QAPI & Infection Prevention: Putting the Pieces Together

Tammy Baumann, RN, LSSGB
Quality Improvement Advisor
Great Plains Quality Innovation Network
Objectives

- Identify how QAPI intersects with infection prevention and antibiotic stewardship in the nursing home final requirements of participation
- Translate infection prevention activities into a Quality Assurance/Performance Improvement (QAPI) Program
- Apply measures of process improvement in HAI prevention
Ultimate Goal

The strategy is to concurrently pursue three aims:

**Better Care**
- Improve overall quality by making health care more patient-centered, reliable, accessible, and safe

**Healthy People / Healthy Communities**
- Improve population health by supporting proven interventions to address behavioral, social and environmental determinants of health, in addition to delivering higher-quality care

**Affordable Care**
- Reduce the cost of quality healthcare for individuals, families, employers and government
Background

Requires an infection prevention and control program, including an infection prevention and control officer and an antibiotic stewardship program including antibiotic use protocols and a system to monitor antibiotic use.

§483.80 Infection Control

§483.80 The facility must establish and maintain an infection prevention control program designed to provide a safe, sanitary and comfortable environment and to help prevent the development and transmission of communicable diseases and infections

(a) Infection prevention and control program. The facility must establish an IPCP that must include, at a minimum, the following elements:

(1) A system for preventing, identifying, investigating and controlling infections and communicable disease for all residents, staff, volunteers, visitors and other individuals providing services under a contractual arrangement based upon the facility assessment conducted according to 483.70(e) and following accepted national standards

§483.80 (c) Infection Preventionist participation on QAPI committee (Phase III)

- [http://greatplainsqin.org/initiatives/hac-nh/](http://greatplainsqin.org/initiatives/hac-nh/)
§483.75 QAPI

- Phase I – Implemented by November 28, 2016
  - Team requirements; except Infection Preventionist
- Phase II – Implemented by November 28, 2017
  - Present QAPI Plan to SSA
- Phase III – Implemented by November 28, 2019
  - All requirements of QAPI Section implemented
  - Infection Preventionist on QAPI team

§483.80 Infection Control

Questions:

• How will your home identify and prevent infections and communicable diseases?
• What data sources will be utilized?
• How will you solicit feedback and input from staff? Residents? Volunteers? Stakeholders?
• How will you know process and systems are implemented? Sustained?
• How will you provide the information to leadership
HAI in LTC

- Over 4 million persons admitted to or reside in NHs and SNFs each year
- Infections most frequent cause of transfers and hospital readmission
- Infections result in estimated 380,000 deaths every year
- 2.8 million infections occur NHs/SNFs every year
- Most frequent HAI
  - UTI
  - Lower respiratory infections
  - Skin and soft tissue infections
  - Gastroenteritis

Source: [www.cdc.gov/longtermcare/index.html](http://www.cdc.gov/longtermcare/index.html)
Why is this so important?

- Residents admitted with higher medical acuity
- Co-morbidities of frail and elderly
- Nature of close living increases risks
- Protection of residents and staff
- No longer just a hospital or nursing home issue, but a “community” issue
What Does a Nursing Home QAPI Program Look Like?

- Data-driven
- Pro-active
- Continuous identification of improvement opportunities
- Addressing gaps in systems
- Comprehensive
- Interventions that are systematic

*Designed to improve the quality of care*
QAPI Elements

- Governance & Leadership
- Feedback, Data Systems & Monitoring
- Performance Improvement Projects (PIPs)
- Design & Scope
- Systematic Analysis & Systemic Action
- **Quality Assurance**
  - Process of meeting quality standards and assuring care is acceptable

- **Performance Improvement**
  - Proactive and continuous study of processes with the intent to prevent or decrease the likelihood of problems
Governance & Leadership is responsible and accountable for the QAPI program §483.75(f)QAPI Phase III

- An ongoing QAPI program is defined, implemented and maintained and addresses identified priorities
- The QAPI program is sustained during transition in leadership and staffing
- The QAPI program is adequately resourced, including ensuring staff time, equipment and technical training as needed
- The QAPI program identifies and prioritizes problems and opportunities that reflect organizational process, functions and services provided to resident based on performance indicator data and resident/staff input
- Corrective actions address gaps in systems and are evaluated for effectiveness and
- Clear expectations are set around safety, quality, rights, choice and respect

§483.75(g)(2) The quality assessment and assurance committee reports to the facility’s governing body, or designated person(s) functioning as a governing body regarding its activities, including implementation of the QAPI program required under paragraphs (a) through (e) of this section...
- Monitoring processes and outcomes
  - Infection surveillance
  - Adherence to IP practices
- Data from multiple sources
  - Lab data on antibiotic resistance
  - Pharmacy data on antibiotic use
  - Resident medical records for signs and symptoms
- Establishing benchmarks or facility targets
- Implementing feedback
  - Reporting to an infection control or QAPI committee
  - Sharing data with front-line staff/providers
• Concentrated effort on problem
• Utilize organized & structured approach to understand issue (PDSA)
  • Gathering information
  • Examine the current process and evaluate results
  • Improve care processes
  • Monitor impact of changes
• Infection prevention examples:
  • Increase adherence to hand hygiene
  • Improve antibiotic use for suspected UTI
  • Detection/control of outbreak
▪ The facility uses a systematic approach to determine when in-depth analysis is needed to fully understand the problem, its causes, and implications of a change.
▪ Organized / structured approach to determine whether and how identified problems may be caused or exacerbated by the way care is delivered.
▪ Develop policies and procedures.
▪ Demonstrate proficiency in use of RCA.
▪ Systemic Actions look comprehensively across all involved systems to prevent future events and promote sustained improvement.
▪ This element includes a focus on continual learning and continuous improvement.
Measures of Process Improvement

**Outcome Measures**
- These measures tell you whether changes are actually leading to improvement — that is, helping to achieve the overall aim of preventing HAIs. Examples include rate of occurrence of methicillin-resistant *Staphylococcus aureus* (MRSA) per 1,000 patient days and percent of patients with *Clostridium difficile* associated disease (CAD).

**Process Measures**
- To affect the outcome measure of preventing HAIs, you will make changes to improve processes intended to prevent transmission of bacteria and other organisms — including the processes for prevention of transmission from patient to patient, staff to patient, and environment to patient. Measuring the results of these process changes will tell you if the changes are leading to an improved, safer system. Examples include percent of patient encounters in compliance with hand hygiene procedure and percent of environmental cleanings completed appropriately.

**Balancing Measures**
- Use these measures to make sure that changes to improve one part of the system aren’t causing new problems in other parts of the system. For example, the change of using a checklist for room cleaning might initially increase the amount of time spent cleaning a room.
Challenges

- Infection prevention in the nursing home
  - New role
    - Little or no specific training
    - Few internal resources
    - Limited time/resources for professional development
    - Wear MANY hats!
    - High turnover
Additional Challenges

- Changes in residents
  - Older population
  - Higher acuity
  - More care time
  - More complex care
  - Shorter stays
  - Penalties in payment FY 2019 on what you are doing now (FY 2017)
  - Changes, changes, changes
A State Look

Antibiotic Prescribed (2014)

Antibiotic Stewardship Programs (2015)

https://www.cdc.gov/drugresistance/index.html
Developing Resistance
Timeline of Key Antibiotic Resistance Events

ANTIBIOTIC RESISTANCE IDENTIFIED
- penicillin-R Staphylococcus 1940
- tetracycline-R Shigella 1959
- methicillin-R Staphylococcus 1962
- penicillin-R pneumococcus 1965
- erythromycin-R Streptococcus 1968
- gentamicin-R Enterococcus 1979
- ceftazidime-R Enterobacteriaceae 1987
- vancomycin-R Enterococcus 1988
- levofloxacin-R pneumococcus 1996
- imipenem-R Enterobacteriaceae 1998
- XDR tuberculosis 2000
- linezolid-R Staphylococcus 2001
- vancomycin-R Staphylococcus 2002
- PDR-Acinetobacter and Pseudomonas 2004/5
- ceftriaxone-R Neisseria gonorrhoeae 2009
- PDR-Enterobacteriaceae 2010
- ceftaroline-R Staphylococcus 2011

ANTIBIOTIC INTRODUCED
- 1943 penicillin
- 1950 tetracycline
- 1953 erythromycin
- 1960 methicillin
- 1967 gentamicin
- 1972 vancomycin
- 1985 imipenem and ceftazidime
- 1996 levofloxacin
- 2000 linezolid
- 2003 daptomycin
- 2009 ceftaroline
- 2010 ceftaroline

Dates are based upon early reports of resistance in the literature. In the case of pan drug-resistant (PDR)-Acinetobacter and Pseudomonas, the date is based upon reports of healthcare transmission or outbreaks. Note: penicillin was in limited use prior to widespread population usage in 1943.
New Development

The number of new antibiotics developed and approved has steadily decreased in the past three decades, leaving fewer options to treat resistant bacteria.

Urgent healthcare threats include:
- C. difficile and
- Carbapenem-resistant Enterobacteriaceae (CRE).

Serious healthcare threats include:
- methicillin-resistant Staphylococcus aureus,
- vancomycin-resistant Enterococcus,
- extended spectrum B-lactamase producing Enterobacteriaceae, and
- multidrug-resistant Pseudomonas and Acinetobacter.
Barriers to Improving Antibiotic Use

- Tracking software
- Incomplete documentation or no indication of infection
- Excessive use of cultures
- Insistence of family members
- Antibiogram - lack of use, understanding, facility specificity
- Lack of input from consultant pharmacist
- Provider fear of litigation
CDC 7 Core Elements AS for NH

- Leadership commitment
- Accountability
- Drug expertise
- Action
- Tracking
- Reporting
- Education
Putting It All Together

- What happens when antibiotics don't work anymore?

- Infection prevention programs incorporate elements of a strong QAPI program

- Explore using National Healthcare Safety Network for tracking and data collection

- Don’t wait work on this now, implement, and be ready!
Sharing and Questions

Thank you!!
Contact Information

Tammy Baumann, RN, LSSGB
Quality Improvement Advisor
Tammy.baumann@area-a.hcqis.org
www.greatplainsqin.org

1200 Libra Drive, Suite 102
Lincoln, NE 68512

Phone: 402.476.1399; Ext 523
Fax: 402.476.1335