to reduce never events that occur in hospitals.

### Conditions for Which Medicare Will No Longer Pay More if Acquired during an Inpatient Stay

<table>
<thead>
<tr>
<th>Condition</th>
<th>No. of Medicare Cases In Fiscal Year 2006</th>
<th>Average Medicare Payment for Admissions In Which Condition was Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object left in patient during surgery</td>
<td>764</td>
<td>$61,982</td>
</tr>
<tr>
<td>Air embolism</td>
<td>45</td>
<td>$66,007</td>
</tr>
<tr>
<td>Blood incompatibility</td>
<td>33</td>
<td>$46,492</td>
</tr>
<tr>
<td>Catheter-associated urinary tract infection</td>
<td>11,780</td>
<td>$40,347</td>
</tr>
<tr>
<td>Pressure ulcer</td>
<td>322,946</td>
<td>$40,381</td>
</tr>
<tr>
<td>Vascular-catheter-associated infection†</td>
<td>Unknown</td>
<td>Unknown</td>
</tr>
<tr>
<td>Mediastinitis after coronary artery bypass grafting</td>
<td>108</td>
<td>$304,747</td>
</tr>
<tr>
<td>Fall from bed</td>
<td>2,591</td>
<td>$24,962</td>
</tr>
</tbody>
</table>

Data are from the Federal Register. Data are unknown because a unique code for this condition was introduced for fiscal year 2008.

Rosenthal MB., NEJM. 2007;357(16):1573-75
Insert: Shannon R.P., AJMG. 2008;21(6):75-165 – Dollar value is excess costs
### Table 4: The average attributable per patient costs of HAIs by selected sites of infection adjusted by 2007 CPIs for all urban consumers and inpatient hospital services

<table>
<thead>
<tr>
<th>Infection site</th>
<th>Low Estimate of average attributable Costs ($ base year)</th>
<th>High Estimate of average attributable Costs ($ base year)</th>
<th>Low estimate adjusted to 2007 $ using CPI-U</th>
<th>High estimate adjusted to 2007 $ using CPI-U</th>
<th>Adjusted to 2007 $ using CPI for Inpatient Hospital Services</th>
<th>Adjusted to 2007 $ using CPI for Inpatient Hospital Services</th>
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<tr>
<td>VAP</td>
<td>$11,897&lt;sup&gt;5&lt;/sup&gt; (1999)</td>
<td>$25,072&lt;sup&gt;6&lt;/sup&gt; (2005)</td>
<td>$14,806</td>
<td>$27,520</td>
<td>$28,663</td>
<td>$28,663</td>
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<tr>
<td>CAUTI</td>
<td>$589&lt;sup&gt;5&lt;/sup&gt; (1998)</td>
<td>$758&lt;sup&gt;5&lt;/sup&gt; (2002)</td>
<td>$749</td>
<td>$832</td>
<td>$862</td>
<td>$862</td>
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<tr>
<td>CDI</td>
<td>$5,042&lt;sup&gt;7&lt;/sup&gt; (2003)</td>
<td>$7,159&lt;sup&gt;5&lt;/sup&gt; (2003)</td>
<td>$5,682</td>
<td>$8,090</td>
<td>$6,408</td>
<td>$9,124</td>
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Source: http://www.cdc.gov/ncidod/dhqp/
CMS Hospital CoP Definition of Infection

- The new guidelines include a definition of infectious disease, infectious agent, and communicable diseases
- Hospitals may want to include these definitions in their revised policies and procedures
- Definitions developed by the National Institute of Allergy and Infectious Diseases (NIAID)
- **Communicable disease** is defined as a disease associated with an agent that can be transmitted from one host to another

Definition of Infection (continued)

- **Infectious disease** is defined as a change from a state of health to a state in which part or all of a host’s body cannot function normally because of the presence of an infectious agent or its product.
- An **infectious agent** is defined as a living or quasi-living organism or particle that causes an infectious disease, and includes bacteria, viruses, fungi, protozoa, helminths (parasitic worms), and prions.
- Note that APIC now calls them infection preventionist or IPs
Infection Control (IC) A-750

- Hospital must have sanitary environment to avoid sources and transmission of infection and communicable diseases
  - Maintain an **active IC program** for prevention, control, and investigation of infections and communicable diseases
  - Standards apply to **all** departments of hospitals both on and off campus
- All areas must be clean and sanitary
  - No dried blood on the floor, side of stretchers or on the ceiling tile

Infection Control

- Infection prevention must include monitoring of housekeeping and maintenance including construction activities
- Areas to monitor include food storage preparation, serving and dish rooms, refrigerators, ice machines, air handlers, autoclave rooms, venting systems, inpatient rooms, treatment areas, labs, waste handling, surgical areas, supply storage and equipment cleaning
Infection Control (IC) A-0747

- Include all standards of care and practice
  - State and federal laws
- Look at national organization recommendations
  - APIC (Association for Professionals in Infection Control and Epidemiology), CDC (Center for Disease Control), SHEA (Society for Healthcare Epidemiology of America), OSHA (Occupational Health and Safety Administration), etc.
- Investigate infections and communicable diseases for inpatients and personnel working in hospitals including volunteers

APIC’s Targeting Zero Campaign

- Targeting zero is the philosophy that every hospital should be working toward a goal of zero HAIs
- While not all HAIs are preventable, APIC believes we should strive for the goal of elimination and strive for zero infections
- Association for Professionals in Infection Control and Epidemiology (APIC) put together many resources to help hospitals to start to meet this goal
- Prompt investigation of HAIs of greatest concern to the hospital (like MRSA, CDiff surgical site infections, catheter associated UTIs)
- Needed because of our declining arsenal of antibiotics to treat infections
Infection Control

- Maintain active surveillance program
  - So what’s in your IC plan and program?
  - Specific measures for infection detection, data collection, analysis monitoring, and evaluations of preventive interventions
- Document surveillance activities
  - Must have reliable sampling or other mechanism in place to identify and monitor infections and communicable diseases

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**GETTING TO ZERO**

**INFECTION CONTROL AND PREVENTION (ICP) ACTION PLAN**

<table>
<thead>
<tr>
<th>PRIORITY AREA</th>
<th>ACTION REQUIRED</th>
<th>MEASUREMENT OF IMPACT</th>
<th>LEAD</th>
<th>PRIORITY</th>
<th>COMPLETION DATE</th>
</tr>
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</table>
| Infrastructure | 1. Form a hospital-wide multidisciplinary Infection Control and Prevention (ICP) team comprised of representatives from various departments, including Physician, Nursing, Pharmacy, Laboratory, Housekeeping, Facilities, Risk, Quality and Safety departments, et cetera. The purpose is to:
  - Develop and implement infection control and prevention strategies.
  - Monitor performance against the action plan.
  - Review outcome metrics (including all deaths associated with infections).
  - Serve as champion to facilitate intervention strategies.

2. Assess and recommend appropriate local structure to ensure accountability in meeting “getting to zero” goals.

| | VP Clinical Safety, Infection Control Disease Physician (team to set goals and work group) | HIGH | January 06 |
| | VP Clinical Safety, VP Medical Services, Physician Leadership Council, Nursing Leadership Council | HIGH | February 06 |
### Risk Assessment

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<table>
<thead>
<tr>
<th>DATE</th>
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<th>PROBABILITY</th>
<th>IMPACT</th>
<th>PREPARABILITY</th>
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<tr>
<td>8/4/2010</td>
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**Important Considerations**

- Transmission + Community Acquired Infections
- Hospital Acquired Infections
- Hospital Transmitted Gastroenteritis
- Pneumonia
- Community Acquired Pneumonia
- New Construction Issues

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**Risk Assessment**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>A</th>
<th>B</th>
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<th>Measurement of Success</th>
<th>LEAD</th>
<th>PRIORITY</th>
<th>COMPLETION DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Established review process and action plan drafted</td>
<td>Patient Safety Center with assistance of multidisciplinary ESP working group</td>
<td>HIGH</td>
<td>March 09</td>
</tr>
<tr>
<td>Completed evaluation with recommendation of ESP alert and reporting software</td>
<td>Patient Safety Center with assistance of multidisciplinary ESP working group</td>
<td>HIGH</td>
<td>September 09</td>
</tr>
<tr>
<td>Monthly report of metrics</td>
<td>Hospital X Pharmacy &amp; Therapeutics Committee, Quality Management Department and Patient Safety Center</td>
<td>HIGH</td>
<td>July 09</td>
</tr>
</tbody>
</table>

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**Priority Area**

Management and Communication of Critical Data and Information

1. Establish a process for thorough review and appropriate action steps related to the following:
   - Hospital deaths or serious harm associated with infections, including mechanisms for timely通报 of findings. Hospital leaders to be aware of any potential risk factors.
   - Notification to general practitioners and hospital leaders in the case of infection-related deaths.
   - Notification of Significant risk factors.

2. Evaluate existing ESP alert and reporting software to maximize ESP alert efficiency, documentation, screening, and recall.

3. Define metrics for:
   - Appropriate use of infection control and prevention strategies.
   - MeSA, VAP, CR-ABC, CLABSI, MDR, etc.

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**Action Required**

- Evaluate current ESP alert and reporting software.
- Establish a process for thorough review and appropriate action steps related to the following:
  - Hospital deaths or serious harm associated with infections, including mechanisms for alert notification and findings通报. Hospital leaders to be aware of any potential risk factors.
  - Notification to general practitioners and hospital leaders in the case of infection-related deaths.
  - Notification of Significant risk factors.

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**Lead**

- Patient Safety Center with assistance of multidisciplinary ESP working group.
- Hospital X Pharmacy & Therapeutics Committee, Quality Management Department and Patient Safety Center.

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**Priority**

- HIGH

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**Completion Date**

- March 09
- September 09
- July 09
Infection Control (continued)

- Infection control must be integrated in PI
- Surveillance activities should be conducted in accordance with recognized surveillance practices
  - CDC NHSN (National Healthcare Safety Net)
  - NHSN is internet-based surveillance system managed by the CDC
  - Available for hospitals at no charge and great resource
  - Provides multiple options for data analysis and more flexibility for sharing information within and outside the facility

Infection Control (continued)

- NHSN replaces the CDCs National Nosocomial Infection Surveillance system (NNIS)
  - Was considered the gold standard for tracking HAI for more than 30 years
  - Designed to help hospitals better manage episodes of HAI such as MRSA and VRE
  - Used by the VA hospitals
  - Enroll on-line for HAI surveillance and many other resources

\[1\text{http://www.cdc.gov/ncidod/dhqp/nhsn.html}\]
www.cdc.gov/nhsn/

The National Healthcare Safety Network (NHSN) is a voluntary, secure, internet-based surveillance system that integrates and expands legacy patient and healthcare personnel safety surveillance systems managed by the Division of Healthcare Quality Promotion (DHQP) at CDC. NHSN also includes a new component for hospitals to monitor adverse reactions and incidents associated with receipt of blood and blood products. Enrollment is open 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. For more information, click on the topics below.

Topics
- About NHSN
- Enrollment Requirements
- Data & Statistics

Enrollment Requirements
- Eligibility
- Required Training
- Reporting & System Requirements
- Security
- Begin Enrollment

Data & Statistics
- States with Facilities Using NHSN (Excel file)

To receive email updates about NHSN, enter your email address:

Contact NHSN:
Centers for Disease Control and Prevention National Healthcare Safety Network
MS A24
1600 Clifton Rd.
4 Challenges in Infection Control

- CMS said there are four special challenges in infection control (just four?)
  - Challenge 1: Multidrug-Resistant Organisms
  - Challenge 2: Infection Control in Ambulatory Care
  - Challenge 3: Communicable Disease Outbreaks
  - Challenge 4: Bioterrorism
Multidrug-Resistant Organisms

- Multidrug-resistant organisms (MDROs) are resistant to one or more antimicrobial agents
  - Treatment is more difficult
  - These bad bugs are more dangerous
- Have systems in place to identify and prevent transmission of these organisms.
- The CDC has a special publication on “Management of Multidrug-Resistant Organisms in Healthcare Settings, 2006”


Management of Multidrug-Resistant Organisms In Healthcare Settings, 2006

Jane D. Siegel, MD; Emily Rhinehart, RN MPH CIC; Marguerite Jackson, PhD; Linda Chiarello, RN M.S, the Healthcare Infection Control Practises Advisory Committee

Acknowledgement:
The authors and HICPAC gratefully acknowledge Dr. Larry Strausbaugh for his many contributions and valued guidance in the preparation of this guideline.
Overview of Healthcare-associated MRSA

Methicillin-resistant Staphylococcus aureus (MRSA) is a type of staph bacteria that does not react to certain antibiotics and will normally cause skin infections, but MRSA can also cause other infections— including pneumonia. MRSA can be fatal. In 1999, MRSA infections accounted for two percent of the total number of staph infections; in 1999 it was 22%, in 2004 it was 33%. CDC estimated that 44,300 invasive MRSA infections occurred in the United States in 2005, 18,650 of these were associated with death. MRSA is resistant to antibiotics including methicillin, oxacillin, penicillin, and amoxicillin. Since these strong drugs are not effective with MRSA, these infections are sometimes called Multidrug-Resistant "organisms (MRDOs)." Staph infections, including MRSA, occur most often among people in hospital and healthcare facilities (such as nursing homes and dialysis centers) who have weakened immune systems. The infection can be spread by skin-to-skin contact, sharing or touching a personal item with someone with infected skin, or touching a surface or item that has been in contact with someone with MRSA.

MRSA infections that occur in otherwise healthy people who have not been recently (within the past year) hospitalized or had a medical procedure (such as dialysis, surgery, catheters) are known as community-associated MRSA infections (CA-MRSA). These infections are usually skin infections such as abscesses, boils, and other pus-filled lesions, but these infections may also lead to more serious illness, such as pneumonia. (See Community-associated MRSA.)
Infection Control in Ambulatory Care

- Infection control in ambulatory care presents special problems
  - Patients remain in common areas such as the lobby and ED waiting areas
  - Patients are turned around quickly with minimal cleaning
  - Infectious patients may not be recognized immediately
  - Immuno-compromised patients can receive treatment in rooms with other patients who pose a risk of infection

APIC Resources for Ambulatory Care
Infection Control in Ambulatory Care (continued)

- Guidelines have been developed by the CDC’s Healthcare Infection Control Practices Advisory Committee (HICPAC) [www.cdc.gov/ncidod/dhqp/hicpac_pubs.html](http://www.cdc.gov/ncidod/dhqp/hicpac_pubs.html)
- Infection control plan for ambulatory care
- Guidelines for Disinfection and Sterilization in Healthcare Facilities 2008
- Guidelines for Isolation Precautions 2007
- Management of Multidrug-Resistant Organisms 2006
- Influenza Vaccination of Healthcare Personnel 2006 and CDC has flu website at [www.flu.gov](http://www.flu.gov) with information on universal flu vaccine (all strains of the flu for decades)

Flu and Vaccination Information

For the 2010-2011 flu season, which begins in the fall of 2010, the seasonal flu vaccine will include protection against the H1N1 flu virus. This means that, coming into the flu season this fall, most Americans will be able to receive having one flu vaccine to protect them against the major circulating flu viruses. As is always the case with seasonal vaccine, young children who have never had a seasonal vaccine will still need two doses.
CDC’s Healthcare Infection Control Practices Advisory Committee (HICPAC) Guidelines (continued)

- Guidance on Public Reporting of HAI 2005
- Guidelines for Preventing Healthcare Associated Pneumonia 2004
- Guidelines for Environmental Infection Control in Healthcare Facilities 2003, 2002 Hand hygiene guidelines, Prevention of Surgical Site Infections and more

- HICPAC is a federal advisory committee made up of 14 external IC experts who provide guidance and advice to the CDC and HHS
  - Members from APIC, SHEA, AORN, CMS, FDA etc.
Community-wide outbreaks of communicable diseases present many of the same types of issues as hospital infection disease threats

- Understand the epidemiology
- Know how it is transmitted and the clinical course of the disease in order to manage the outbreak

Pandemics, or widespread outbreaks of an infection require back up resources

- Hospitals need to work with state, federal, and local health agencies
Communicable Disease Outbreaks (continued)

- There are at a minimum four things that must be addressed:
  - Preventing transmission among patients, healthcare personnel, and visitors
  - Identifying persons who may be infected and exposed
  - Providing treatment or prophylaxis to large numbers of people
  - Logistical issues (staff, medical supplies, resupply, continued operations, and capacity)

HOSPITAL POLICIES AND PROCEDURES

<table>
<thead>
<tr>
<th>Department</th>
<th>Subject No.</th>
<th>Subject: Influx of People With Infectious Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiology</td>
<td>35-36.1</td>
<td>Page 1 of 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Revision: 7/2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Effective: 4/2005</td>
</tr>
</tbody>
</table>

I. In addition to implementation of the general Emergency Management Policies, the following issues will be addressed for infectious diseases. Additional information is contained in policies for SARS, Bioterrorism preparedness, pandemic flu preparation.

II. Community Resources: Determine if this is a community-wide event and if other facilities, shelters, hotels, etc., are also accepting the infectious patients. If so, coordinate decision-making with community disaster agencies and local/state public health departments.

III. Type Of Infectious Disease/Mode Of Transmission: Determine what types of infectious disease the patients have and its mode of transmission. If the mode of transmission is any mode that requires precautions beyond standard precautions, make a decision regarding the following:

A. Are rooms needed with negative pressure for isolation?
   1. If yes, does the facility have adequate negative pressure rooms or can rooms be retrofitted for negative pressure?
   2. Can several patients fit into the available negative pressure rooms and thus accommodate the influx?
   3. Can a wing of the building that does not share an air system with the rest of the building be used for the infectious patients?
   4. Does the entire building need to be emptied of patients without the infectious disease so the building can be used for only patients with the infectious disease?
   5. Does an outdoor temporary shelter need to be implemented to house the infectious patients?

B. If negative pressure is not needed but contact or droplet precautions are:
   1. Does the facility have adequate rooms/spaces to cohort the patients with the infectious disease? More patients to fifth floor if possible to vent out top of
Cover Your Cough Posters

www.cdc.gov/flu/protect/covercough.htm

Bioterrorism

- Hospitals should be well versed in emergency preparedness, including bioterrorism
- Terrorists could use bioterrorism
- There is a long list of bioterrorism agents
  - Anthrax, arenaviruses, botulism, brucellosis, cholera, Ebola virus hemorrhagic fever, E. coli, Lassa fever, plague, ricin toxin, salmonella, and cryptosporidium
- For a comprehensive list go to website\(^1\)

\(^1\)http://www.emergency.cdc.gov/agent/agentlist.asp
Bioterrorism (continued)

- The hospital must be in compliance with the Occupational Health and Safety Administration’s Bloodborne Pathogens regulation
  - 29 CFR 1910.1030.1
  - OSHA making bold move to regulate infection prevention for healthcare workers in 2011?
- The Code of Federal Regulations can be obtained free from the internet
- Regulations address PPE, safer needles, and use of universal precautions to prevent the spread of infection

IP Officer’s Responsibilities

- Many have added these to their job descriptions
- Maintain sanitary hospital environment (ventilation and water controls, construction-make sure safe environment, safe air handling in areas of special ventilations such as the OR and isolation rooms, techniques for food sanitation, cleaning and disinfecting surfaces, carpeting and furniture, how is pest control done, and disposal of trash along with non-regulated waste)
A person or persons must be designated as infection control officer or officers to develop and implement policies governing control of infections and communicable diseases.

APIC calls these professionals infection preventionists.

Infection Control Officer

Hospital infection control officers are often referred to as “hospital epidemiologists (HEs)” or “infection control professionals (ICPs).” (APIC now called Infection Preventionist or IP)

CDC has defined “infection control professional” as “a person whose primary training is in either nursing, medical technology, microbiology, or epidemiology and who has acquired specialized training in infection control”

The hospital must designate in writing an individual as its infection control officer.
Infection Control Officer (continued)

- The person assigned to the job should be **educated** and **competent** in that area
  - Qualified through education, training, experience, or certification

- Certification offered by:
  - Certification Board of Infection Control and Epidemiology Inc. (CBIC)
  - Specialty boards in adult or pediatric infectious diseases
    - American Board of Internal Medicine (for internists)
    - American Board of Pediatrics (for pediatricians).

Infection Control Preventionists (IPs)

- Infection control officers should maintain their qualifications
- This should be done through ongoing education and training
  - APIC has excellent educational conferences
- This requirement can be demonstrated by participation in infection control courses, or in local and national meetings organized by recognized professional societies, such as APIC and SHEA
How many FTE’s is that?

- The hospital needs to look at patient census, characteristics of the patient population, and complexity of the healthcare services it offers in determining the size and scope of the resources it commits to infection control.

- The CDC’s HICPAC provides recommendations.

- APIC and the SHEA publish studies and recommendations on resource allocation that hospitals may find useful:
  - Hospitals should be familiar with this information.

IPs Responsibilities

- Develop and implement IC measures (hospital staff, contract workers, volunteers).

- Mitigate risks associated with:
  - Patient infections present upon admission
  - Risks contributing to HAI

- Conduct active surveillance.

- Monitor compliance with all P&Ps, protocols and other infection control program requirements.

- Evaluate and revise of the program, when indicated.
**IPs Responsibilities (continued)**

- Coordinate with federal, state, and local emergency preparedness and health authorities to address communicable disease threats, bioterrorism, and outbreaks
  - As required by law
- Comply with the reportable disease requirements of the local health authority
- Integrate IC program into hospital-wide QAPI

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**Infection Control (IC) A- 749**

- Long list of IC policies that hospitals must have
- The 22 policies are now organized under 5 sections
- Maintain a sanitary physical environment
- Hospital staff related measures (evaluate hospital staff immunization status for infectious diseases as per CDC and APIC, how you screen hospital staff for infections likely to cause significant infectious disease to others, policy on when staff are restricted from working)
IC Policies to include:

- New employee orientation (include handwashing)
- How to mitigate risk when patient admitted with infection
  - Must be consistent with the CDC isolation guidelines
  - Staff knowledge of PPE
- Mitigate risk that cause or contribute to HAI
  - SCIP measures, appropriate hair removal, timely antibiotics in OR, DC in 24 hours except 48 hours for cardiac patients, beta blockers during perioperative periods for select cardiac patients, proper sterilization of equipment, etc.

(continued)

- Isolation procedures for:
  - Highly immuno-suppressed patients (HIV or chemo patients)
  - Trach care, respiratory care, burns, and other similar situations
- HAI risk mitigation
  - Promotion of hand hygiene
  - Measures to prevent organisms that are antibiotic resistant such as MRSA and VRE
- Central line bundle, VRE bundle or sepsis bundle, prompt removal of foley catheter
- Use of disinfectants, antiseptics, and germicides in accordance with manufacturers instructions
IC Policies to include: (continued)

- Appropriate use of facility and medical equipment (hepa filters, negative pressure room, UV lights and other equipment) to prevent the spread of infectious agents
- Education on infection and communicable diseases for patients, visitors, care givers, and staff
- Active surveillance system, method for getting data to determine if there is a problem
- Policy on getting cultures from patients, etc.

Policies and Organization

- Need IC officer (now called IP or Infection Preventionist) and IC committee
- IC officer must develop and implement policies on control of infection and communicable diseases
- Person must be designated in writing who is qualified through education and experience
- Lists the responsibilities of this person-consider putting into job description
Infection Control

- The IP must develop a system for identifying, reporting, investigating, and controlling infections and communicable diseases of patients and personnel
- Applies to both healthcare-associated infections (HAI) and community-acquired infection

Infection Control Activities Tag 749 (continued)

The following activities should be based on national guidelines:

- Maintenance of a sanitary hospital environment
- Development and implementation of infection control measures related to hospital personnel (hospital staff, for infection control purposes, includes all hospital staff, contract workers (e.g., agency nurses, housekeeping staff, etc.), and volunteers
- Mitigation of risks associated with patient infections present upon admission and risks contributing to HAI
- Active surveillance
Infection Control Activities (continued)

- Monitoring compliance with all policies, procedures, protocols and other infection control program requirements
- Program evaluation and revision of the program, when indicated
- Coordination as required by law with federal, state, and local emergency preparedness and health authorities to address communicable disease threats, bioterrorism, and outbreaks
- Complying with the reportable disease requirements of the local health authority

Log of Incidents 750

- Must maintain a log related to infections and communicable diseases
- Includes information from patients
- Includes employees, contract staff such as agency nurses, and volunteers
- Includes surgical site infections, patients or staff with MDRO, patients who meet isolation requirements
- Log can be paper or electronic
CEO, DON, and MS A-756

- The CEO, DON, and MS must ensure that there is hospital-wide QA and training program that address problems identified by IC officer
- Implement a successful corrective action plan in affected problem areas
- Train staff in problems identified
- Problems must be reported to nursing, MS, and administration

Keep Up with the Literature

- Preventing Surgical-Site Infections in Nasal Carriers of Staph Aureus
- Do rapid screen nasal swab and if positive decolonize nasal to reduce surgical site infections
- Chlorahexidine instead of Povidone-Iodine for surgical site antisepsis reduces surgical site infections
Chlorhexidine–Alcohol versus Povidone–Iodine for Surgical-Site Antisepsis

Rohith C. Damodar, M.D., Matthew J. Wall, Jr., M.D., Samal M.F. Dani, M.D., Mary F. Otterton, M.D., Alexandra L. Webb, M.D., Matthew M. Carneke, M.D., Harold J. Miller, M.D., Samir S. Awd, M.D., Cynthia T. Crosby, B.S., Michael C. Mauser, Ph.D., Aref Al-Sharif, M.D., and David H. Berger, M.D.

ABSTRACT

Background Since the patient's skin is a major source of pathogens that cause surgical-site infection, optimization of preoperative skin antisepsis may decrease postoperative infections. We hypothesized that preoperative skin cleansing with chlorhexidine–alcohol is more protective against infection than is povidone–iodine.

Methods We randomly assigned adults undergoing clean-contaminated surgery in six hospitals to preoperative skin preparation with either chlorhexidine–alcohol scrub or povidone–iodine scrub and paint. The primary outcome was any surgical-site infection within 30 days after surgery. Secondary outcomes included individual types of surgical-site infections.

Results A total of 849 subjects (419 in the chlorhexidine–alcohol group and 440 in the povidone–iodine group) qualified for the intention-to-treat analysis. The overall rate of surgical-site infection was significantly lower in the chlorhexidine–alcohol group than in the povidone–iodine group (9.5% vs. 11.9% P = 0.47).

Preventing Surgical-Site Infections in Nasal Carriers of Staphylococcus aureus

Levitts G.M. Bode, M.D., Ian A.J.W. Kluytmans, M.D., Ph.D., Haimus P.L. Wertheim, M.D., Ph.D., Diana Bogdars, I.C.P., Christina M.J.E. Vandenbroucke-Grauls, M.D., Ph.D., Robert Roosendaal, Ph.D., Amint Traut, M.D., Ph.D., Adrienn P.A. Bal, B.A.Sc., Andreas Voss, M.D., Ph.D., Ingeborg van der Tweel, Ph.D., Alex van Bentum, Ph.D., Henri A. Verbrugh, M.D., Ph.D., and Margreet C. Vos, M.D., Ph.D.

ABSTRACT

Background Nasal carriers of Staphylococcus aureus are at increased risk for health care–associated infections with this organism. Decolonization of nasal and extranasal sites on hospital admission may reduce this risk.
Recent Issues

- June 2010 OSHA makes bold move to regulate infection prevention and publishes in FR (new IC police) Issued May 6, 2010
- June 2010 Environmental team at Mayo Clinic wipes out C diff with bleach wipe program
- June 2010 VA hospitals cut MRSA by 77% in ICUs with active surveillance
- June 2010 SHEA and IDSA issues new C diff guidelines
- TJC issues pertussis best practice June 2010

Sepsis Screening In ICU

- July 2010 article in Archives of Surgery said hospitals are not adequately screening for sepsis in the ICU
- Reviewed 364,000 general surgery cases in ACS National Surgical QI Program
- Need to identify early
- Occurred in 2.3% of patients and has doubled in the past two years
- Need to look at 4 early indicators every day: HR, respiratory rate, temperature and WBC
Sepsis in General Surgery

The 2005-2007 National Surgical Quality Improvement Program Perspective

Laura J. Moore, MD; Frederick A. Moore, MD; S. Rob Todd, MD; Stephen L. Jones, MD; Krista L. Turner, MD; Barbara L. Bass, MD


Objective To document the incidence, mortality rate, and risk factors for sepsis and septic shock compared with pulmonary embolism and myocardial infarction in the general-surgery population.

Design Retrospective review.

Setting American College of Surgeons National Surgical Quality Improvement Program institutions.


Main Outcome Measures Incidence, mortality rate, and risk factors for sepsis and septic shock.

Results Of 363,897 general-surgery patients, sepsis occurred in 8350 (2.3%), septic shock in 927 (0.26%).

The End

- Are you up to the challenge?
- Additional slides on TJC NPSG on IC and bundles
- Infection control websites
8 Things to Reduce Post-operative Pneumonia

- Researchers from VA Palo Alto Healthcare System and Stanford University employed 8 things to reduce pneumonia on the surgery floor

1. Education of all surgical and ward nursing staff about their role in pneumonia prevention
2. Cough and deep-breathing exercises with incentive spirometer
3. Twice-daily oral hygiene with chlorhexidine swabs
4. Ambulation with good pain control

5. Head-of-bed elevation to at least 30 degrees and sitting up for all meals ("up to eat")
6. Quarterly discussion of the progress of the program and results for nursing staff
7. Pneumonia bundle documentation in the nursing documentation
8. Computerized physician pneumonia prevention order set in the physician order entry system.

The End Questions?

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