Core Elements of Antibiotic Stewardship for Nursing Homes

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Objectives

• Describe CDC’s 7 core elements of antibiotic stewardship

• Provide examples of actions that facility leaders, healthcare providers, and pharmacists can take to support antibiotic stewardship in their facilities

• Demonstrate overlap between antibiotic stewardship, infection prevention, and CDI prevention activities
What do we want? QUALITY!
When do we want it? NOW!
How do you measure quality?

• Deficiency citations from Medicare/Medicaid certification
• Quality Indicator Profile Report
• Nursing Home Compare
• Advancing Excellence Campaign
Quality Improvement Activities

AMS  CDI
Infection Prevention
Prevention
CDC Core Elements of AMS

- Leadership commitment
- Accountability
- Drug Expertise
- Action
- Tracking
- Reporting
- Education

Provide practical strategies for applying the core elements in facilities
Leadership commitment
Demonstrate support and commitment to safe and appropriate antibiotic use in your facility

• Write formal statements in support of improving antibiotic use and share with staff, residents and families
• Commit resources for stewardship activities
• Include stewardship duties in position descriptions
• Empower the medical director, director of nursing, and/or consultant pharmacist to lead stewardship activities
• Establish clear policies to improve prescribing practices and communicate these to nursing staff and prescribers
• Create a culture that promotes AMS through messaging, education and celebrating improvement
Accountability
Identify physician, nursing and pharmacy leads responsible for promoting and overseeing antibiotic stewardship activities in your facility

- Medical Directors:
  - Set standards for antibiotic prescribing (e.g., clinical practice guidance)
  - Accountable for overseeing adherence (e.g., right drug, dose, duration)
  - Review antibiotic use data

- Directors of Nursing:
  - Establish standards for nursing staff to assess and communicate changes in a resident’s condition that may impact the need for antibiotics
  - Promote appropriate testing prior to treatment
  - Educate frontline nursing staff about policies to improve antibiotic use and appropriateness of antibiotic use
• Medical Directors:
  – Set standards for antibiotic prescribing (e.g., clinical practice guidance)
  – Accountable for overseeing adherence (e.g., right drug, dose, duration)
  – Review antibiotic use data to ensure best practices are followed

• Directors of Nursing:
  – Establish standards for nursing staff to assess and communicate changes in a resident’s condition that may impact the need for antibiotics
  – Promote appropriate testing prior to treatment, and that antibiotics are prescribed only when appropriate
  – Educate frontline nursing staff about policies to improve antibiotic use, importance of antibiotic stewardship, and their important role in AMS
Consultant pharmacists partner with medical director and DON to support stewardship:

- Provide education to staff about different types of antibiotics and their uses
- Review antibiotic prescriptions as part of medication regimen review and ensure they are ordered appropriately
  - Create treatment protocols for common infections
  - Review antibiotic prescriptions for appropriate dose, duration, and match with culture results
- Establish standards on lab testing to monitor for adverse events and drug interactions
- Provide summary reports on antibiotic use
  - New antibiotic starts and/or days of therapy
  - Provider-specific antibiotic use reports for feedback and education
Other Important AMS Partners

• Infection Prevention and Control
  – Track antibiotic starts as part of infection surveillance
  – Monitor adherence to evidence-based published criteria on evaluation and management of infections
  – Review antibiotic resistance and CDI as part of routine surveillance

• Consultant lab
  – Rapid notification when certain antibiotic resistant organisms are identified
  – Provide education for staff on diagnostic testing
  – Create a summary report on bacterial susceptibility patterns

• State and local public health, Quality Improvement Organization, Trade Associations
  – Provide education, support and resources
  – Engage facilities in coordinated activities such as stewardship collaborative
Covering more Territory to Fight Resistance: Considering Nurses’ Role in Antimicrobial Stewardship

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Abstract

The potential contribution nurses can make to the management of antimicrobials within an in-patient setting could impact on the development of antimicrobial resistance (AMR) and healthcare associated infections (HCAIs). Current initiatives promoting prudent antimicrobial prescribing and management have generally failed to include nurses, which subsequently limits the extent to which these strategies can improve patient outcomes. For antimicrobial stewardship (AS) programmes to be successful, a sustained and seamless level of monitoring and decision making in relation to antimicrobial therapy is needed. As nurses have the most consistent presence as patient carer, they are in the ideal position to provide this level of service. However, for nurses to truly impact on AMR and HCAIs through increasing their profile in AS, barriers and facilitators to adopting this enhanced role must be contextualised in the implementation of any initiative.
Opportunities for nurses to participate in AMS

<table>
<thead>
<tr>
<th>Aspect of Management</th>
<th>Associated Risk</th>
<th>Potential Nurse Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Specificity</td>
<td>Broad spectrum antibiotics are major risk for CDI and resistance; avoid when possible.</td>
<td>Ensure treatment is adjusted based on microbiology results; engage prescribers in discussion of limiting use of broad spectrum or high risk antibiotics.</td>
</tr>
<tr>
<td>Duration of Treatment</td>
<td>Prolonged duration of antibiotics is risk for CDI and resistance.</td>
<td>Ensure antibiotics are prescribed for appropriate duration.</td>
</tr>
<tr>
<td>Route of Administration</td>
<td>Early switching from IV to PO antibiotics decreases length of hospital stay, reduces risk of resistance and decreases workload.</td>
<td>Monitor IV antibiotics and engage prescribers in discussion of de-escalation.</td>
</tr>
<tr>
<td>Surgical Prophylaxis</td>
<td>Lack of adherence to best practices for timing and duration of antibiotics for surgical prophylaxis may decrease intended effectiveness and may increase risk of resistance, CDI and other adverse events.</td>
<td>Ensure antibiotics are prescribed for appropriate duration and are administered on time.</td>
</tr>
<tr>
<td>Timing of Administration</td>
<td>Lack of timely antibiotics for infections may be associated with decreased survival.</td>
<td>Improve timeliness of antibiotic administration.</td>
</tr>
<tr>
<td>Therapeutic Drug Monitoring</td>
<td>Suboptimal antibiotic concentrations promote resistance and may not be effective; higher than recommended concentrations increase risk of adverse events.</td>
<td>Consider standing orders or nurse-activated orders for monitoring therapeutic drug concentrations.</td>
</tr>
<tr>
<td>Outpatient Antibiotic Therapy</td>
<td>Outpatient antibiotics can decrease length of stay; earlier discharge reduces risk of transmission of HAIs and decreases costs.</td>
<td>Identify opportunities for outpatient therapy.</td>
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Key nursing activities include:

• Triage, and initial infection control precautions
• Medication allergy assessment and reconciliation
• Timely ordering and administration of antibiotics
• Early and appropriate collection and submission of specimens for culture
• Antibiotic timeout and de-escalation
• Implementation of quality and safety bundle measures
• Central communicator among prescribers, pharmacy, lab, discharge planners and consultants

“The staff nurse is the operational and communications hub for all of the multidisciplinary participants in the traditional ASP model.”

“The public has consistently voted nurses number one in trust and credibility for 14 of the past 15 years, ahead of physicians, pharmacists, police and clergy.”
• Work with consultant pharmacy provider to identify staff with specialized infectious disease or stewardship training
• Partner with the stewardship program at hospitals within your referral network
• Develop relationships with infectious disease consultants interested in supporting stewardship efforts
• Policy
  – Documentation of required prescribing elements (drug, dose, route, duration, indication)
  – Developing facility-specific treatment recommendations for common infections
  – Ensure medication regimen review applied to antibiotics
• Broad practice improvements
  – Improve assessment, documentation and communication between frontline nursing staff and off-site clinical providers
  – Standardize use of lab testing to reduce inappropriate testing
  – Make use of antibiogram
  – Implement antibiotic time-out
  – Standardize duration of therapy for common infections
Pharmacy interventions
- Review antibiotic orders for appropriateness
- Establish standards for lab testing
- Review culture data

Infection-specific practice improvements
- Reduce antibiotic use for UTI prophylaxis
- Improve documentation of signs and symptoms to decrease inappropriate antibiotic use in asymptomatic bacteriuria
Nursing Home Core Elements: Appendix A

• Provides evidence-based examples of policy and practice actions to improve antibiotic use
  – Prescribing and use policies
  – Broad interventions
  – Pharmacy interventions
• Prescribing process measures
  – Adherence to documenting required prescribing elements
  – Completeness of resident assessment documentation
  – Appropriateness of antibiotic selection

• Antibiotic use measures
  – Point prevalence of antibiotic use
  – Antibiotic starts/1000 resident days
  – Days of antibiotic therapy/1000 resident days (DOT)

• Outcome measures
  – *C. diff* and select multidrug resistant organisms
  – Adverse events
  – Antibiotic costs
Nursing Home Core Elements: Appendix B

- Provides detailed examples for monitoring antibiotic use process and outcome measures
- Includes information about reporting antibiotic use and *C. diff* using CDC’s National Healthcare Safety Network
• Monitoring and feedback to providers/staff on the impact of their efforts is critical to sustain improvements
• Provider-specific feedback is one of the most effective ways to change prescribing behavior
• Sharing antibiotic use data and evidence of clinical improvements (e.g., reduction in *C. diff*) with staff, residents and families can increase support for stewardship activities
Education

Provide resources to clinicians, nursing staff, residents and families about antibiotic resistance and opportunities for improving antibiotic use

• Educate to establish support among providers and staff
• Effective and sustained change rare without education
• Educational events are an opportunity to engage providers and staff in identifying ways to improve current practices
• Identify, understand and address staff concerns and barriers to changing antibiotic use in your facility
• Work with facility staff to develop resources/tools to educate residents/families on stewardship efforts in your facility
CDC Antibiotic Stewardship Campaign: “Get Smart”

- Use Get Smart campaign educational resources to make facility staff and residents more aware of safe antibiotic use

http://www.cdc.gov/getsmtart/healthcare/
Resources for Clinician Education

- CDC Presentations:
  - Strategies to promote appropriate treatment of UTI in older adults
  - Exploring challenges with UTI management

- IPC Guidance for LTC:
  - SHEA/APIC guideline: IPC in LTCF
  - CDC/SHEA surveillance definitions of infections in LTCF: revisiting the McGeer Criteria
  - AMS Programs in LTCF

- Clinical Guidance on Evaluating and Managing Infections in LTCF:
  - Guideline for evaluation of fever and infection in older adult residents of LTCF
  - Minimum criteria for the initiation of antibiotics in residents of LTCF

http://www.cdc.gov/longtermcare
Resources for residents and families

“Choosing Wisely” Resources

Antibiotics

When you need them—and when you don’t

Antibiotics are strong medicines that can kill bacteria. But we have overused antibiotics for many years. As a result, we now have bacteria that resist antibiotics. Resistant bacteria cause infections that are harder to cure and more costly to treat.

Antibiotic-resistant infections can strike anyone. They can be passed on to others. For example, more and more healthy young people are getting skin infections from MRSA, a bacteria that resists many common antibiotics. MRSA is spreading in households, daycare, schools, camps, dorms, gyms, team sports, and the military.

Try to protect yourself and your loved ones. Here’s what you need to know to help prevent resistance:

Taking antibiotics makes you more likely to get a resistant infection in the future.

Sometimes you need antibiotics to prevent or treat an infection. But half of antibiotics prescriptions are not needed.

It is normal to have bacteria on your skin and in your body. Many bacteria are harmless. They can even keep you healthy. When you use an antibiotic, it kills most bacteria, including the friendly ones. But a few bacteria survive. These resistant bacteria can multiply and take over.

Antibiotics have side effects.

Each year, 14,000 Americans die from severe diarrheas caused by antibiotics. Other side effects include vaginal infections, nausea and vomiting. Serious allergic reactions include blistering rashes, swelling of the face and throat, and breathing problems. Some antibiotics can cause permanent nerve damage and torn tendons.

Resistant infections cost a lot.

http://www.choosingwisely.org/patient-resources/antibiotics/
http://www.choosingwisely.org/patient-resources/antibiotics-for-urinary-tract-infections-in-older-people/
“While all changes do not lead to improvement, all improvement requires change.”

http://www.ihi.org/resources/Pages/Changes/default.aspx
Thank you!