**AHRQ Safety Program for Improving Antibiotic Use**

**Gap Analysis for Antibiotic Stewardship Programs**

Instructions: Complete this document to assess your antibiotic stewardship program (ASP) on an annual basis. The ASP areas addressed in this document are those that are discussed throughout the AHRQ Safety Program Toolkit.

Unmarked questions ask about basic structure and commonly utilized interventions. The questions labeled as Enhancing Components (➕) address components that may enhance ASPs. Once your ASP is established, discuss whether implementation of the Enhancing Components might be of benefit to your program and what resources would be need to operationalize them.

For answers that are not non-yes/no or non-yes/no/not applicable, select all answers that apply.

Key: ➕ = Enhancing Components

| ASP Area | Answers | Comments |
| --- | --- | --- |
| Program Leadership |
| Physician Leadership |
| Has a physician leader been identified? | [ ]  Yes[ ]  No |  |
|  Is the physician leader trained in infectious disease? | [ ]  Yes[ ]  No[ ]  Not applicable (N/A) |  |
| What salary support [full-time equivalent (FTE) or amount/hour consulting] is received by the ASP physician leader? |  |  |
| How much time does the ASP physician leader dedicate to ASP (% effort or hours/week) |  |  |
| Is the ASP physician leader available to the ASP on a daily basis? | [ ]  Yes[ ]  No[ ]  N/A |  |
| Pharmacist Leadership |
| Has a pharmacist leader been identified? | [ ]  Yes[ ]  No |  |
| Is the pharmacist leader trained in infectious diseases? | [ ]  Yes[ ]  No[ ]  N/A |  |
| Senior Executive Leadership |
| To whom does the ASP report? |  |  |
| How often does ASP leadership meet with senior leadership? | [ ]  Monthly [ ]  Quarterly[ ]  Annually[ ]  Never[ ]  Other: |  |
| Does senior leadership actively promote/support antibiotic stewardship (AS) prevention activities? | [ ]  No[ ]  Yes: ASP Committee 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 |
| How many pharmacists staff the ASP? | Number: FTE for pharmacist leader: FTE for other AS pharmacists: |  |
| Does ASP have access to a data analyst?  | Number: Total FTE for AS effort: [ ]  No access to a data analyst |  |
| ➕Does the ASP have a regular meeting with infection prevention to discuss issues relevant to both groups? | [ ]  Yes[ ]  No |  |
| Is a representative of the ASP involved in antibiotic formulary decisions? | [ ]  Yes[ ]  No  |  |
| Is there a hospital wide ASP Committee that meets at least quarterly? | [ ]  Yes[ ]  No |  |
| Who chairs the ASP Committee? |  |  |
| Who is on the ASP Committee?Note: representatives from areas listed are suggestions for robust committee membership; not all committees will have all areas represented. | [ ]  Senior executive[ ]  Pharmacy department[ ]  Front-line nurses[ ]  Infectious diseases physicians [ ]  Information technology[ ]  Microbiology lab[ ]  Infection control/hospital epidemiology[ ]  Department of nursing[ ]  Regulatory affairs[ ]  Department of quality improvement[ ]  Department of patient safety[ ]  Patient representative[ ]  Other:[ ]  N/A |  |
| What are the activities of the ASP Committee?Note: activities listed are suggestions for committee activities; not all committees will perform all activities. | [ ]  Review antibiotic use data and recommend improvement approaches[ ]  Review the antibiogram and recommend improvement approaches[ ]  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 guidelines developed by the ASP [ ]  Review materials for patient and healthcare worker education regarding optimal antibiotic prescribing[ ]  Review ASP responses to antibiotic shortages[ ]  Review approaches employed by the microbiology lab for reporting culture and susceptibility data[ ]  Assure ASP and its procedures and policies meet relevant regulations[ ]  N/A |  |
| Are minutes taken and distributed? | [ ]  Yes[ ]  No[ ]  N/A |  |
| To what committee does the ASP Committee report? |  |  |
| Does your ASP develop an annual plan outlining goals for the following year? | [ ]  Yes[ ]  No |  |
| Does your ASP perform an annual risk assessment to identify priorities? | [ ]  Yes[ ]  No |  |
| Does your ASP have a binder or other document detailing how it is compliant with The Joint Commission Antimicrobial Stewardship Standard and/or Centers for Disease Control and Prevention’s (CDC) *Core Elements of Hospital Antibiotic Stewardship Programs*? | [ ]  Yes[ ]  No |  |
| Guidelines |
| Does your facility have facility-specific antibiotic treatment guidelines? | [ ]  Yes[ ]  No |  |
| Do your facility-specific guidelines cover the following syndromes? | [ ]  Urinary tract infection[ ]  Asymptomatic bacteriuria[ ]  Community-acquired pneumonia[ ]  Healthcare-acquired pneumonia[ ]  Ventilator-associated pneumonia[ ]  Intra-abdominal infections[ ]  Skin and soft tissue infection[ ]  Bacteremia[ ]  Sepsis[ ]  Surgical prophylaxis[ ]  *Clostridioides difficile* infection[ ]  Other:[ ]  Other:[ ]  Other:[ ]  N/A |  |
| Who is involved in guideline development? | [ ]  ASP members[ ]  Non-AS infectious disease physicians[ ]  Non-ASP pharmacists[ ]  Front-line prescriber content experts[ ]  Trainees (e.g., housestaff, fellows)[ ]  Other:[ ]  N/A |  |
| Do your guidelines provide recommendations on empiric therapy? | [ ]  Yes[ ]  No[ ]  N/A |  |
| Do your guidelines provide recommendations on oral step-down therapy? | [ ]  Yes[ ]  No[ ]  N/A |  |
| Do your guidelines provide recommendations on duration of therapy? | [ ]  Yes[ ]  No[ ]  N/A |  |
| Are guidelines disseminated to prescribers at the point of care? | [ ]  Yes[ ]  No[ ]  N/A |  |
| ➕Do your facility guidelines provide recommendations about specific antibiotics? | [ ]  Yes[ ]  No[ ]  N/A |  |
| ➕Do your guidelines provide recommendations for diagnostic testing? | [ ]  Yes[ ]  No[ ]  N/A |  |
| ➕Do your facility guidelines provide recommendations about the interpretation of microbiology results (including rapid diagnostic tests)? | [ ]  Yes[ ]  No[ ]  N/A |  |
| ➕Are guidelines available in operating rooms detailing specific recommendations for surgical prophylaxis? | [ ]  Yes[ ]  No[ ]  N/A |  |

| Interventions |
| --- |
| Preauthorization and Post-prescription Review and Feedback |
| Instructions for this section: For each agent or class, indicate whether the ASP performs pre-authorization (PA) and/or post-prescription review and feedback (PPRF), and the frequency of these interventions. PA and PPRF are common and effective ASP interventions. Use the results from this section to assess your PA and PPRF practice and to determine if the type of intervention or antibiotics intervened upon are appropriate or should be modified based on institutional data and other ASP concerns.  | **Antibiotic** | **Pre-authorization** | **Frequency** | **Post-prescription review and feedback** | **Frequency** |
| 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 |
| 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 |
| Ceftaroline | [ ]  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 |
| Aztreonam | [ ]  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 |
| Daptomycin | [ ]  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 |
| Linezolid/Tedizolid | [ ]  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 |
| Ceftazidime/Avibactam | [ ]  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 |
| Ceftolozane/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 |
| Polymixins | [ ]  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 PO | [ ]  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 |
| Fidaxomicin | [ ]  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 |

| ASP Area | Answers | Comments |
| --- | --- | --- |
| Do you have software or another mechanism that identifies patients for daily review by the ASP? | [ ]  Yes[ ]  No |  |
| How do you make AS interventions? | [ ]  Phone call to clinicians[ ]  Text to clinicians[ ]  Rounds with teams[ ]  Note in medical record[ ]  Other:[ ]  N/A |  |
| Where do you document AS intervention? | [ ]  No documentation[ ]  Medical record: visible to clinicians[ ]  Medical record: not visible to clinicians[ ]  Database internal to ASP[ ]  N/A |  |
| Does your program monitor adherence to AS interventions?  | [ ]  Yes[ ]  No[ ]  N/A |  |
| Other Interventions To Consider |
| ➕Is there is a formal procedure for all clinicians to review the appropriateness of all antibiotics 48–72 hours after the initial orders (e.g., antibiotic time out) | [ ]  No[ ]  Yes[ ]  Select units |  |
| ➕Is there a process for intravenous to oral conversion of antibiotics in the pharmacy? | [ ]  Yes[ ]  No |  |
| ➕Does your facility have order sets for any of the following indications?  | [ ]  Urinary tract infection[ ]  Community-acquired pneumonia[ ]  Healthcare-acquired pneumonia[ ]  Ventilator-associated pneumonia[ ]  Intra-abdominal infections[ ]  Skin and soft tissue infection[ ]  Bacteremia[ ]  Sepsis[ ]  Surgical prophylaxis[ ]  *Clostridioides difficile* infection[ ]  Neutropenic fever[ ]  Other:[ ]  Other:[ ]  Other:[ ]  N/A |  |
| ➕Are there time-sensitive automatic stop orders for specified antibiotic prescriptions? | [ ]  Yes[ ]  No |  |
| ➕Are activities conducted by the ASP to target antibiotics commonly associated with *C. difficile* infection (e.g., fluoroquinolones, clindamycin, cephalosporins) | [ ]  Yes[ ]  No |  |
| ➕Are activities being conducted by the ASP to reduce inappropriate treatment of asymptomatic bacteriuria? | [ ]  Yes[ ]  No |  |
| ➕Are activities being conducted by the ASP to guide interpretation of procalcitonin results? | [ ]  No procalcitonin testing[ ]  Procalcitonin results not acted upon by ASP [ ]  Yes: all patients[ ]  Yes: select patients |  |
| ➕List interventions being conducted by the ASP to improve antibiotic use outside of core interventions. |  |  |
| Microbiology |
| Do you have an onsite microbiology lab? | [ ]  Yes[ ]  No |  |
| Does the ASP have a regular meeting with the microbiology lab to discuss issues relevant to both groups (e.g., interpretation of susceptibility tests, implementation of new diagnostic tests, etc.?) | [ ]  Yes[ ]  No |  |
| Does your microbiology laboratory develop an annual antibiogram? | [ ]  Yes: Whole hospital [ ]  Yes: Stratified by unit[ ]  Yes: Urine isolates[ ]  Yes: Blood isolates[ ]  No |  |
| Does your microbiology lab follow Clinical and Laboratory Standards Institute (CLSI) guidelines for making the antibiogram? | [ ]  Yes[ ]  No[ ]  N/A |  |
| Is the antibiogram disseminated to prescribers? | [ ]  Yes[ ]  No[ ]  N/A |  |
| ➕Does your microbiology lab blind any culture or susceptibility results as a strategy to assist prescribers in selecting appropriate antibiotics? | [ ]  Yes[ ]  No |  |
| ➕Does your facility perform rapid diagnostics on blood? | [ ]  Yes: Fungal organisms[ ]  Yes: Gram-negative organisms[ ]  Yes: Gram-positive organisms[ ]  No |  |
| ➕Does your facility perform rapid diagnostics on other specimens? | [ ]  Yes: Respiratory virus[ ]  Yes: Respiratory bacterial[ ]  Yes: Cerebrospinal fluid[ ]  Legionella urinary antigen[ ]  *Streptococcus pneumoniae* urinary antigen[ ]  Other:[ ]  Other:[ ]  No |  |
| ➕Does your ASP have any specific interventions to adjust antibiotic regimens based on rapid diagnostic results?  | [ ]  Yes[ ]  No |  |
| Data |
| Antibiotic Use Metrics |
| Do you have access to antibiotic use data? | [ ] Yes[ ] No |  |
| If you have access to antibiotic use data, what type of data is it? | [ ]  Purchasing data[ ]  Days of therapy/1,000 patient days [ ]  Days of therapy/1,000 days present (National Healthcare Safety Network denominator)[ ]  Defined daily doses [ ]  Other:[ ]  N/A |  |
| Do you monitor antibiotic use trends over time? | [ ]  Yes [ ]  No [ ]  N/A |  |
| ➕Do you stratify data by unit? | [ ]  Yes [ ]  No [ ]  N/A |  |
| ➕Do you stratify data by antibiotic/antibiotic class? | [ ]  Yes [ ]  No [ ]  N/A |  |
| ➕Do you stratify data by provider? | [ ]  Yes [ ]  No [ ]  N/A |  |
| How are the data available to the ASP?  | [ ]  Report provided at a predetermined interval by IT, pharmacy, etc. What interval?[ ]  Monthly[ ]  Quarterly[ ]  Annually[ ]  Other:[ ]  Data available in real-time on a dashboard[ ]  Other: |  |
| Does your ASP present antibiotic use data to the ASP Committee? | [ ]  Yes [ ]  No [ ]  N/A |  |
| ➕Does your ASP present antibiotic use data to facility leadership? | [ ]  Yes [ ]  No [ ]  N/A |  |
| ➕Does your ASP present antibiotic use data to frontline staff or unit directors? | [ ]  Yes [ ]  No [ ]  N/A |  |
| ➕Do you report antibiotic use data to the National Healthcare Safety Network Antimicrobial Use and Resistance Module? | [ ]  Yes [ ]  No [ ]  N/A  |  |
| Other Metrics |
| ➕Does the ASP measure the number and type of interventions performed? | [ ]  Yes [ ]  No  |  |
| ➕Does the ASP identify units with high *Clostridioides difficile* rates and assess antimicrobial use on the units? | [ ]  Yes [ ]  No  |  |
| Education |
| Does your ASP provide updates to healthcare providers about judicious antibiotic prescribing and the role of AS? | [ ]  No[ ]  Yes: Nurses[ ]  Yes: Pharmacists[ ]  Yes: Prescribers[ ]  Yes: Other(s) |  |
| 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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