

Gap Analysis for Antibiotic Stewardship Programs in Long-Term Care

Instructions: Complete this document to evaluate your antibiotic stewardship program (ASP) on an annual basis and to define areas for further improvement. The ASP areas addressed in this document are addressed throughout the AHRQ Safety Program Toolkit.

The questions labeled as Fundamental ( Arow indicating fundamental component ) address components that all ASPs should have, and those labeled as Enhanced ( Plus sign indicating enhanced component. ) address components that may further enhance ASPs. If your ASP is missing Fundamental components or is not performing core interventions, then you should determine how to manage these deficiencies, including meeting with senior leadership to discuss additional resources. If your ASP does not have Enhanced items, discuss whether implementation of these items might be of benefit to your program and what resources would be needed to operationalize them.

Key: Arow indicating fundamental component = Fundamental, Plus sign indicating enhanced component. = Enhanced

**Program Leade**rs**hip**

| **Job Title** | **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- | --- |
| **Infection Preventionist** | Arow indicating fundamental component Has an Infection Preventionist been identified? | ☐ Yes  ☐ No |  |
| Arow indicating fundamental componentDoes the Infection Preventionist have appropriate education, training, experience, or certification for his/her responsibilities? | ☐ Yes  ☐ No |  |
| Arow indicating fundamental componentDoes the Infection Preventionist work at least part-time at the facility? | ☐ Yes  ☐ No |  |
| Arow indicating fundamental componentWhat proportion of the Infection Preventionist’s time is allocated specifically to the antibiotic stewardship program (exclusive of other infection prevention and control activities)? |  |  |
| **Medical Director** | Arow indicating fundamental component Is the Medical Director or his/her designee a member of the Antibiotic Stewardship Team? |  |  |
| Plus sign indicating enhanced component.Has the Medical Director or his/her designee received specialized training in antibiotic stewardship? | ☐ Yes  ☐ No  ☐ N/A |  |
| **Pharmacist** | Arow indicating fundamental componentIs the Pharmacist (Consulting or Dispensing) a member of the Antibiotic Stewardship Team? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.Is supporting antibiotic stewardship activities included in the Pharmacist’s job description or contract? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Does the Pharmacist have a certificate or advanced training in infectious diseases or antibiotic stewardship? | ☐ Yes  ☐ No  ☐ N/A |  |
| **Other Team Members** | Arow indicating fundamental componentIndicate other members of the Antibiotic Stewardship Team | ☐ Director of Nursing  ☐ Assistant Director of Nursing  ☐ Administrator  ☐ Front-line Nurses  ☐ Infectious Diseases Consultant  ☐ Nurse Aide  ☐ Nurse Manager  ☐ Nurse Practitioner  ☐ Other Physicians  ☐ Other Pharmacist  ☐ Physician Assistant  ☐ Representative from Resident &  Family Council  ☐ Wound Care Nurse  ☐ Other: |  |
| **Senior Executive Leadership** | Arow indicating fundamental componentTo whom does the Antibiotic Stewardship Team report? |  |  |
| Arow indicating fundamental componentHow often does Antibiotic Stewardship Team leadership meet with senior leadership? | ☐ Monthly  ☐ Quarterly  ☐ Annually  ☐ Never  ☐ Other: |  |
| Arow indicating fundamental componentDoes senior leadership actively promote/support antibiotic stewardship prevention activities? | ☐ No  ☐ Yes: Antibiotic Stewardship Team member  ☐ Yes: Provides adequate funding for ASP  ☐ Yes: Provides funding for AS member training  ☐ Yes: Promotes AS messages via newsletters, screen savers, etc.  ☐ Yes: Provides back up to ASP if prescribers do not follow AS approaches  ☐ Yes: Other: |  |

# Program Structure

| **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- |
| Arow indicating fundamental componentWhat are the activities of the Antibiotic Stewardship Team?  Note: activities listed are suggestions for team activities; not all teams will perform all activities. | ☐ Establish and review antibiotic use protocols  ☐ Monitor antibiotic use  ☐ Track antibiotic use data  ☐ Recommend approaches to improve antibiotic use  ☐ Obtain, review, and distribute the antibiogram  ☐ Review *Clostridioides difficile* infection rates and recommend improvement approaches  ☐ Perform proactive risk assessments to determine areas in which harm related to antibiotic prescribing could be avoided with intervention  ☐ Review the antibiogram and recommend improvement approaches  ☐ Develop, review, and distribute materials to prescribing clinicians, nursing staff, and residents/family members regarding optimal antibiotic prescribing  ☐ Provide feedback to prescribers about antibiotic prescribing practices  ☐ Review approaches employed by the contracted microbiology lab for reporting culture and susceptibility data  ☐ N/A |  |
| Arow indicating fundamental componentDoes the Antibiotic Stewardship Team report to the Quality Assessment and Assurance (QAA) or the Quality Assurance and Performance Improvement (QAPI) Committees? | ☐ Yes  ☐ No  ☐ N/A |  |
| Arow indicating fundamental componentDoes your ASP develop an annual plan outlining goals for the following year? | ☐ Yes  ☐ No |  |
| Arow indicating fundamental component**Does your ASP perform an annual risk assessment to identify priorities?** | ☐ Yes  ☐ No |  |
| Arow indicating fundamental componentDoes your ASP have a binder or other document detailing how it is compliant with **Reform of Requirements for Long-Term Care Facilities** mandated by the Centers for Medicare & Medicaid Services (CMS) and/or **The Core Elements of Antibiotic Stewardship for Nursing Homes** issued by the Centers for Disease Control and Prevention (CDC)? | ☐ Yes  ☐ No |  |

# Antibiotic Use Protocols

| **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- |
| Arow indicating fundamental componentDoes your facility have facility-specific antibiotic use protocols? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.Do your antibiotic use protocols cover the following syndromes? | ☐ Urinary tract infection  ☐ Asymptomatic bacteriuria  ☐ Bacterial pneumonia  ☐ *Clostridioides difficile* infection  ☐ Skin and soft tissue infections  ☐ Other:  ☐ Other:  ☐ Other:  ☐ N/A |  |
| Plus sign indicating enhanced component.Do your antibiotic use protocols provide recommendations for diagnostic testing? | ☐ Yes  ☐ No  ☐ N/A |  |
| Arow indicating fundamental componentDo your antibiotic use protocols provide recommendations on empiric therapy? | ☐ Yes  ☐ No  ☐ N/A |  |
| Arow indicating fundamental component****Do your antibiotic use protocols provide recommendations on duration of therapy? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Do your antibiotic use protocols provide recommendations about re-evaluating antibiotic decisions after more clinical or diagnostic information become available? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Do your antibiotic use protocols or other policies or procedures provide recommendations about the interpretation of microbiology results (including rapid diagnostic tests)? | ☐ Yes  ☐ No  ☐ N/A |  |
| Arow indicating fundamental componentDo your antibiotic use protocols or other policies or procedures provide guidance on when to consider transferring a resident to an acute care facility? | ☐ Yes  ☐ No  ☐ N/A |  |
| Title: Fundamental symbol - Description: Teal arrow pointing rightAre antibiotic use protocols disseminated to prescribing clinicians at the point of care? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Who is involved in developing and reviewing antibiotic use protocols? | ☐ Antibiotic Stewardship Team members  ☐ Infectious disease consultants  ☐ Consulting pharmacists  ☐ Other prescribing clinicians  ☐ Front-line nurses  ☐ Other:  ☐ N/A |  |

# Interventions

| Arow indicating fundamental component**CORE INTERVENTIONS:** | **Antibiotic** | **Pre-authorization** | **Frequency** | **Post-prescription Review and Feedback** | **Frequency** |
| --- | --- | --- | --- | --- | --- |
| **Preauthorization and Post-Prescription Review and Feedback**  For each agent or class, indicate whether the ASP performs pre-authorization and/or post-prescription review and feedback. | Amoxicillin | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Amoxicillin-clavulanate | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Azithromycin | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Cefazolin | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Oral second- or third-generation cephalosporins | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Ceftriaxone | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Cefepime | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Piperacillin/  Tazobactam | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Carbapenems | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Fluoroquinolones | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Aminoglycosides | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |
| Vancomycin IV | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A | ☐ Yes  ☐ No  ☐ N/A | ☐ Daily weekdays  ☐ Daily 7 days  ☐ 2–3 times/week  ☐ Other:  ☐ N/A |

| **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- |
| Arow indicating fundamental componentHow is antibiotic use monitored at your facility? | ☐ Line-list (manual entry)  ☐ Other (manual entry):  ☐ Data from dispensing pharmacy  ☐ Data from electronic medical record  ☐ Other:  ☐ N/A |  |
| Arow indicating fundamental componentHow are antibiotic stewardship interventions made? | ☐ Phone call to clinicians  ☐ Text to clinicians  ☐ Rounds with teams  ☐ Note in medical record  ☐ Other:  ☐ N/A |  |
| Arow indicating fundamental componentWhere are antibiotic stewardship interventions documented? | ☐ No documentation  ☐ Medical record: visible to clinicians  ☐ Medical record: not visible to clinicians  ☐ Other:  ☐ N/A |  |
| Arow indicating fundamental componentDoes your program monitor adherence to antibiotic stewardship recommendations? | ☐ Yes  ☐ No  ☐ N/A |  |

# Other Interventions To Consider

| **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- |
| Plus sign indicating enhanced component.Is there is a formal procedure to review the appropriateness of all antibiotics 48–72 hours after the initial orders by the health care practitioner and nursing staff (e.g., antibiotic time out)? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.Is there a process for intravenous to oral conversion of antibiotics in the pharmacy? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.Does your facility have order-sets for any of the following indications? | ☐ Urinary tract infection  ☐ Bacterial pneumonia  ☐ Skin and soft tissue infection  ☐ *Clostridioides difficile* infection  ☐ Other:  ☐ Other:  ☐ Other:  ☐ N/A |  |
| Plus sign indicating enhanced component.Are activities being conducted by the Antibiotic Stewardship Team to target antibiotics commonly associated with *Clostridioides difficile* infection (e.g., fluoroquinolones, clindamycin, cephalosporins)? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.Are activities being conducted by the Antibiotic Stewardship Team to reduce inappropriate treatment of asymptomatic bacteriuria? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.List interventions being conducted by the ASP to improve antibiotic use outside of core interventions. |  |  |

# Microbiology

| **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- |
| Arow indicating fundamental componentDoes the Antibiotic Stewardship Team have a regular meeting with the contracted microbiology laboratory to discuss relevant issues (e.g., developing an antibiogram, interpretation of susceptibility tests, implementation of new diagnostic tests, etc.)? | ☐ Yes  ☐ No |  |
| Arow indicating fundamental componentDoes your microbiology laboratory develop an annual antibiogram? | ☐ Yes, specific to our facility  ☐ Yes: combined with regional facilities  ☐ Yes: combined with hospital  ☐ No |  |
| Arow indicating fundamental componentDoes your microbiology lab follow Clinical and Laboratory Standards Institute (CLSI) guidelines for making the antibiogram? | ☐ Yes  ☐ No  ☐ N/A |  |
| Arow indicating fundamental componentIs the antibiogram disseminated to healthcare practitioners? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Does your microbiology lab blind any culture or susceptibility results as a strategy to assist prescribers in selecting appropriate antibiotics? | ☐ Yes  ☐ No |  |
| Plus sign indicating enhanced component.Does your facility perform or order rapid diagnostics on other specimens? | ☐ Influenza test  ☐ Respiratory viral panel  ☐ *Streptococcus pneumoniae* urinary antigen test  ☐ SARS-CoV-2 (COVID-19) test  ☐ Other:  ☐ No |  |

# Data

| **Metrics** | **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- | --- |
| **Antibiotic Use Metrics** | Arow indicating fundamental componentDo you have access to antibiotic use data? | ☐Yes  ☐No |  |
| Plus sign indicating enhanced component.If you have access to antibiotic use data, what type of data is it? | ☐ Purchasing data  ☐ Days of therapy/1,000 patient-days (preferred)  ☐ Days of therapy/1,000 days-present (National Healthcare Safety Network denominator – preferred)  ☐ Defined daily doses  ☐ Other:  ☐ N/A |  |
| Arow indicating fundamental componentDo you monitor antibiotic use trends over time? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Do you stratify data by antibiotic/antibiotic class? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Do you stratify data by provider? | ☐ Yes  ☐ No  ☐ N/A |  |
| Arow indicating fundamental componentHow frequently does the Antibiotic Stewardship Team review antibiotic use data? | ☐ Monthly  ☐ Quarterly  ☐ Annually  ☐ Other:  ☐ N/A |  |
| Plus sign indicating enhanced component.Does your Antibiotic Stewardship Team present antibiotic use data to facility leadership? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Does your Antibiotic Stewardship Team present antibiotic use data to frontline staff and/or healthcare practitioners? | ☐ Yes  ☐ No  ☐ N/A |  |
| Plus sign indicating enhanced component.Do you report antibiotic use data to the National Healthcare Safety Network Antimicrobial Use and Resistance Module? | ☐ Yes  ☐ No  ☐ N/A |  |

# Education

| **Antibiotic Stewardship Area** | **Answers** | **Comments** |
| --- | --- | --- |
| Arow indicating fundamental componentDoes your ASP provide updates to healthcare providers about judicious antibiotic prescribing and the role of AS? | ☐ No  ☐ Yes: Nurses  ☐ Yes: Pharmacists  ☐ Yes: Health care practitioners  ☐ Yes: Other(s) |  |
| Arow indicating fundamental componentHow frequently does your ASP provide updates to health care providers about judicious antibiotic prescribing and the role of AS? | ☐ Annually  ☐ Annually, and as needed  ☐ Unscheduled  ☐ Other:  ☐ N/A |  |

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