



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).
2. Provide an update on the CMS CDI National Healthcare Safety Network (NHSN) Cohort Initiative and describe best practices to NHSN Enrollment.
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



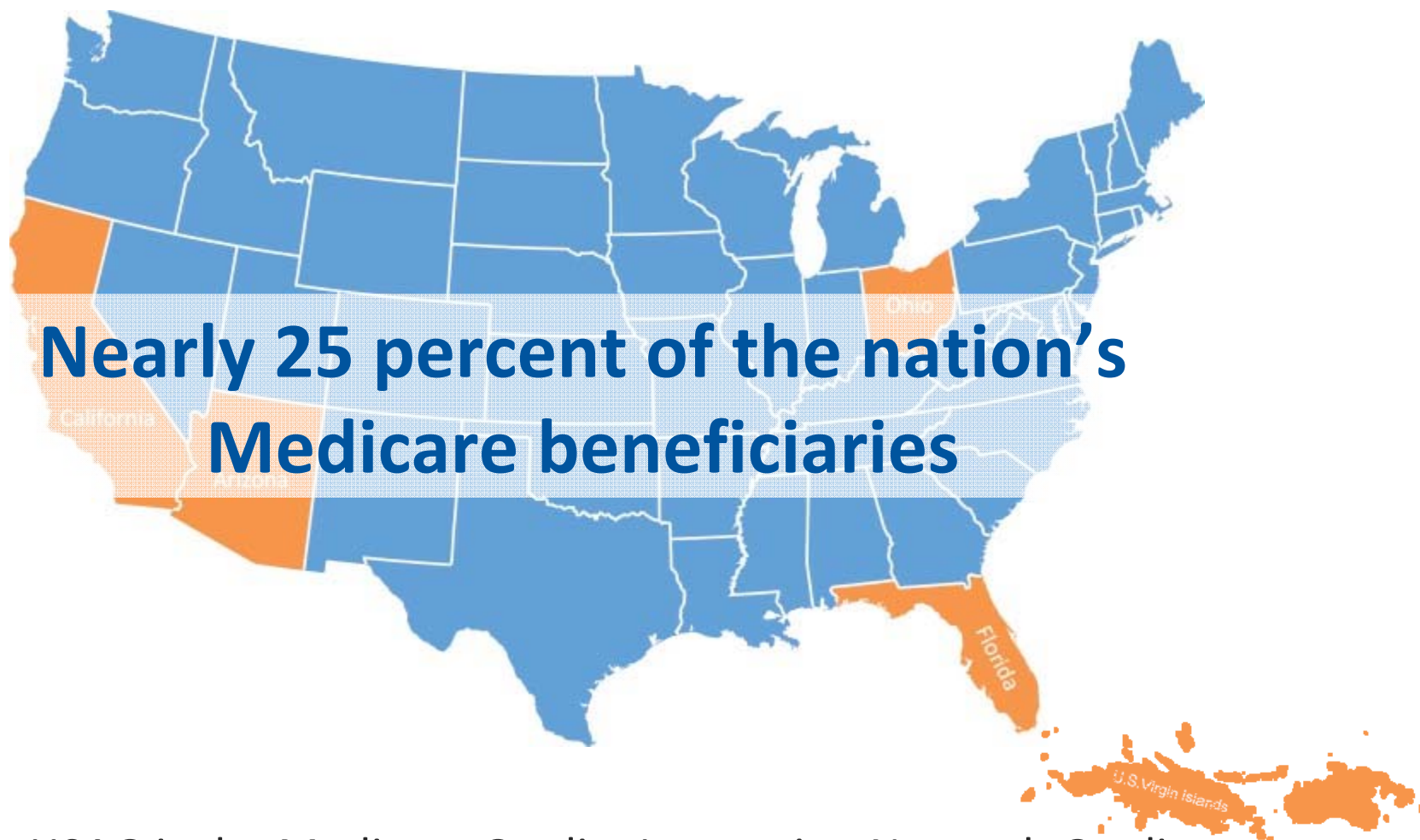
CBC
WBCs: 6.5K
50% neutrophils
0% bands





Overview of HSAG

HSAG: Your Partner in Healthcare Quality



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



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.

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

FEDERAL REGISTER, JULY 16, 2015 PROPOSED NEW QAPI REGULATIONS FOR NURSING HOMES

CMS CHANGES

The proposed rule would revise the requirements that Long-Term Care facilities must meet to participate in the Medicare and Medicaid programs. The proposals are an integral part of efforts to achieve broad-based improvements both in the quality of health care furnished through federal programs, and in patient safety, while at the same time reducing procedural burdens on providers.



Quality Assurance and Performance Improvement

Under requirements of the Affordable Care Act of 2010, all skilled nursing facilities/nursing facilities will be required to establish and implement a Quality Assurance and Performance Improvement (QAPI) initiative, including those that are part of a multi-unit chain of facilities.

Quality Assessment and Assurance (QAA) Committee

Currently each nursing facility is required to maintain a QAA Committee that includes minimally the Director of Nursing, a physician designated by the facility and three other members of the facility's staff.

New: The Infection Control and Prevention Officer will now participate in the QAA Committee. The Committee membership may, at the facility's discretion, also include additional individuals, for example some facilities may wish to include a pharmacist to coordinate QAPI activities related to reducing the use of psychotropic medications. The QAA Committee may also benefit from including individuals such as a resident council president, or directors of social services or activities. The committee will review and analyze data collected as part of the QAPI program, including an annual performance improvement project (PIPs) that focuses on high risk/problem prone area, and data from pharmacists resulting from monthly drug regimen reviews and reports.

"We propose to clarify that quality of care and quality of life are overarching principles in the delivery of care to residents of nursing homes."

Quality Assurance & Performance Improvement Activities

New: The QAA Committee will now be required to use QAPI techniques to monitor and evaluate the performance of their facility. A facility will be required to develop, implement, and maintain an effective, comprehensive, data-driven QAPI plan that focuses on systems of care, outcomes and services for residents and staff. The QAPI plan would be designed to monitor and evaluate performance of all services and programs of the facility, including services provided under contract or arrangement.

New: Nursing facilities may already be conducting quality assurance activities. A facility will need to submit a QAPI plan that includes a description of how it will coordinate implementation of QAPI with current quality assurance activities being conducted.

New: Each facility will be required to design and incorporate quality improvement into their facility routine. Each facility's governing body will ensure that the QAPI plan is defined, implemented and maintained to address identified priorities.

New: A facility will be required to maintain documentation and demonstrate evidence of the facility's QAPI Plan. Each facility must present, and have available upon request, their ongoing QAPI Plan to the State Agency Surveyor, as well as to a federal surveyor or CMS at the first annual recertification survey that occurs at least 1 year after the effective date of these regulations, and at each annual recertification survey. The State Agency will consider the QAPI plan in making its certification recommendations and providing evidence to CMS for compliance determination.



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)

NHSN	
NHSN Login	
About NHSN	+
Enroll Here	+
Materials for Enrolled Facilities	-
Ambulatory Surgery Centers	+
Acute Care Hospitals/Facilities	+
Long-term Acute Care Hospitals/Facilities	+
Long-term Care Facilities	-

[CDC](#) > [NHSN](#) > [Materials for Enrolled Facilities](#)

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 Interdisciplinary Coordinator

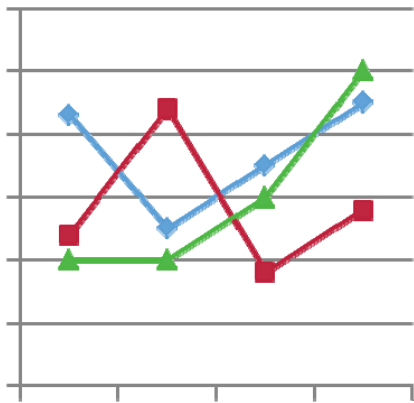
- The infection preventionist (IP) ensures exchange of essential information between all departments.
 - Data collection is thorough and documented.
- IP oversees daily practices of staff.
- IP acts as liaison between the facility and Public Health Department.



The Interdisciplinary Coordinator (cont.)

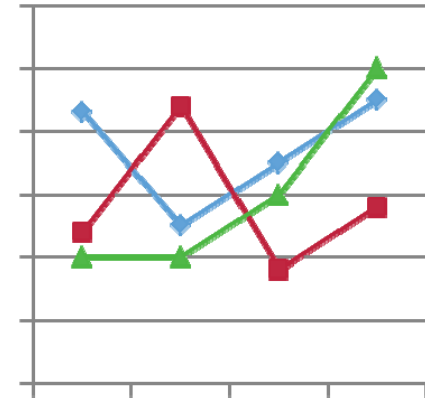
- IP advises healthcare team and visitors of isolation policies, as appropriate.
- IP provides surveillance summaries to the infection control/QAPI/safety committees.
- IP makes recommendations to committees for follow-up.

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.

Let's Get Started

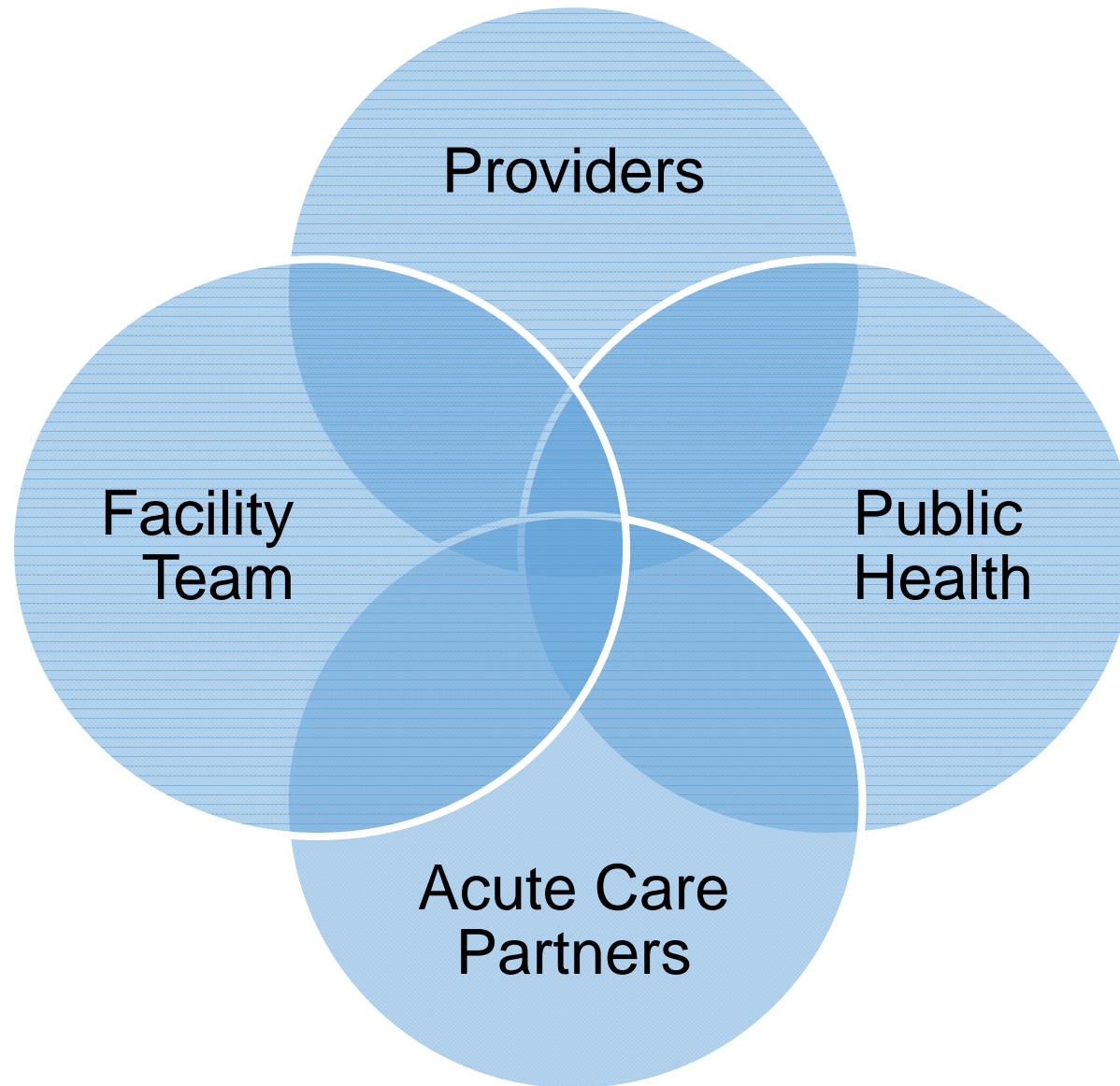


- In-service your licensed staff on their role in data collection
- Instruct licensed nurses on how to fill out infection control (IC) surveillance forms
- Consider getting an assistant for IP to perform audits
- Select forms to be used and designate where they will be kept for the IP to retrieve and 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.

Communication is Key!



Change Package

Attachment 4. Change Bundle: To Prevent Healthcare Acquired Infections

March 2015

A **healthcare improvement bundle** is a proven approach that helps providers more reliably deliver the best possible care for residents/patients. A bundle is a structured way of improving the processes of care and resident/patient outcomes. A small, straightforward set of evidence-based practices – generally three to five – that, when performed collectively and reliably have been proven to improve outcomes (adapted from IHI.org). Examples of successful bundles include those used in hospitals to reduce CLABSI, catheter-associated urinary tract infections (CAUTI), Surgical Site Infection (SSI) and Ventilator-associated pneumonia (VAP).

The **bundle of actions below represents the practices described by nursing homes participating in the National Nursing Home Quality Care Collaborative** to prevent healthcare acquired infections. Nursing homes across the country, in collaboration with CMS, QIP/OIGs, long term care trade associations, professional organizations, state health departments, the Centers for Disease Control and Prevention (CDC), embalmers, and many other partners and stakeholders have been working over the past several years to improve care for persons residing in long-term nursing homes. The actions described below are supported by the literature to help prevent healthcare acquired infections.

Six Point Bundle:

i. Promote hand hygiene

- a. Set clear expectations for hand hygiene practices for all staff.
- b. Provide visible reminders of when hand hygiene is needed.
 - When visibly soiled or contaminated
 - Before and after having direct contact with residents (for example, helping them to eat or with other daily needs)
 - After removing gloves
 - Before eating or handling food
 - After using restroom
- c. Make soap/waterless alcohol-based hand sanitizers readily available.
 - Look for ways to make these items readily available to staff given their workflow, for example, hand sanitizer bottles that staff can carry in their pockets
 - Identify and address any barriers that are preventing staff from washing their hands (understaffing, overcrowding, if they are frequently carrying them and have no place to wash their hands)
 - Recognize that residents may need assistance with washing their hands
 - Recognize that hand sanitizer can be drying, which can make skin more prone to cracking
 - Provide staff hand hygiene education (describe activities that contain germs, the importance of hand hygiene, the availability of hand sanitizer, the availability of hand sanitizer, the availability of hand sanitizer, the availability of hand sanitizer)
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- d. Provide education to residents, families and visitors on the importance of hand hygiene.
 - Fact sheet or poster
 - Attachment 4 - Change Bundle: To Prevent Healthcare Acquired Infections

Attachment 4 - Change Bundle: To Prevent Healthcare Acquired Infections

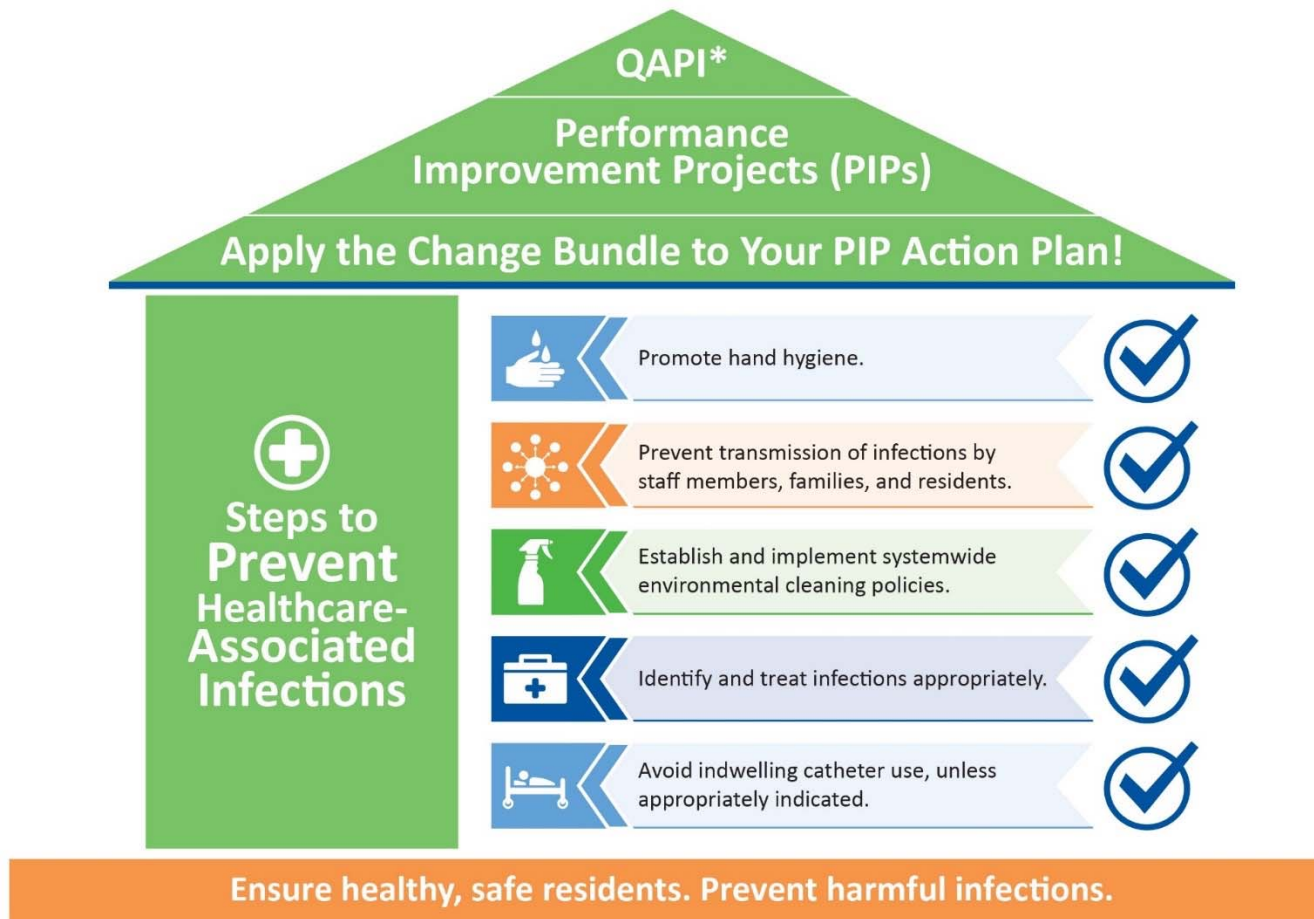
CHANGE PACKAGE

A curated collection of great ideas & practices to create lasting change in your nursing home.

NATIONAL NURSING HOME QUALITY CARE COLLABORATIVE
March 2015 v 2.0

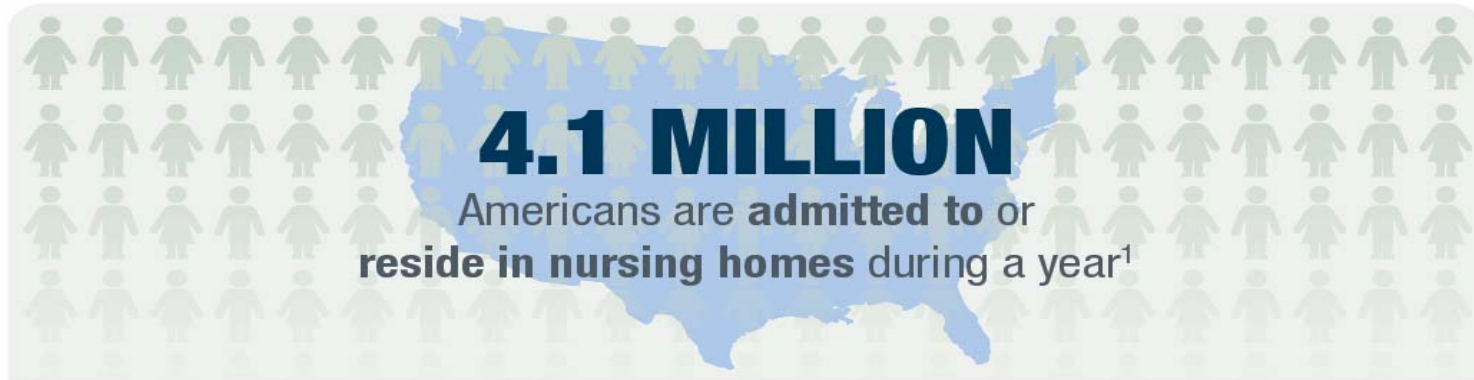
Quality Improvement Organizations
Sharing Knowledge. Improving Health Care.
CENTERS FOR MEDICARE & MEDICAID SERVICES

Steps to Prevent HAIs



*Quality Assurance & Performance Improvement
Source: National Nursing Home Quality Care Collaborative Change Package (<http://bit.ly/1hmrk85>)

Why Focus on Infections?



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

1. Benoit SR et al. J Am Geriatric Soc 2008; 56: 2039-44 PMID 19016937.

2. CDC. The Core Elements of Antibiotic Stewardship in Nursing Homes. <http://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html>.

3. CDC. UTI Event for Long-term Care Facilities http://www.cdc.gov/nhsn/PDFs/LTC/LTCF-UTI-protocol_FINAL_8-24-2012.pdf.

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 $>100^{\circ}$ F

Repeated oral temperatures $>99.5^{\circ}$ F

Increase of $>2^{\circ}$ 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

- Sadie Smith, 106 year-old woman
- 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: Lab Results

Urinalysis
25–50 WBCs and
bacteria



CBC
WBCs: 6.5K
50% neutrophils
0% bands



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

UA and Culture and Sensitivity Analysis Results in Asymptomatic NH Residents

- **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

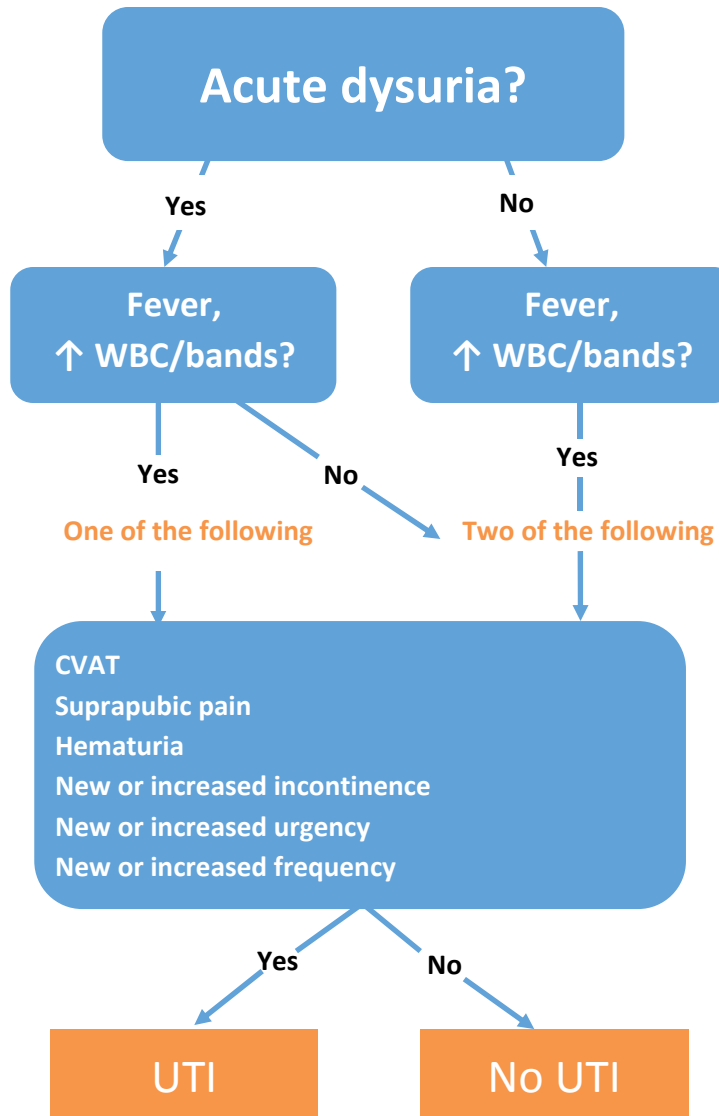


Asymptomatic Bacteriuria (ASB)

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...



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 boulardii*
- Treatment after antibiotics
 - *Lactobacillus* should be okay
- Monitor for side effects, e.g. constipation
- Benefits seem to outweigh risks

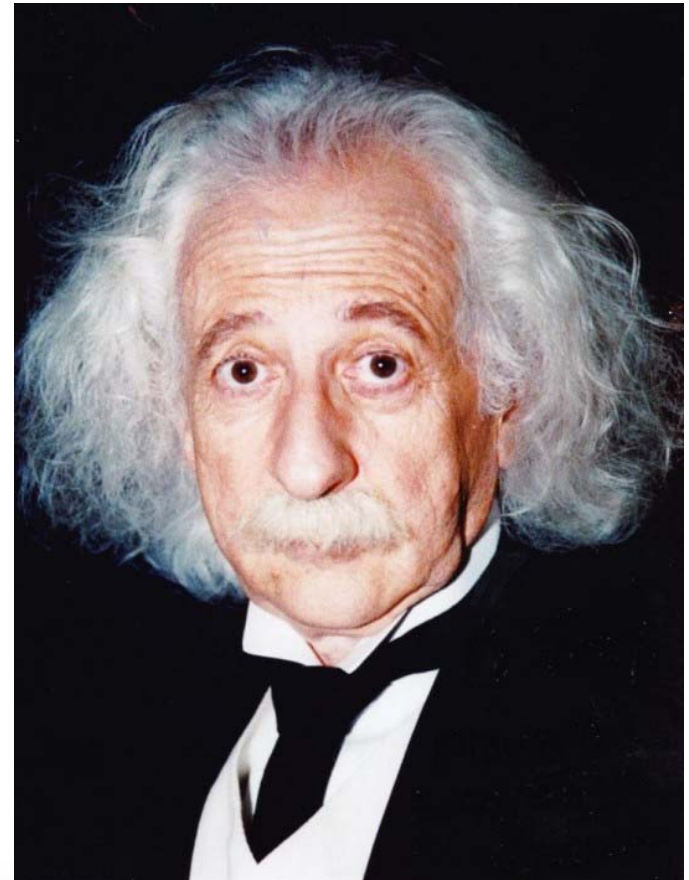


Your Role in QAPI

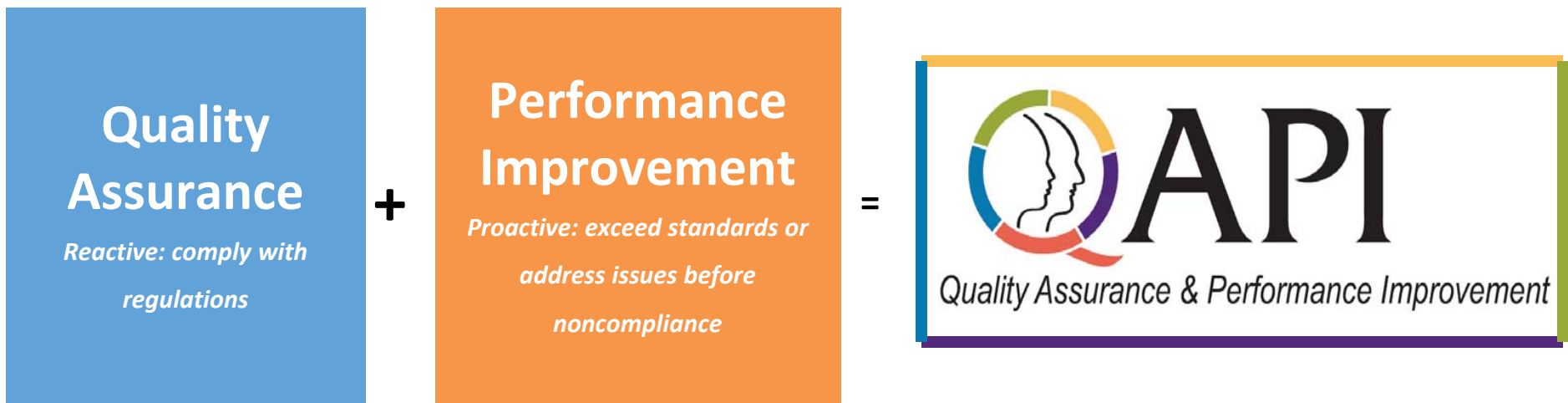
Act Your Way to a New Way of Thinking!



Think your way to a new
way of acting!

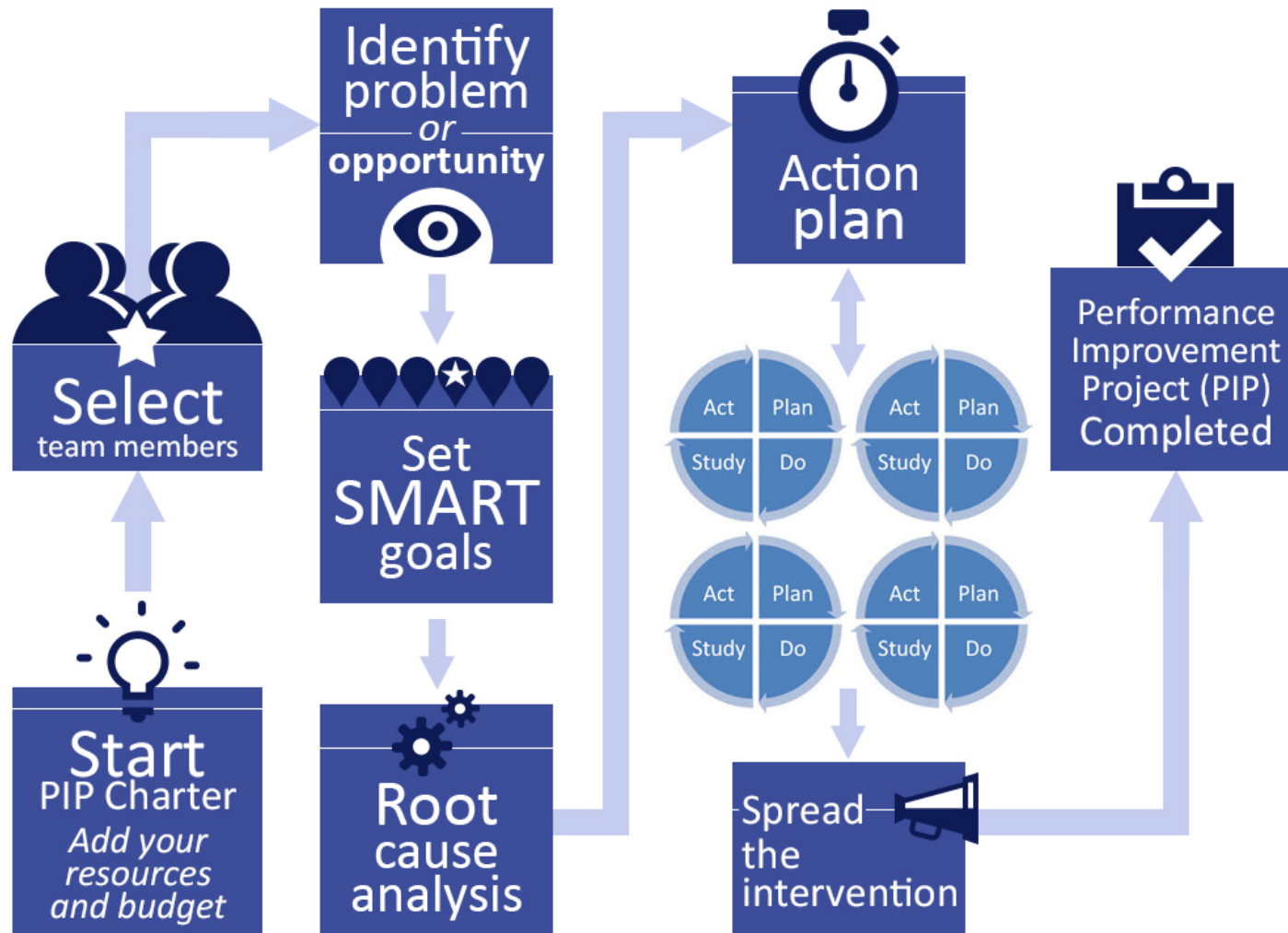


QAPI



The ability to think, make decisions, and take action at the system level is a prerequisite for QAPI success.

PIP Process



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?



Analyze Data and Set Goals

- 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



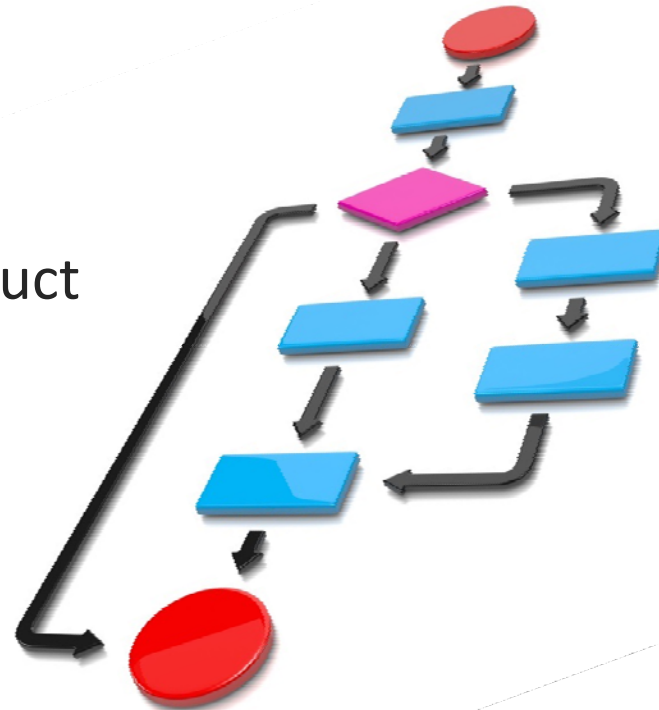
Analyze Data and Set Goals (cont.)

- 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



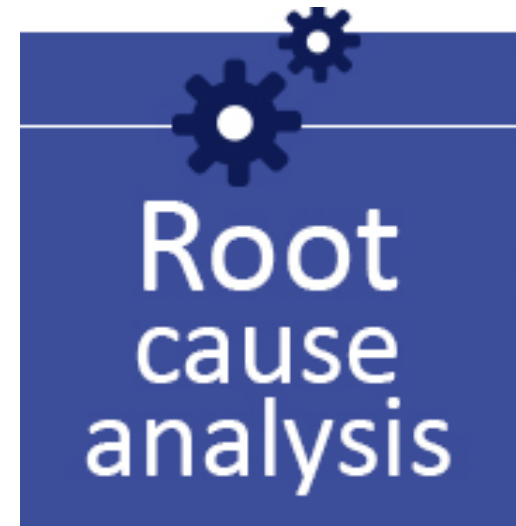
Analyze Current Processes

- 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



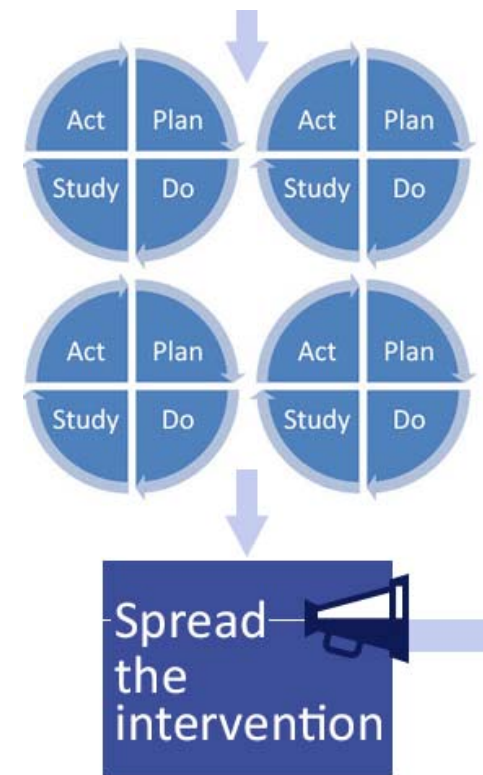
Develop and Implement Quality Initiatives (cont.)

- System changes
- Policy changes
- Enhance communication procedures
 - Situation, Background, Assessment, Recommendation (SBAR)
 - Team Strategies and Tools to Enhance Performance and Patient Safety (TeamSTEPPS)



Test Changes Using the PDSA Cycle

- 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





Performance
Improvement
Project (PIP)
Completed



Discussion and Questions

Antibiotic Use Resources

- CDC. The Core Elements of Antibiotic Stewardship for Nursing Homes. Accessed March 30, 2016. Available at <http://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html>
- CDC. Core Elements of Hospital Antibiotic Stewardship Programs. Atlanta, GA: US Department of Health and Human Services, CDC; 2014. Available at <http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html>. Accessed on April 8, 2016.
- Centers for Medicare and Medicaid Services (2015). State Operations Manual, Appendix PP - Guidance to Surveyors for Long-Term Care Facilities, Rev. 149, 10-09-2015. Accessed on April 8, 2016. Available at https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/som107ap_pp_guidelines_ltcf.pdf
- CDC. Antibiotic Stewardship in Nursing Homes. Accessed on April 8, 2016. Available at www.cdc.gov/longtermcare/pdfs/infographic-antibiotic-stewardship-nursing-homes.pdf
- The White House. National Action Plan For Combating Antibiotic-Resistant Bacteria (March 2015). Accessed on April 8, 2016. Available at https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibot-ic-resistant_bacteria.pdf

Antibiotic Use Resources

- The White House, Office of the Press Secretary (2015). *FACT SHEET: Obama Administration Releases National Action Plan to Combat Antibiotic-Resistant Bacteria*. Accessed on April 8, 2016. Available at <https://www.whitehouse.gov/the-press-office/2015/03/27/fact-sheet-obama-administration-releases-national-action-plan-combat-ant>
- Varonen, H. and Sainio, S. (2004). Patients' and physicians' views on the management of acute maxillary sinusitis. *Scand J Prim Health Care*;22:22-26.
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- Benoit, S. R., Nsa, W., Richards, C. L., et al. (2008). Factors associated with antimicrobial use in nursing homes: a multilevel model. *Journal of American Geriatrics Society*; 56:2039–2044.
- CDC. Urinary Tract Infection (UTI) Event for Long-term Care Facilities. Accessed March 30, 2016. Available at http://www.cdc.gov/nhsn/PDFs/LTC/LTCF-UTI-protocol_FINAL_8-24-2012.pdf.
- Ouslander J. G., Schapira, M., Schnelle, J. F., and Fingold, S. (1996). Pyuria among chronically incontinent but otherwise asymptomatic nursing home residents. *Journal of American Geriatrics Society*; 44(4):420-423. Accessed on April 8, 2016. Available at <http://www.ncbi.nlm.nih.gov/pubmed/8636589>.
- Benton, T. J., Young, R. B., and Leeper, S. C. (2006). Asymptomatic Bacteriuria in the Nursing Home. *Annals of Long-Term Care*; 14(7). Accessed on March 15, 2016. Available at <http://www.annalsoflongtermcare.com/article/5962>
- Wasserman M., et al. (1989). *Utility of fever, white blood cells, and differential count in predicting bacterial infections in the elderly*. *Journal of American Geriatrics Society*; 37:537-543.
- Health Research and Educational Trust (HRET). When Do You Need An Antibiotic? http://www.hret.org/ltc_safety/resources/TrainingModule4/4.3.3_Antibiotics%20Brochure.pdf

QAPI Resources

- Advancing Excellence in America's Nursing Homes: www.nhqualitycampaign.org
- CMS QAPI Web site: <http://go.cms.gov/Nhqapi>
- HSAG QAPI Resources: <http://www.hsag.com/en/medicare-providers/nursing-home/quality-assurance-performance-improvement-qapi/>
- QAPI at a Glance. <http://www.cms.gov/Medicare/Provide-Enrollment-and-Certification/QAPI/qapidefinition.html>. Accessed January 22, 2016
- INTERACT (Interventions to Reduce Acute Care Transfers) Version 4.0: <https://www.interact2.net>
- Institute for Healthcare Improvement: www.ihc.org
- Agency for Healthcare Research and Quality: www.ahrq.gov
- Pioneer Network: www.pioneernetwork.net
- QAPI Process Tool Framework: <http://gio.ipro.org/wp-content/uploads/2013/03/QAPI-ProcessToolFramework.pdf>
- The Institute for Health Care Improvement's Model for Improvement: www.ihc.org/resources/Pages/HowtoImprove/default.aspx

Questions





Thank You!

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CMS Disclaimer

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