Building Capacity to Implement Infection Prevention and Surveillance

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Division of Healthcare Quality Promotion

NHSN LTC Annual Training
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Thank you for your commitment

Eighty percent of success is showing up

Woody Allen
Challenges for the nursing home infection preventionist (IP)

- Too many roles
- Limited formal training in IPC
- Competing priorities
- Scarce resources
- Lack of engagement
- Inadequate authority
National infection prevention and antibiotic stewardship initiatives for nursing homes

- **2012**: CDC launches NHSN reporting for LTCFs
- **2014-2016**: AHRQ Safety Program for LTC: CAUTI
- **2015**: CDC releases Core Elements of Antibiotic Stewardship
- **2016-2018**: CMS CDI reporting and reduction initiative
- **2013**: HHS National Action Plan to Prevent Healthcare associated Infections
- **2015-2018**: CDC Ebola Funding for ICAR State/Local HAI Prevention Programs
- **2016**: CMS Requirements for Participation for Nursing Homes
- **2019**: CDC Nursing Home Infection Preventionist Training Course
Primary goal:

- Reduction of catheter-associated UTI rates based on NHSN surveillance definitions

Clinical interventions

- General infection prevention strategies
- Education for infection preventionists and frontline staff
- CAUTI prevention-specific strategies

Cultural interventions

- Enhancing the overall structure, process, and practice of infection prevention and resident safety in nursing homes

S.L. Krein et al. AJIC 45 (2017) 1342-8
CAUTI Prevention Resources

Perceived benefits of CAUTI project participation

- Increased awareness of CAUTI management and prevention
  - Increases in evaluation of early catheter removal
  - Staff became better equipped to identify CAUTI symptoms,
  - Staff more comfortable asking physicians about the need for indwelling catheters, use of antibiotics, and urine cultures

- Willingness to modify current practice and educate other team members
  - Increased appropriate collection of urine cultures
  - Provided better catheter maintenance care
  - Increased use of catheter alternatives
  - Sustaining best practices through monitoring and randomly auditing staff on insertion and maintenance procedures
  - Expanded CAUTI education to all staff (e.g., housekeeping, dietary) because “all staff members have a role to play in prevention”

- Expanding education on infection prevention to residents and families
CDC Infection Control Assessment and Response (ICAR) Activity, 2015-2018

Elements within each Infection Prevention practice domain:

- Policies/procedures
- Staff training and education
- Auditing/monitoring adherence to policies
- Providing feedback on staff adherence
- Availability of supplies

# CDC ICAR: Nursing Home IPC Infrastructure

- 49 State and local health departments worked with 2378 NHs;
- Most assessments occurred during 2016-2017

<table>
<thead>
<tr>
<th>Infection Control Program and Infrastructure</th>
<th>% YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Specified a person responsible for coordinating the IPC program.</td>
<td>97</td>
</tr>
<tr>
<td>Mean staff hours on IPC activities per week: 15</td>
<td></td>
</tr>
<tr>
<td>B. The person responsible for the IPC program has received IPC training</td>
<td>51</td>
</tr>
<tr>
<td>C. Process for reviewing IPC activities (e.g., shared with QA committee)</td>
<td>97</td>
</tr>
<tr>
<td>D. Written IPC policies and procedures are available and <strong>based on</strong> evidence-based guidelines, regulations, or standards.</td>
<td>91</td>
</tr>
<tr>
<td>E. Written IPC policies and procedures are reviewed at least annually and updated if appropriate.</td>
<td>79</td>
</tr>
<tr>
<td>F. The facility has a written plan for emergency preparedness</td>
<td>92</td>
</tr>
</tbody>
</table>
Summary of ICAR NH Assessment Experience

Common findings and themes

- Leadership investment/support for IPC highly variable
- Staff overseeing IPC programs lacked IPC training and dedicated time
- Policies often in place, but routine auditing and feedback of staff adherence to policies and procedures not consistently implemented

Benefits from the activity

- New relationships between health dept. and providers
- Improved communication between providers and HDs (e.g., more requests for technical assistance during outbreak response)
- Positive learning experience for providers and health dept.
- Provided immediate IPC education and technical assistance to support nursing home providers
- Identified and lead to development of training and resources
QIN-QIO programs working with nursing homes – launched at end of May 2016

Recruited 2300 NHs to enroll and report CDI into the NHSN

CMS/CDC and National Coordinating Center collaboration to support QIN-QIOs

Developed trainings and resources to facilitate NHSN engagement and promote CDI prevention in participating facilities
CMS *C. difficile* reporting and reduction: Training resources

https://www.cdc.gov/nhsn/training/ltc/index.html
https://qioprogram.org/nursing-home-training-sessions
Qualitative Assessment of NHSN Experience

- Guided interviews with 42 staff from 14 nursing homes
- Topics included
  - Information about the respondent’s role and the facility
  - Participation in state initiatives
  - Familiarity with NHSN
  - Perceived outcomes from NHSN enrollment
- Respondent’s roles administrative (64%) or clinical (29%)
- Average years at facility: 11
- Percent time/week devoted to IPC: 24% (~10 hours)

Table 2
Characteristics of participating NHs

<table>
<thead>
<tr>
<th>Facility characteristics</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHSN enrollment</td>
<td></td>
</tr>
<tr>
<td>Consistent reporter</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Inconsistent reporter</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>Inactive</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Newly enrolled in 2016</td>
<td>4 (28.6)</td>
</tr>
<tr>
<td>Nonenrolled</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>Region</td>
<td></td>
</tr>
<tr>
<td>California</td>
<td>2 (14.3)</td>
</tr>
<tr>
<td>West of Mississippi (excluding California)</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>New York</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>East of Mississippi (excluding New York)</td>
<td>6 (42.9)</td>
</tr>
<tr>
<td>Other NH characteristics</td>
<td></td>
</tr>
<tr>
<td>Size, &lt; 100 beds</td>
<td>6 (42.9)</td>
</tr>
<tr>
<td>Hospital-based</td>
<td>2 (15.4)</td>
</tr>
<tr>
<td>Government-owned</td>
<td>3 (21.4)</td>
</tr>
<tr>
<td>Not-for-profit</td>
<td>6 (42.9)</td>
</tr>
<tr>
<td>Total NHs</td>
<td>14 (100)</td>
</tr>
</tbody>
</table>

NH, nursing home; NHSN, National Healthcare Safety Network.

Stone PW et al. AJIC 47 (2019) 615–622
Qualitative Assessment of NHSN Experience

Process of NHSN reporting was improving awareness of infection prevention

Quality improvement could occur by sharing data with QIOs and public health

Benchmarking could encourage best practices

Value of QIN-QIO support and participating in learning collaboratives

A motivated staff member is needed to ensure successful enrollment and sustained reporting

Questions about data quality, and definitions being different from MDS

Concerns about data integrity if reporting were required

Lack of feedback on reporting accuracy and performance

Reporting takes time away from staff... “takes a lot of hours”

Time to enroll and report was barrier without short-term benefit

Dedicating someone to infection control would be more of a benefit

<table>
<thead>
<tr>
<th>Theme</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits of NHSN</td>
<td>NHSN allows quality and process improvement by benchmarking against other NHs as well as assessing facility and regional trends.</td>
</tr>
<tr>
<td>External support and</td>
<td>Federal and state resources and regulations are important in facilitating infection prevention education and enrollment in and reporting to NHSN, focusing on infection prevention and antibiotic stewardship.</td>
</tr>
<tr>
<td>motivation</td>
<td></td>
</tr>
<tr>
<td>Need for a champion</td>
<td>A champion is needed to drive the culture to improve infection prevention surveillance and antibiotic stewardship.</td>
</tr>
<tr>
<td>Barriers</td>
<td>Enrollment and reporting take time and resources without short-term benefit or feedback.</td>
</tr>
<tr>
<td>Risk adjustment</td>
<td>Concern about a facility getting a poor reputation or poor quality rating because of being benchmarked without sufficient risk adjustment.</td>
</tr>
<tr>
<td>Data integrity</td>
<td>Concern about data integrity as related to possible mandated NHSN enrollment.</td>
</tr>
</tbody>
</table>

NH, nursing home; NHSN, National Healthcare Safety Network.
Impact by the numbers

- CAUTI rates decreased from a baseline of 6.42 to 3.33/1,000 catheter-days in a cohort of 400 nursing homes across the US
- 49 state/local health departments supported over 2,300 nursing homes in assessing and improving their IPC programs
- Over 3,000 nursing homes have enrolled into NHSN
  - More than 2,000 nursing homes have reported CDI data into NHSN during 2017 and 2018
Common themes across initiatives

**Direct benefits to facility IPC programs**
- Highlights the value of the infection preventionist
- Cultivates leadership awareness and engagement in infection prevention
- Provides infection prevention education and implementation resources

**Importance of National Collaborations and Local Partnerships**
- Developed education and resources on a large-scale
- Facilitated solutions to implementation challenges
- Provided local resources for facility programs
- Sustained ongoing engagement with providers
Assessing Nursing Home IPC Infrastructure

- Responses from 990 of 2514 (39%) CMS certified NHs surveyed in 2014
- 34 questions covering IP staffing, resources, challenges, turnover

### IPC staffing

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN responding</td>
<td>84%</td>
</tr>
<tr>
<td>Mean years experience in IPC-related activities</td>
<td>11 years</td>
</tr>
<tr>
<td>Any specific training in IPC • CIC certification: 3%</td>
<td>39%</td>
</tr>
<tr>
<td>Received financial resources to obtain IP education</td>
<td>50%</td>
</tr>
<tr>
<td>Mean hours/week on IPC</td>
<td>12 hours</td>
</tr>
<tr>
<td>&gt;=2 additional responsibilities other than IPC</td>
<td>54%</td>
</tr>
<tr>
<td>Facility had &gt;=3 people in IP position within past 3 years</td>
<td>41%</td>
</tr>
</tbody>
</table>

Herzig CTA et al. JAMDA 2016; 17: 85-88
960 responses linked with CMS data on certification assessments including Infection Control deficiency citations

36% (364) received an IC citation during 2013

**Factors associated with no infection control citation (n=614)**

- More years experience in the facility
- Received specific Infection Prevention training
- Received financial resources to obtain IP education
- Physician involvement in Infection Control committee
- Less turnover among DON and Facility administrators

*Herzig CTA et al. JAMDA 2016; 17: 85-88*
Infection prevention is TEAM sport

- Leadership commitment and support for IPC is critical
- Engage expertise from across the organization to solve problems
- Sharing the work will increase accountability
- Everyone has a role in infection prevention
Promote IP Champions

- Provide staff with dedicated time and opportunities for education
- Support the IP to implement surveillance using systems that promote consistency in data collection and analysis
- Empower the IP to assess current prevention practices, respond to barriers impacting staff adherence and implement changes
Invest in Education

- CDC training provides free IPC education and resources to support nursing home programs
  - Over 9,000 registered learners since release
- Over 20 HDs developed or expanded infection prevention trainings for nursing homes as a result of the ICAR work
- Many nursing home and infection prevention partners also host NH IP education
Build on Existing Programs and Systems

- IPC and antibiotic stewardship programs align with QAPI
  - Prioritize activities based on risk assessment
  - Use **data** to monitor impact of prevention and improvement efforts
  - Allocate resources to making practice improvements
Take advantage of state/national IP initiatives

- Facilities leveraging support from external partners received resources to implement improvements
  - Provided access to national IPC expertise and resources
  - Improved communication and support from health departments and QIN-QIOs
  - Provided access to educational materials and one-on-one technical guidance
  - Facilitated and sustained engagement in infection prevention initiatives
Thank you!!

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For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

https://www.cdc.gov/longtermcare/index.html