

# Role of Nurses and Consultant Pharmacists in Antibiotic Stewardship in Post-Acute and Long-Term Care Facilities

Presenters: Tammi Schaffart, BSN, RN<sup>1</sup> and Rebecca Ortmeier, PharmD<sup>2</sup>

<sup>1</sup>Infection Preventionist, Douglas County Health Center

<sup>2</sup>Consultant Pharmacist Team Leader, Community Pharmacy Services



# Objectives

1. Describe the role of long-term care nurses in an antimicrobial stewardship program (ASP).
2. Describe the challenges of implementing ASP nursing activities in the LTCF setting.
3. Outline the process of consultant pharmacist antimicrobial assessment in the LTCF setting.

\*\*Neither of the speakers in this session have any conflicts of interest to disclose\*\*

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Tammi Schaffart, BSN, RN  
Infection Preventionist,  
Douglas County Health Center.  
Omaha, NE

# Communication

- *“One of the most important roles for nurses is communication, specifically knowing what to communicate, as well as how, when and to whom.”  
AHRQ(Agency for healthcare Research and Quality) ASP Toolkit*
- **BARRIERS**
  - Education
  - The Culture of Antibiotic Use
  - Limited resources
  - Residents and visitors
- **OPPORTUNITIES**
  - Training
  - Efficient use of our resources
  - Education of families, visitors and residents

# Measurement

- *“Another role is measurement, which includes observing residents, taking vital signs, measuring resident complaints and status, and documenting what you see.” AHRQ (Agency for Healthcare Research and Quality) ASP Toolkit.*
- **BARRIERS**
  - Complete documentation
  - Closer observation and longer
- **OPPORTUNITIES**
  - SBARs (Situation, Background, Assessment, Recommendation)

# Assessment

- *“An additional role is assessment, which means interpreting the data or information that is measured.” AHRQ (Agency for Healthcare Research and Quality) ASP Toolkit.*
- **BARRIERS**
  - Change in process
  - Time
- **OPPORTUNITIES**
  - Clear communication between nurses and providers
  - Think “outside the box” of the norm
  - Build on quality of care

# Role of Nurses in Antibiotic Stewardship:

## At the time of admission to the facility

Activity/Task	Role of Nursing Staff
Appropriate triage and isolation	Assess for any recently treated or ongoing infections and take appropriate precautions when necessary. An infection preventionist may subsequently be called for a consultation.
Accurate antibiotic allergy history	Gathers information about the patient's allergy history and performs medication reconciliation (including antibiotics) and records this in the medical record.
Complete information for antibiotic course, if on antibiotics	Obtain the history/records on why the resident is on antibiotics, what is the planned duration of therapy, what clinical or laboratory monitoring will be required, who will need to be notified if issues are identified related to this course and what is the follow up plan for this infection.

# Role of Nurses in Antibiotic Stewardship:

## When an infection is suspected

Activity/Task	Role of Nursing Staff
Comprehensive evaluation	Perform detailed assessment including finding out complaints of residents, obtaining vital signs, and looking for any signs of infections or clinical clues that may help establishing another etiology for the presentation.
Communicate with prescribing provider	Record all the collected information and communicate detailed findings with provider using standard communication decision aid tool (SBAR) where applicable.
Initiate management plan	Perform active monitoring or initiate antibiotic treatment based on the provider orders. When initiating antibiotics, reviews the dose and the timing of dose schedule for accuracy, and check for history of allergy, before administration.
Early and appropriate cultures	When cultures are ordered, obtain cultures before starting antibiotics and send these to microbiology laboratory. Monitor culture results and report these to physicians. Ensure proper techniques when collecting a culture.



# Role of Nurses in Antibiotic Stewardship:

## During management of suspected or confirmed infection

Activity/Task	Role of Nursing Staff
Progress reporting	Monitor the patient clinical status and provide progress reports to the providers based on the facility protocols and provider orders. Maintain documentation of periodic assessments and communication with providers including any change in the management plan.
Antibiotic adjustment /de-escalation based on laboratory reports	When microbiology or radiology reports are received, coordinate results and communicate them to the providers to find out whether plan needs to be adjusted.
Antibiotic dosing changes based on drug levels or other laboratory reports	Update providers on laboratory results (such as drug levels, renal function results, etc.) to make sure no dose adjustment is required.
Adverse events	Monitor and report to the providers any adverse events
Antibiotic time-outs	Perform a formal antibiotic time-out at 48 to 72 hours after starting the antibiotics using a standard format. Report clinical progress, lab findings culture and sensitivity report including any bug-drug mismatches to the providers. Make changes in isolation precautions, if necessary

# Role of Nurses in Antibiotic Stewardship:

## At all other times

Activity/Task	Role of Nursing Staff
Question the medical necessity for diagnostic tests.	Question the necessity of a diagnostic test (like urine cultures, <i>C. difficile</i> tests etc.) when it is being ordered in situations where clinical criteria for testing are not being met.
Coordinate with infection preventionist and consultant pharmacists on ASP related activities	Discuss improvement opportunities in antibiotic use identified by the consultant pharmacists and infection preventionists during their reviews and surveillance. Work with them on quality improvement projects to ensure appropriate antibiotic prescribing and monitoring.
Educate residents and family members on appropriate antibiotic use and consequences of antibiotic misuse	Whenever an opportunity arises, nurses can educate resident and family members on difference between the treatment of viral and bacterial infections, concept of colonization versus actual infection, side effects of antibiotics, higher chances of drug interactions with certain antibiotics and the association of antibiotic use and antibiotic resistance. They can also point them to various CDC education resources.

# Review

1. What activities can a LTC nurse participate in to decrease unnecessary antibiotic use?
  - a. Development of SBARs
  - b. Clear communication with the physicians
  - c. Assess for other causes of symptoms
  - d. All of the above
  
2. What are potential barriers to implementing ASP nursing activities?
  - a. Culture
  - b. Resources
  - c. Both a and b

# Consultant Pharmacist's Role in the Antibiotic Stewardship Program

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Rebecca Ortmeier. Pharm D  
Consultant Pharmacist Team Leader,  
Community Pharmacy Services,  
Gretna, NE

# Antimicrobial Stewardship Committee Participation

- CDC core elements recommend that the consultant pharmacist should be a member of the antimicrobial stewardship team.
- The consultant pharmacist
  - Has drug expertise
  - Has access to pharmacy data
  - Reviews each resident chart monthly

# Determining Antimicrobial Appropriateness

- Assessing appropriateness can be a challenge!
- Consultant pharmacists are accustomed to assessing appropriateness of other classes of medications (psychotropics, antihypertensives, etc)
- Requires a baseline knowledge
- Letter sent to prescriber at time of pharmacist monthly review if criteria not met

# Data/reports

- Consultant pharmacist may have access to pharmacy dispensing data which can provide facility with the following data
  - Total number of residents on antibiotics during a given month
  - Total number of new antibiotic starts
  - Total days of antibiotic therapy
- While performing chart review, consultant pharmacist can report
  - Percentage of new antibiotic orders where the SBAR was used
  - Percentage of antimicrobial orders that were appropriate vs. inappropriate (using standard criteria such as Loeb's criteria or revised McGeer criteria)
  - Total number of adverse events reported with antimicrobial therapy
  - Which prescribers are consistently prescribing inappropriate antibiotics

# Our Process of Facilitating ASP Implementation:

## Leadership Commitment, Accountability and Drug Expertise

- Worked with division of infectious diseases at UNMC to obtain expertise in ASP implementation
- Supported our post-acute and long-term care facilities in their effort to initiate ASP
- Provided tools, templates, and guidance that can help the facilities meet all the core elements including leadership, commitment, and accountability



# Our Process of Facilitating ASP Implementation:

## Action

- Review all antibiotic orders for appropriateness on a monthly basis
- Provide written feedback to providers as necessary for all inappropriate antibiotic prescriptions
- Review the use of SBAR tool when antibiotic is being prescribed
- Provide feedback to the IP each month on the antibiotic review findings (e.g. compliance with SBAR tool and unnecessary lab orders)

# Our Process of Facilitating ASP Implementation:

## Tracking

Track various variables for facilities including but not limited to:

- Number of antibiotic Starts/1000 resident days
- Days of therapy/1000 resident days
- Number of Antibiotic Reviewed in the month/Quarter:
- Proportion of Inappropriate Antibiotics
- Proportion of antibiotic on which SBAR was used on
- Reasons for Inappropriateness
- Proportion of appropriate antibiotic prescribing by providers

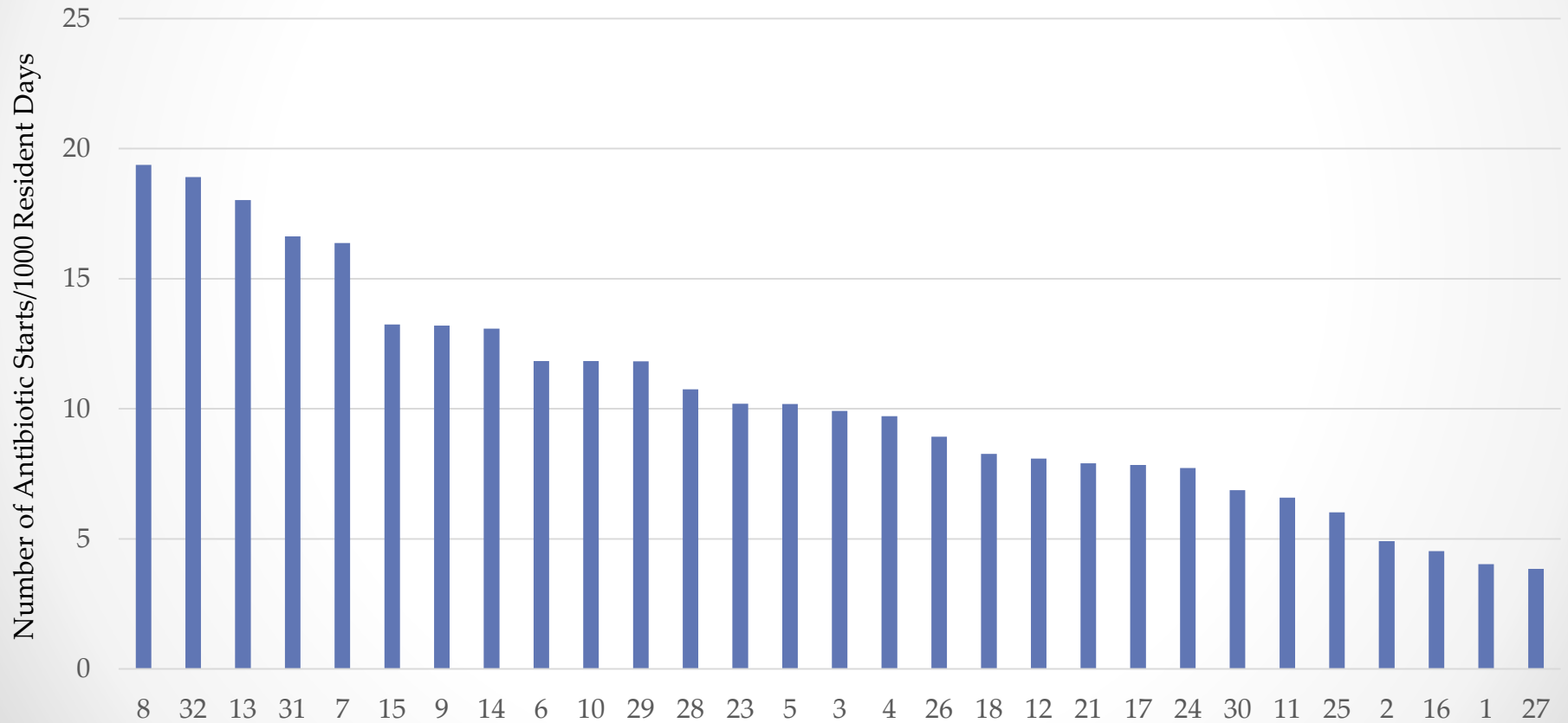
# Our Process of Facilitating ASP Implementation:

## Reporting

- Attend quarterly ASP committee meeting and QAPI meeting
- Work with IP to develop reports for ASP and QAPI meeting
- Inform the committee of our findings and suggest plans for improvement going forward
- Assist ASP committee in writing summary reports to be sent to prescribing providers and other frontline staff
- Provide regional antibiotic benchmarking data to the committee

# Antibiotic Use Benchmarking Report

Number of Antibiotic Starts /1000 resident days by facility during last year



# Our Process of Facilitating ASP Implementation:

## Education

- Guide facilities to available resources for education on appropriate antibiotic prescribing
- Inform facilities about opportunities like this Summit
- Provide one-on-one or group education including provision of guidelines and interpretation of antibiogram to the frontline staff, prescribing providers and IP as needed

# In conclusion

- An effective Antimicrobial Stewardship Program should include a collaboration of nursing and the consultant pharmacist as well as the facility medical director
- Communication between nursing and prescriber is essential in improving inappropriate antimicrobial prescribing
- Consultant pharmacists can help facilities identify inappropriate antibiotic use and track trends in antimicrobial prescribing
- Long-term care facilities should involve nursing staff and consultant pharmacist in their stewardship program along with other key stakeholders

# Questions?

- Thank you for attending the Nebraska Antimicrobial Stewardship Summit!