California Nursing Home Quality Care Collaborative (NHQCC) and the Reducing Clostridium difficile Project Update

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Objectives

1. Review the HSAG NHQCC aims focused on preventing healthcare associated infections (HAIs), specifically *Clostridium difficile* infections (CDIs).
3. Explain approaches to both prevention and treatment of CDI.
4. Compare the differences between *Asymptomatic Bacteriuria* (ASB) and Urinary Tract Infection (UTI).
5. Disseminate tools for facility-wide performance improvement project (PIP) implementation on infection control, surveillance, and analysis.
Case Example
Case Example: Background

- Sadie Smith, 106 year-old woman
- Resides in Shady Acres Nursing Home
- Ambulates with use of a walker, but recently started demonstrating cognitive impairment
- Incontinent of urine, wears adult diapers
- Responded well to toileting program
- Not on medications
- Suffers from macular degeneration and is hard of hearing
Case Example: Change in Condition

- Two days ago, Sadie complained of feeling tired and achy.
- Temperature 97.5° F and blood pressure 180/60
- Urinalysis and complete blood count (CBC) were ordered.
Case Example: Lab Results

Urinalysis
25–50 WBCs and bacteria

CBC
WBCs: 6.5K
50% neutrophils
0% bands
Overview of HSAG
HSAG: Your Partner in Healthcare Quality

Nearly 25 percent of the nation’s Medicare beneficiaries

HSAG is the Medicare Quality Innovation Network-Quality Improvement Organization (QIN-QIO) for Arizona, California, Florida, Ohio, and the U.S. Virgin Islands.
### National NHQCC Collaborative Aims

- Ensure every nursing home (NH) resident receives the highest quality of care.
- Instill quality and performance improvement practices.
- Improve resident satisfaction.
- Eliminate HAIs.
- Support the implementation of Quality Assurance & Performance Improvement (QAPI).
- Help NHs achieve a NH quality measure composite score of 6 percent or lower by January 2019.
What and Who Make up the National NHQCC?

- The NNHQCC is a nationwide CMS initiative focused on improving quality of care in NHs.
- **653* NHs have joined the California NHQCC.**
- 6 Regions

* Nursing homes with signed participation agreements as of September 2016
The NHQCC Collaborative I: Learning Sessions and Action Periods

California Nursing Home Quality Care Collaborative Structure

Learning Session

- Learning Session 1: April–June 2015
- Learning Session 2: Sept.–Nov. 2015
- Learning Session 3: April–June 2016

Action Period occurs between learning sessions

Outcomes Congress: August–September 2016

ACT  PLAN
STUDY  DO
Front Line Staff and Physician Engagement
Preventing Infections: Quick Facts

• One to 3 million serious infections occur annually in nursing homes.
  – As many as 380,000 patients die of infections.
• UTIs are among the most common HAIs in nursing homes.
• Infections are among the most frequent causes of admission/readmission to hospitals from nursing homes.
  – Many residents are transferred with urinary catheters.

SOURCE: Agency for Healthcare Research and Quality (AHRQ) Safety Program for Long-Term Care
New CMS* Proposed Requirements

- Each facility’s infection prevention control program (IPCP) includes an antibiotic stewardship program
  - Revise antibiotic use protocols
  - Antibiotic monitoring
- The regulatory description of the IPCP to include
  - Infection prevention
  - Identification
  - Surveillance
  - Antibiotic stewardship

*CMS=Centers for Medicare & Medicaid Services
Nursing Home CDI NHSN Cohort Collaborative

- CMS funded QAPI initiative to prevent CDIs
- Nursing Homes receive support on enrollment and data submission into the Centers for Disease Control (CDC) NHSN databank
  - Customized system to track infections in a streamlined and systematic way
- Training on TeamSTEPPS
- Contribute to establishing a national baseline for CDIs in nursing homes

Recruitment Target: 182
Actual: 232
Infection Surveillance

http://www.cdc.gov/nhsn/LTC/index.html

National Healthcare Safety Network (NHSN)

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Tracking Infections in Long-term Care Facilities

Eliminating infections, many of which are preventable, is a significant way to improve care and decrease costs. CDC’s National Healthcare Safety Network provides long-term care facilities with a customized system to track infections in a streamlined and systematic way. When facilities track infections, they can identify problems and track progress toward stopping infections. On the national level, data entered into NHSN will gauge progress toward national healthcare-associated infection goals.

NHSN’s long-term care component is ideal for use by: nursing homes, skilled nursing facilities, chronic care facilities, and assisted living and residential care facilities.
NHSN Enrollment Best Practices

1. Individualized Support
2. Streamlined Instructions
3. Available Resources
   • Web
     – (HSAG website, YouTube videos, and recorded webinars)
   • Print
     – (NHSN Enrollment Booklet)
   • HSAG Staff
     – (phone, email, and text)
• The infection preventionist (IP) ensures exchange of essential information between all departments.
  – Data collection is thorough and documented.
• IP oversees daily practices of staff.
• IP acts as liaison between the facility and Public Health Department.

• IP advises healthcare team and visitors of isolation policies, as appropriate.
• IP provides surveillance summaries to the infection control/QAPI/safety committees.
• IP makes recommendations to committees for follow-up.

Track and Trend

- Track, trend, and review monthly/quarterly summary reports
- Map out infections on floor plan.
- Maintain multi-drug resistant organisms (MDRO) logs.
- Track IP nurse’s notes documenting infection control (IC) information each month.
- Create department checklist (nursing, dietary, housekeeping, etc.).
- Utilize antibiotic review form and hand hygiene/personal protective equipment audit form.

Source: Centers for Medicare and Medicaid Services, State Operations Manual, Appendix PP-Guidance to Surveyors for Long-Term Care Facilities, Rev. 149,10-09-2015
Let’s Get Started

- In-service your licensed staff on their role in data collection
- Instruct licensed nurses on how to fill out infection control (IC) surveillance forms
- Consider getting an assistant for IP to perform audits
- Select forms to be used and designate where they will be kept for the IP to retrieve and review
- Review documentation often—this is an ongoing program
- Data collected must be reviewed frequently (weekly)
Antimicrobial Stewardship Plan

- Develop policy for Antimicrobial Stewardship Plan (ASP).
- Review use of antibiotics.
- Share findings with QAPI committee and all clinicians in your facility.
- Focus efforts on one problem as a starting point.
  - Begin with the obvious (e.g. urinary tract events).
- Design education campaign to include all licensed nurses.

Source: The National Center for Emerging and Zoonotic Infectious Diseases, CDC. Core elements of hospital antibiotic stewardship programs. 2014.
Source: Centers for Medicare and Medicaid Services, State Operations Manual, Appendix PP-Guidance to Surveyors for Long-Term Care Facilities, Rev. 149,10-09-2015
Communication is Key!
Change Package

Attachment 4

Change Bundle: To Prevent Healthcare Acquired Infections

March 2015

A healthcare improvement bundle is a process approach that helps providers close gaps within the workflow. A bundle is a structured way of implementing one process across care and non-care activities. A bundle is a practical, achievable, and evidence-based approach that globally forms the basis of improving performance, where prioritized interventions, collectively, have been proven to improve outcomes through validated, best practices. Examples of local bundles include those such as bundled surgical procedures (Surgical Care Improvement Project) or hip fractures (Hip Fracture Jt Care Improvement Project). The bundled interventions below represent the process recommended by the Center for Medicare & Medicaid Services (CMS) to improve patient outcomes and reduce complications for two of the most common patient diagnoses in hospitals, hip fractures and surgical procedures (Surgical Care Improvement Project). The process recommended below is both supported by the literature and in line with current US Public Health Service guidelines. This process recommended below is a series of interventions that, when combined, have been supported by evidence to improve outcomes and reduce complications for hip fractures and surgical procedures. These bundles are in line with the literature and in line with current US Public Health Service guidelines.

Six Point Bundle:

1. Promote hand hygiene
   a. Set clear expectations to fund system-wide hand hygiene for all staff.
   b. Provide visible reminders onilos, hand hygiene in needed.
   c. Choose high-touch areas for hand hygiene.
   d. After removing gloves, before entering in healthcare areas.
   e. After removing gloves, before entering in healthcare areas.
   f. After removing gloves, before entering in healthcare areas.
   g. After removing gloves, before entering in healthcare areas.
   h. After removing gloves, before entering in healthcare areas.
   i. After removing gloves, before entering in healthcare areas.
   j. After removing gloves, before entering in healthcare areas.
   k. After removing gloves, before entering in healthcare areas.
   l. After removing gloves, before entering in healthcare areas.

2. Change Package

CHANGE PACKAGE

A curated collection of great ideas & solutions to make learning easier for your nursing teams.

NATIONAL NURSING HOME QUALITY CARE COLLABORATIVE

March 2015

Quality Improvement Organizations

HSAG 2015-02-24
Steps to Prevent HAIs

Performace Improvement Projects (PIPs)

Apply the Change Bundle to Your PIP Action Plan!

- Promote hand hygiene.
- Prevent transmission of infections by staff members, families, and residents.
- Establish and implement systemwide environmental cleaning policies.
- Identify and treat infections appropriately.
- Avoid indwelling catheter use, unless appropriately indicated.

Ensure healthy, safe residents. Prevent harmful infections.

Why Focus on Infections?

4.1 MILLION
Americans are admitted to or reside in nursing homes during a year¹

UP TO 70%
of nursing home residents received antibiotics during a year²³

UP TO 75%
of antibiotics are prescribed incorrectly⁴⁶³

Why Focus on UTIs?

- **30–60%** of antibiotics used in skilled nursing facility are for suspected UTIs.\(^1\)
- **40–75%** of antibiotics used may be unnecessary or inappropriate.\(^2\)
- The point prevalence of ASB in long-term care residents range from **25–50%**.\(^3\)

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Diagnosing UTIs in the NH: Flipping a Coin

Is it a UTI?
Detecting an Infection: Change in Condition

- New or increased confusion
- Incontinence
- Falls
- Deteriorating mobility
- Reduced food intake
- Failure to cooperate with staff
Fever
Defining a Fever

A single oral temperature >100° F

Repeated oral temperatures >99.5° F

Increase of >2° F above baseline temperature
When Should a Urinalysis (UA) and Culture be Sent?

- Urine testing should only be performed when a resident has localized urinary tract signs and/or symptoms.

- Odorous or cloudy urine are not indications for urine culture or analysis. These changes are not considered signs of a UTI.
Warning!

Never Assume Anything
Case Example
Case Example: Background

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- Resides in Shady Acres Nursing Home
- Ambulates with use of a walker, but recently started demonstrating cognitive impairment
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Case Example: Change in Condition

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Case Example: Treatment

**Scenario 1:**
Over the next few days, Sadie was monitored and began feeling better.

**Scenario 2:**
Sadie was started on Amoxicillin 500mg POx7 days. Two weeks later, she began developing watery stools, four times daily.
Most Useful Diagnostic Labs to Identify Infection

- An elevated white blood count (WBC) count of >14K.
- A left shift >6 percent is indicative of a bacterial infection.
- The higher the WBC count and/or the higher the bandemia (bands), the greater the likelihood of a bacterial infection.

Pyuria
Prevalence of pyuria: 45 percent, (> 10 WBC/high power field [HPF])

Prevalence of bacteriuria: 43 percent, (>100,000 colony forming units [CFUs])

Bacteriuria: 59 percent with pyuria

No bacteriuria: 34 percent with pyuria

Pyuria: 56 percent had bacteriuria

No pyuria: 31 percent had bacteriuria

Leukocyte esterase positive: sensitivity of 83 percent and a specificity of 52 percent for pyuria on microscopic urinalysis
Conclusions

- Pyuria common among incontinent NH residents
- Must be cautious in interpreting pyuria
- Using pyuria can result in unnecessary use of antibiotics
- Bacteriuria has similar issues
Asymptomatic Bacteriuria (ASB)
Asymptomatic Bacteriuria

• A positive urine culture does not equal a UTI.
• ASB **only** denotes bacteria in the urine.
• A UTI requires bacteriuria associated with specific symptoms arising from the urinary tract.
Is Urine the Answer? What to Look for...

Acute dysuria?
- Yes
  - Fever, ↑ WBC/bands?
    - Yes
      - CVAT
      - Suprapubic pain
      - Hematuria
      - New or increased incontinence
      - New or increased urgency
      - New or increased frequency
      - UTI
    - No
      - No UTI
  - No
    - No

No UTI
Risk of *Clostridium difficile*

- One of the largest risks for inappropriate antibiotics (ABX)
- Significant morbidity and mortality in NHs
- Endemic pathogen in NHs
- Prevention and treatment evolving
  - Appropriate ABX treatment
  - Use of probiotics
  - Infection control precautions
  - Fecal transplantation
Probiotics as Prevention and Treatment of CDI

- Evidence is mixed
- Core common benefits
- Prevention during antibiotic treatment
  - Saccharomyces boullardii
- Treatment after antibiotics
  - Lactobacillus should be okay
- Monitor for side effects, e.g. constipation
- Benefits seem to outweigh risks
Your Role in QAPI
Act Your Way to a New Way of Thinking!

Think your way to a new way of acting!
The ability to think, make decisions, and take action at the system level is a prerequisite for QAPI success.
PIP Process

1. Select team members
2. Start PIP Charter: Add your resources and budget
3. Identify problem or opportunity
4. Set SMART goals
5. Root cause analysis
6. Action plan
7. Spread the intervention
8. Performance Improvement Project (PIP) Completed
Identify Areas for Improvement

• Number of reported HAIs
  – Do we have an issue with HAIs?
  – How effective are our systems for tracking HAIs?

• Scope of the problem
  – Which type of HAI is our biggest challenge?
  – Which residents are most at risk for infections, and why?
  – Are there environmental factors associated with our infection rates?
• Conduct surveillance and monitor infections.
• Determine which measures are important to your organization.
  – Choose one or more HAIs to monitor progress over time.
• Outcome measures.
  – Percentage of residents with UTI, CDI, or respiratory infections
  – Percentage of residents hospitalized with HAIs
Analyze Data and Set Goals (cont.)

- **Process measures**
  - Percentage of residents and staff members who receive a flu vaccine annually
  - Percentage of staff members and residents who have received a pneumonia vaccine
  - Staff member compliance with hand hygiene protocols
  - Staff member compliance with environmental cleaning procedures
• Policies and procedures
  – What processes do we have in place to prevent the spread of infection?
  – What system do we use to conduct surveillance for HAIs?
  – Do we produce HAI data feedback reports?
Conduct a Root Cause Analysis (RCA)

• Discuss root causes of your area(s) of concern
  – Are we good stewards of antibiotics?
  – Are we having employee absences due to illness?
  – Are employees washing their hands at all appropriate times?
  – Do environmental cleaning services meet our expectations?
Develop and Implement Quality Initiatives

- Education
- Infection surveillance
- Review infection prevention policies and procedures
- Resident influenza and pneumococcal vaccines
- Hand hygiene
- Report unusual resident changes
- Proper cleaning techniques
Develop and Implement Quality Initiatives (cont.)

- System changes
- Policy changes
- Enhance communication procedures
  - Situation, Background, Assessment, Recommendation (SBAR)
  - Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS)
During a PIP, attempt some changes to see whether or not they made a difference in the area you were trying to improve using the Plan, Do, Study, Act (PDSA) cycle.

Spread the intervention.
Performance Improvement Project (PIP) Completed
Discussion and Questions
Antibiotic Use Resources


Antibiotic Use Resources


QAPI Resources

- Advancing Excellence in America’s Nursing Homes: [www.nhqualitycampaign.org](http://www.nhqualitycampaign.org)
- INTERACT (Interventions to Reduce Acute Care Transfers) Version 4.0: [https://www.interact2.net](https://www.interact2.net)
- Institute for Healthcare Improvement: [www.ihi.org](http://www.ihi.org)
- Agency for Healthcare Research and Quality: [www.ahrq.gov](http://www.ahrq.gov)
- Pioneer Network: [www.pioneernetwork.net](http://www.pioneernetwork.net)
- The Institute for Health Care Improvement’s Model for Improvement: [www.ihi.org/resources/Pages/HowtoImprove/default.aspx](http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx)
Questions
Thank You!

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