Healthcare-Associated Infections & Antibiotic Resistance Prevention Program
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In the Know

Nursing Home Edition

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CMS Phase 2 Is In Effect. What's Next?

Implementation of Centers for Medicare and Medicaid Services Phase 2 requirements titled "Reform of Requirements for Long-Term Care Facilities" went into effect on November 28, 2017. According to this program, nursing homes should have antibiotic stewardship programs (ASPs) in place along with a variety of other new standards. While some facilities may have ASPs that are already in place, program improvement and capacity building should be ongoing. This month, we continue with our deep dive into CDC's 7 Core Elements of Antibiotic Stewardship to assist with refining ASPs in order to create robust programs that will reduce the spread of antibiotic resistant organisms and keep our residents safe.

Do you already have an Antibiotic Stewardship Program that meets CDC's 7 Core Elements? Have you overcome barriers to implementation and have strategies to overcome these barriers that you'd like to share with other nursing homes? We'd love to share your successes in this newsletter! Please contact Andrea Salinas at Andrea.Salinas@la.gov to share your stories.

CDC's 7 Core Elements of Antibiotic Stewardship: Take Action through Policy and Practice Change to Improve Antibiotic Use

Nursing homes should implement prescribing policies to improve antibiotic use. The introduction of new policies and procedures that address antibiotic use should be done in a step-wise fashion so staff may become familiar with and not overwhelmed by new changes in practice. Additionally, interventions should be prioritized based on the needs of your facility. Some strategies are outlined below and a comprehensive list of CDC's recommended policy and practice change strategies can be found here: https://www.cdc.gov/longtermcare/pdfs/core-elements-antibiotic-stewardship-appendix-a.pdf.

Antibiotic Prescribing and Use Policies

Documentation of Dose, Duration, and Indication

Specify the dose (including route), duration (i.e., start date, end date, and planned days of therapy), and indication, which includes both rationale (i.e., prophylaxis vs. therapeutic) and treatment site (i.e., urinary tract, respiratory tract), for every course of antibiotics. This information should be documented for every resident receiving antibiotics regardless of whether they were initiated at the nursing home or at a transferring facility. Documenting and making this information accessible helps ensure that antibiotics can be modified as needed based on additional laboratory and clinical data and/or discontinued in a timely manner.

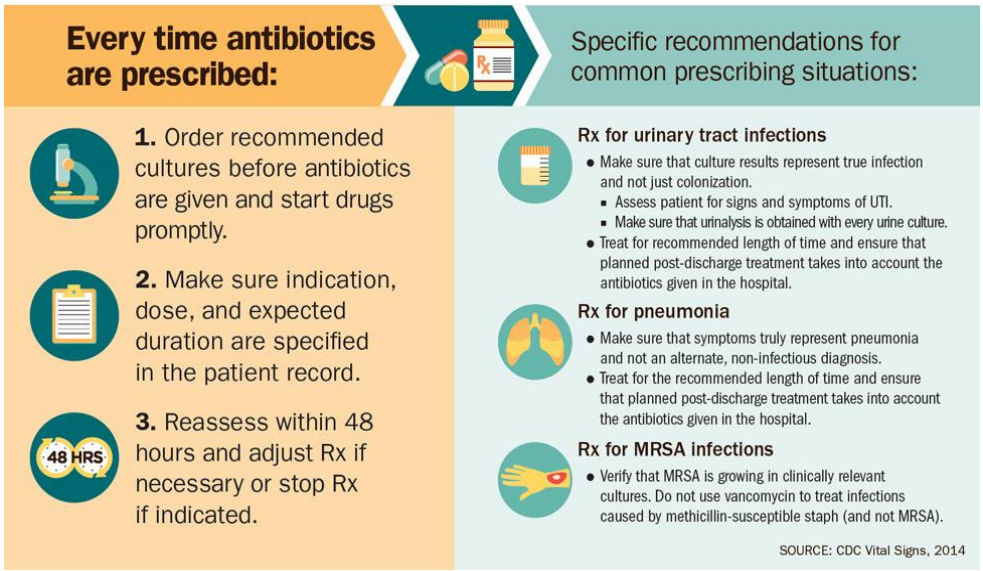
- Providing a template in the resident's chart, such as the one shown below, may encourage compliance with this policy.

Antibiotic	Dose/Route	Start Date	End Date	Rationale (Prophylaxis/Treatment)	Treatment site

Establish Best Practices for Use of Microbiology Testing

Inappropriate laboratory testing may drive unnecessary antibiotic treatment. Unnecessary laboratory testing on asymptomatic patients may reveal colonization and increase inappropriate antibiotic prescribing. Review the current protocols and laboratory testing practices to ensure that laboratory tests are used correctly in your facility.

- Example: Submitting urine cultures or C. difficile stool tests to demonstrate "test of cure" following clinical resolution after an appropriate course may uncover asymptomatic colonization and drive unnecessary antibiotic exposure.
    - **Colonization vs. Infection:** Colonization means that an organism can be found on the body but it is not causing symptoms or disease. Infections are normally accompanied by symptoms (i.e., fever, acute dysuria, urgency, frequency, and suprapubic pain for a UTI or watery stools for C. difficile infection). It is important to note that individuals may be colonized with an organism many months after an infection has cleared.



Broad Interventions to Improve Antibiotic Use

Perform Antibiotic "Time Outs"

An antibiotic time-out is a formal process designed to prompt a reassessment of the ongoing need for and choice of an antibiotic once more data is available. This is necessary because antibiotics are often started empirically in nursing home residents when the resident has a change in physical or mental status while diagnostic information is being obtained and providers may not revisit the selection of the antibiotic after more clinical or laboratory data, such as culture results, become available. Nursing homes should have a process in place for review of antibiotics by the clinical team two or three days after antibiotics are initiated to answer these key questions:

- **Does this resident have a bacterial infection that will respond to antibiotics?**
- **If so, is the resident on the most appropriate antibiotic(s), dose, and route of administration?**
- **Can the spectrum of antibiotics be narrowed or the duration of therapy shortened (i.e., de-escalation)?**
- **Would the resident benefit from additional infectious disease/antibiotic expertise to ensure optimal treatment of the suspected or confirmed infection?**
    - This free, online, self-paced course geared towards antibiotic prescribers in inpatient settings outlines how to conduct antibiotic time-outs: https://med.stanford.edu/cme/courses/online/optimizing-antimicrobial-therapy.html

Use an Antibiogram to Choose the Right Antibiotic

Nursing homes can work with consultant laboratories to create a facility-specific summary of antibiotic susceptibility patterns from the organisms commonly isolated in microbiology cultures. Because antibiograms provide information on local susceptibility patterns, they may improve the use of antibiotics in nursing homes by helping prescribing clinicians select appropriate therapies for residents with suspected infections.

- Nursing homes may have to tailor the antibiogram based on the facilities diagnostic practices. For example, a nursing home antibiogram may only include organisms causing urinary tract infections if urine cultures are the most frequent test sent to the laboratory.
- Antibiograms may be updated every 12 to 24 months, based on the number of cultures submitted by a facility.
- Summaries of susceptibility patterns should be disseminated to frontline nursing staff, clinical providers and consultant pharmacists as an educational tool and to guide management decisions.
    - The Agency for Healthcare Research and Quality has many great toolkits that describe how to develop and use antibiograms specific for the nursing home setting: https://www.ahrq.gov/nhguide/toolkits/help-clinicians-choose-the-right-antibiotic/index.html

Infection Specific Interventions to Improve Antibiotic Use

Reduce Antibiotic Use in Asymptomatic Bacteriuria (ASB)

The prevalence of ASB, bacteriuria without localizing signs or symptoms of infection, ranges from 25% to 50% in non-catheterized nursing home residents and up to 100% among those with long-term urinary catheters. Antibiotic use for treatment of ASB in nursing home residents does not confer any long-term benefits in preventing symptomatic urinary tract infections (UTI) or improving mortality, and may actually increase the incidence of adverse drug events and result in subsequent infections with antibiotic resistant pathogens and *C. difficile* infection. Implementing a set of diagnostic testing and management algorithms to help providers differentiate ASB from symptomatic UTI has been shown to reduce inappropriate antibiotic use for ASB.

- Minimum Criteria for Antibiotics Tool – this tool helps prescribers determine when treatment is appropriate for nursing home residents suspected of having one of three common infections: UTIs, skin and soft tissue infections, and lower respiratory tract infections: https://www.ahrq.gov/nhguide/toolkits/determine-whether-to-treat/antibiotic-tool.html
- The Suspected UTI SBAR toolkit helps nursing home staff and prescribing clinicians communicate about suspected UTIs and facilities appropriate antibiotic prescribing: https://www.ahrq.gov/nhguide/toolkits/determine-whether-to-treat/toolkit1-suspected-uti-sbar.html
    - The main component of this toolkit is the Suspected UTI SBAR form, which is a standardized method for nurses to communicate the Situation, Background, Assessment, and Request (SBAR) of a resident's condition to prescribers to assist them in their decision-making: https://www.ahrq.gov/sites/default/files/wysiwyg/nhguide/4_TK1_T1-SBAR_UTI_Final.pdf

Reduce Antibiotic Prophylaxis for Prevention of UTI

Surveys of antibiotic use have shown that UTI prophylaxis accounts for a significant proportion of antibiotic prescriptions. Very few studies support antibiotic use for UTI prophylaxis, especially in older adults, and many studies have shown this antibiotic exposure increases risk of side effects and resistant organisms. Therefore, efforts to educate providers on the potential harm of antibiotics for UTI prophylaxis could reduce unnecessary antibiotic exposure and improve resident outcomes.