QAPI & Infection Prevention: Putting the Pieces Together

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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 healthcare 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.
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/
§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)

Community Antibiotic Prescriptions per 1,000 Population by State — 2014

At least 30% of antibiotics prescribed in doctors’ offices, emergency departments and hospital clinics are unnecessary.*

Nationally, 48.1% of all hospitals have stewardship programs (2,199 of 4,549); the national goal is 100% of hospitals by 2020.

Data source: MGH HealthMap Project 2014.


*Hospital stewardship programs as defined as a program following all 7 of CDCs Core Elements of Hospital Antibiotic Stewardship Programs.

Source: CDC’s National Healthcare Safety Network (NHSN) Survey

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

ANTIBIOTIC RESISTANCE IDENTIFIED
penicillin-R Staphylococcus 1940
methicillin-R Staphylococcus 1962
cillin-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
1998 linezolid
2003 daptomycin
2009 ceftaroline
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!!
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