NHSN Annual Survey: Acute Care Hospitals in CT 2008-2014

About the National Healthcare Safety Network (NHSN)

- Secure web-based surveillance database used for Healthcare Associated Infection (HAI) Surveillance
- Used universally by ACHs
- CMS quality reporting
- State reporting requirements
- NHSN user requirements include submission of an annual survey

The Annual Survey

- Has been a requirement at least since 2008
- Filled out by Infection Preventionists, Microbiology lab staff, others

Content
- Facility profile (number of beds, teaching status, ownership class)
- Infection prevention infrastructure (staffing)
- Microbiology laboratory practices
- Infection prevention practices, e.g.:
  - Isolation
  - Screening for MDRs
- Antimicrobial Stewardship Programs
  - New in 2014
  - Align with the CDC’s seven core elements

Some hot issues currently in HAI/what that survey can do

Hot Issues
- Infection prevention infrastructure
- CRE – lab testing, definitions, surveillance
- Quality of infection prevention practices in facilities
- AMS
- Is anybody looking at the data? Do they have the time, skills?
- What are they doing with it?

What the survey can do
- Staffing hours
- Microbiology lab report on CRE testing methods, breakpoints
- IP information on CRE testing (AST), isolation practices
- Not address quality of infection prevention/outbreaks/safe injection
- New AMS module related to “core elements”
- Can see if data quality improves
- Survey does not answer “data for action” questions
Profile of Connecticut acute care hospitals

- 30 facilities (29 hospitals, one with two campuses reporting separately)
- Size range: 35-1500 beds
- Member hospitals in hospital systems (e.g., Yale System, HartfordHealthcare System) still report separately (have their own CMS numbers, and IP programs)

Acute care hospitals, size stratification, Connecticut, 2014

<table>
<thead>
<tr>
<th>Bed Size (staffed)</th>
<th># of licensed facilities</th>
<th>Percent of facilities</th>
<th># of staffed beds</th>
<th>Percent of staffed beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;100</td>
<td>7</td>
<td>25</td>
<td>501</td>
<td>6</td>
</tr>
<tr>
<td>101 - 300</td>
<td>13</td>
<td>46</td>
<td>2,978</td>
<td>39</td>
</tr>
<tr>
<td>&gt;300</td>
<td>8</td>
<td>28</td>
<td>4,155</td>
<td>54</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100</td>
<td>7,634</td>
<td>100</td>
</tr>
</tbody>
</table>

Data Quality: Criteria for identifying a “error” in response to infrastructure questions

- Missing data
- Hospitals with no ward beds
- Identical number of patient days from year to year
- Sudden major changes in number of ICU beds/staff beds
- Change in teaching status (and it doesn’t fit with what we know)
- Miscellaneous weirdness

Annual Reporting Errors: Infrastructure Questions
Small hospitals (<100) – why the drop in FTE/100 beds?

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of staffed beds</th>
<th>IP hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>511</td>
<td>555</td>
</tr>
<tr>
<td>2014</td>
<td>501</td>
<td>323</td>
</tr>
</tbody>
</table>

Individual hospital profiles (in this case staffing)

Non-Surveillance and Surveillance Hours by Infection Preventionists

Number of Surveillance Hours/Patient Days

\[ y = 0.0018x - 3.5505 \]
\[ R^2 = 0.3059 \]
Infection prevention practices beyond staffing

• MDRO contact precautions?
• Routine screening for MDROs
• Speed of communication about MDROs
• Chlorhexidine bathing
• Transfer communication regarding MDROs*

* NB: CDC, Vital Signs, August 2015

Probable/possible Next steps

• Microbiology laboratory practices
• Validation of the annual survey against data collected on ACH for the 2015 EIP HAI prevalence survey?
• Map IC practices in the annual survey to hospital infection prevention assessments, follow over time?
• Review with IP community, CT Multidisciplinary Group, NHSN Advisory Committee, CSTE HAI Surveillance Standards Committee, etc.
• Other facility types that also do NSHSN surveys
  • Long Term Acute Care hospitals (LTACHs)
  • Outpatient hemodialysis centers
  • LTCFs - someday?

Acknowledgements

• NHSN facility administrators, infection preventionists, microbiology laboratory directors can data entry staff at the Connecticut acute care hospitals
• Dr. Joan Segal, University of Connecticut School of Public Health

Finis (diem)

• Questions?
• Discussion
• Contact information
  • Richard Melchreit: Richard.Melchreid@ct.gov
  • Claire Gerber: claire.gerber@ct.gov or cgerber@uchc.edu
  • Phone (860) 509-7995