The Path to National Healthcare Safety Network Data in Georgia

Presentation to: Georgia Hospital Association
Presented by: Matthew Crist, MD, MPH
Date: October 31, 2012
Outline

• History of Public Health Involvement in Healthcare Associated Infections (HAIs)
• Reporting Mandates and Other Options
• Reporting to CMS
• Making Select HAIs Notifiable to DPH
• Plans for the Data
• Validation
History of HAI Prevention

- Healthcare facilities were at the center of all HAI prevention and surveillance efforts
- Prevention projects were conducted by each individual facility
  - Interventions not often adopted by others
- Field was dominated by larger, academic facilities
- Minimal involvement from state health departments

Srinivasan 2010
Improved Implementation of Existing Best Practices

2009 HHS Action Plan in Response to GAO

News Release

FOR IMMEDIATE RELEASE Tuesday, January 6, 2009

HHS Issues Action Plan to Prevent Health Care-Associated Infections

The U.S. Department of Health and Human Services (HHS) unveiled a plan that establishes a set of five-year national prevention targets to reduce and possibly eliminate health care-associated infections (HAIs).

Health care-associated infections are infections that patients acquire while undergoing medical treatment or surgical procedures. These infections are largely preventable.

The Action Plan to Prevent Health Care-Associated Infections lists a number of areas in which HAIs can be prevented, such as surgical site infections. The plan also outlines cross-agency efforts to save lives and reduce health care costs through expanded HAI prevention efforts.

“This plan will serve as our roadmap on how the department addresses this important public health and patient safety issue,” HHS Secretary Mike Leavitt said. “This collaborative interagency plan will help the nation build a safer, more affordable health care system.”

The plan establishes national goals and outlines key actions for enhancing and coordinating HHS-supported efforts. These include development of national benchmarks prioritized recommended clinical practices, a coordinated research agenda, an integrated information systems strategy and a national messaging plan.

The plan also identifies opportunities for collaboration with national, state, tribal and local organizations.

HHS intends to update the plan in response to public input and new recommendations for infection prevention. The plan, and instructions for submitting comments on the plan, can be found online at http://www.hhs.gov/ophs.
National HAI Action Plan: Priorities

• Priority Areas
  – Catheter-Associated Urinary Tract Infection
  – Central Line-Associated Blood Stream Infection
  – Surgical Site Infection
  – Ventilator-Associated Pneumonia
  – MRSA
  – Clostridium difficile

• Tier 1 Implementation
  – Hospitals

• Tier 2 Implementation
  – Ambulatory Surgical Centers
  – Dialysis Centers

Kainer, 2010
Congressional Action on HAIs

• Congressionally mandated State HAI Plans
  – States required to have a formal HAI prevention plan
  – CDC provided a template for developing the plans and feedback on plans

 State health departments taking a more central role in HAI prevention efforts
  • Neutral party- able to work with any facility
  • Able to work across the entire continuum of care
  • Have access to a range of interventions- including recommendations and regulations

Srinivasan 2010
Across the Healthcare Continuum

- Acute Care Hospitals
- Dialysis Centers
- Outpatient Surgical Centers
- Long Term Care Facilities (LTCFs)
- Long Term Acute Care Facilities (LTACs)
Areas Targeted by Public Health

• PREVENTABLE infections from things we as health providers do to patients:
  – Device-Associated Infections
  – Surgical Site Infections
  – Dialysis-Associated Infections
  – Injection Safety
Areas Targeted by Public Health

- Infections that cause significant mortality and morbidity that can be transferred from patient to patient
  - MRSA
  - Clostridium difficile
  - Multi-drug resistant Gram negatives
HICPAC Guidance

• In 2009 Healthcare Infection Control Practices Advisory Committee (HICPAC) released guidance for public reporting of HAIs
• Did not recommend for or against but provided recommendations on important elements of building a successful reporting program
• Many states proceeded forward with mandatory reporting programs
Public Reporting Mandates

• Currently 28 states + DC have HAI public reporting mandates
• Data is reported by facilities to the state health department
• State health department releases a public report of facility-specific data for those HAIs included in the mandate
NHSN DATA: CMS reporting

- CMS now requires reporting of HAIs to the National Healthcare Safety Network (NHSN) to receive 2% reimbursement
- Data posted on Hospital Compare
- Every Quarter approximately 1 year later - 1st quarter 2011 posted Feb 2012
- Validation performed on 3 charts per quarter
## CMS Reporting via NHSN – Current and Proposed Requirements (as of 11/14/2011)

<table>
<thead>
<tr>
<th>HAI Event</th>
<th>Facility Type</th>
<th>Reporting Start Date</th>
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</thead>
<tbody>
<tr>
<td>CLABSI</td>
<td>Acute Care Hospitals Adult, Pediatric, and Neonatal ICUs</td>
<td>January 2011</td>
</tr>
<tr>
<td>CAUTI</td>
<td>Acute Care Hospitals Adult and Pediatric ICUs</td>
<td>January 2012</td>
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<tr>
<td>SSI</td>
<td>Acute Care Hospitals Colon and Abdominal Hysterectomy</td>
<td>January 2012</td>
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<tr>
<td>I.V. antimicrobial start</td>
<td>Dialysis Facilities</td>
<td>January 2012</td>
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<tr>
<td>Positive blood culture</td>
<td>Dialysis Facilities</td>
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<td>Signs of vascular access infection</td>
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<tr>
<td>CLABSI</td>
<td>Long Term Care Hospitals *</td>
<td>October 2012</td>
</tr>
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<td>CAUTI</td>
<td>Long Term Care Hospitals *</td>
<td>October 2012</td>
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<tr>
<td>CAUTI</td>
<td>Inpatient Rehabilitation Facilities</td>
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<td>MRSA Bacteremia</td>
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<td>C. difficile LabID Event</td>
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<tr>
<td>HCW Influenza Vaccination</td>
<td>Acute Care Hospitals</td>
<td>January 2013</td>
</tr>
<tr>
<td>HCW Influenza Vaccination</td>
<td>ASCs</td>
<td>October 2014</td>
</tr>
<tr>
<td>SSI (Future Proposal)</td>
<td>Outpatient Surgery/ASCs</td>
<td>TBD</td>
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</table>

* Long Term Care Hospitals are called **Long Term Acute Care Hospitals** in NHSN
Standardized Infection Ratio

- SIR = observed infections/ predicted infections
- Predicted based on 2006-2008 NHSN baseline data
- Accounts for type of unit (MICU) and type of facility (academic teaching hospital)
- Provides risk adjustment
Hospital compare graphs

Central Line Associated Blood Stream Infections (CLABSI)

State
Hospital A
Hospital B
Hospital C

Standardized Infection Ratio (SIR)
National Benchmark = 1
No Reporting Mandate in GA

• Reasons:
  – Open records requests
  – Self-reported unvalidated data
  – Hospitals concerned about accuracy

• Results:
  – GDPH does not have access to NHSN facility-specific data until publicly released
  – Unable to recognize problems and perform interventions where needed
  – Data not reported on unit specific level
Potential Solutions: Mandate

• Pros
  – Publicly report data
  – Motivator to facilities
  – Designation of resources toward prevention
  – Access to real-time data in NHSN

• Cons
  – Would need to validate to ensure accuracy
  – Expensive and resource-intensive
Potential Solutions: Data Use Agreement

• Pros
  – Data protected under contract with CDC
  – Access to data for public health purposes

• Cons
  – Not real-time data: Data dump every 3 months
  – Unable to use NHSN analysis tools

CDC Introduces New Way for State Health Departments to Access Data Reported to the National Healthcare Safety Network

CDC Data Use Agreement with State Health Departments
Frequently Asked Questions
Potential Solutions: Notifiable Disease List

• Pros
  – Real-time data through NHSN users group
  – Access to NHSN tools
  – Ability to Protect the Data
  – Align with CMS

• Cons
  – Would not include resources for validation
Department of Public Health as of July 1, 2011
Department of Public Health

• Department level agency
• Commissioner focused on public health
• Legal team within public health
• Permitted better access and higher prioritization to move forward
What was done

• Worked with HAI Advisory Counsel to plan
• Proposal was drafted to add HAIs reportable to CMS to Georgia Notifiable Disease List beginning January 1, 2013
  – Constructed with assistance of General Counsel
  – Commissioner signed proposal
• Data declared confidential: protected from open records requests
Which HAIs?

- Only those reportable to CMS
- As CMS adds HAIs to the list of reporting requirements, they will be added in parallel to the list of Notifiable Diseases to DPH
- Facilities will need to confer the rights to DPH for the NHSN data they will be reporting to CMS
- No additional HAIs are required
Plan for the Data

- Use it to guide public health efforts
  - Recognize areas of concern
  - Target educational efforts
  - Build collaboratives with partners
  - Measure success of programs

- Provide data to facilities
  - Permit comparison of facility data to state and national data
Potential Display of Data

<table>
<thead>
<tr>
<th>Facility</th>
<th>Observed</th>
<th>Predicted</th>
<th>SIR</th>
<th>95% CI</th>
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<tr>
<td>Hospital A</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hospital B</td>
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<td></td>
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<tr>
<td>Hospital C</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Hospital D</td>
<td></td>
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</table>

*Facilities would only know which letter represented their own facility

*Provide data to facilities of SIR percentiles for various HAIs
Validation

• Importance of Accurate Data
  – Guides infection control policies and strategies
  – Creates an equal comparison
    • Facilities need to believe the data to be motivated by it
    • Facilities feel they are compared fairly

• Distinct difference in CLABSI measurements in states performing validation vs other states
Guess which 5 states perform Validation?


<table>
<thead>
<tr>
<th>State</th>
<th>No. of Facilities Reporting</th>
<th>Observed</th>
<th>Predicted</th>
<th>SIR</th>
<th>Lower</th>
<th>Upper</th>
<th>0</th>
<th>1.0</th>
<th>2.0</th>
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<td>50</td>
<td>64</td>
<td>94.25</td>
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<td>0.52</td>
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<td>30</td>
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<td>0.72</td>
<td>1.19</td>
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<td>1.01</td>
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<td>0.47</td>
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<td>US-all</td>
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<td>4,615</td>
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<td>0.80</td>
<td>0.85</td>
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</table>

* Presence of mandate to report CLABSI to the state health department using NHSN as of June 30, 2009
† Solid diamonds=SIR < 1.0, solid X=SIR > 1.0, open circle=SIR not different than 1.0
§ State health department self-reported the completion of any validation study of NHSN data (studies conducted on 2008 data).
Objectives of Validation

• Conduct validation of CLABSI reporting to NHSN in an effective resource efficient manner

• Maximize accuracy of data
  – Correct mistakes
  – Learn about additional areas where education should be provided
  – Create an environment where accuracy is emphasized

• Prepare for CMS validation
BONE AND JOINT INFECTION (BJ)

BONE – Osteomyelitis

DEFINITION: Osteomyelitis must meet at least ONE of the following criteria:

- **Criterion 1:**
  - Patient has organisms cultured from bone

- **Criterion 2:**
  - Patient has evidence of osteomyelitis on direct examination of the bone during ONE of the following:
    - surgical operation
    - histopathologic examination

- **Criterion 3:**
  - Patient has at least TWO of the following signs or symptoms with no other recognized cause:
    - fever (>38°C)
    - localized swelling
    - tenderness
    - heat
    - drainage at suspected site of bone infection
    - AND
    - at least ONE of the following:
      - organisms cultured from blood
      - positive blood antigen test (e.g., H. influenzae, S. pneumoniae)
      - radiographic evidence of infection (e.g., abnormal findings on x-ray, CT scan, MRI, radioisotope scan [gallium, technetium, etc]).

JNT – Joint or Bursa

DEFINITION: Joint or bursa infections must meet at least ONE of the following criteria:

- **Criterion 1:**
  - Patient has organisms cultured from ONE of the following:
    - joint fluid
    - synovial biopsy

- **Criterion 2:**
  - Patient has evidence of ONE of the following:
    - joint infection
    - bursa infection seen during ONE of the following:
      - surgical operation
      - histopathologic examination

- **Criterion 3:**
  - Patient has at least TWO of the following signs or symptoms with no other recognized cause:
    - joint pain
    - swelling
    - tenderness
Looking Forward

• Use NHSN data to recognize problems and direct public health interventions
• Continue to participate with partners in building prevention collaboratives
• Provide education on prevention, NHSN enrollment and case determinations
• Consider small scale voluntary validation
• Continue to reevaluate if funding situation changes
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Questions