Choosing a Stewardship Intervention and Measuring Change

- Antibiotic stewardship interventions can occur before antibiotics are prescribed (pre-prescription interventions) and after antibiotics have been started (post-prescription interventions).
- Most stewardship programs include both types of interventions because it is beneficial to residents to not have unnecessary antibiotics started AND to reassess the need for continued antibiotics after they are started.
- Below are examples of interventions to improve antibiotic use in your facility.

Pre-prescription Interventions

- Checklist of signs and symptoms for nurses to use before calling a health care practitioner about a resident with a change in status.
- Prescribing guidelines distributed to staff and health care practitioners.
- Pocket cards distributed to staff indicating minimum criteria for starting antibiotics.
- Electronic health record "stops" to notify health care practitioners if a resident does not meet criteria for antibiotic therapy or needs monitoring.
- Dose recommendations for residents with decreased renal function.
- Requirement that all antibiotic orders have an indication, dose, and duration documented.

Post-prescription Interventions

- Automated or pharmacy-instituted antibiotic "time-out" at 48–72 hours. This would require the prescriber to reassess antibiotic prescriptions and verify the need to continue them.
- Review of the results of cultures and diagnostic tests to make sure antibiotics are necessary and effective.
- Formal review of "appropriateness" of antibiotic prescriptions by infectious diseases–trained consultants 48–72 hours after the initial prescription. Infectious-diseases trained consultants can be pharmacists or physicians.
- Comparison of the number, type, and duration of prescriptions by covering/on-call health care practitioners vs. regular health care practitioners.

- Measuring change associated with stewardship interventions
  - Metrics to consider tracking over time include:
    - Number of antibiotic starts per 1,000 resident days
    - Days of antibiotic therapy per 1,000 resident days
    - Median length of antibiotic therapy
    - Use of guideline-concordant antibiotics
    - *Clostridioides difficile* LabID events per 10,000 resident days
  - Discuss how to obtain access to these data
    - For several, you will need data for both the numerator (e.g., number of antibiotic starts) and the denominator (e.g., resident days)
    - Determine if any of the data needed can be obtained electronically to simplify data collection
    - If you have limited resources for data collection, consider performing point-prevalence assessments at certain intervals (e.g., once a month); this can be particularly useful for assessing concordance with guidelines
    - Develop a plan for displaying and disseminating the data
- Bring this intervention worksheet to your antibiotic stewardship meetings to brainstorm ideas for interventions based on the needs of your facility.

AHRQ Pub. No. 17(21)-0029
June 2021