### Measurable Elements of MMU.01.00

1. A qualified individual oversees the medication management interdisciplinary team established to develop the policies and processes for medication management in the hospital. (*See also* GLD.06.00, ME 1; HRP.02.01, ME 2)
2. Ⓓ The medication management interdisciplinary team develops written policies and a plan for a uniform medication management system that complies with applicable laws and regulations and includes the following processes, as applicable:
   - Planning
   - Selection and procurement
   - Storage
   - Ordering
   - Preparing, dispensing, and distribution
   - Administration
   - Monitoring the effects of medication
   - Medication error and adverse event reporting
   - Evaluation
   - Formal processes for management of medication shortages and substitutions
3. Ⓓ The medication management interdisciplinary team is defined in writing and includes, at minimum, a pharmacist, a physician, a nurse, an infection prevention and control professional, and hospital leaders.
4. All settings, services, and individuals who manage medication processes are included in the organizational structure.
5. A licensed pharmacist or other qualified individual directly supervises the activities of the pharmacy or pharmaceutical service and ensures compliance with applicable laws and regulations. (*See also* GLD.06.00, ME 1)
6. Ⓓ The hospital documents at least one review annually of the medication management system.
7. Appropriate and updated sources of drug information are readily available to those involved in medication use.

## Standard MMU.01.01

The hospital implements a program for the prudent use of antimicrobials based on the principle of antimicrobial stewardship.

### Intent of MMU.01.01

Hospitals must implement processes to ensure optimal use of antimicrobials in order to prevent the development and spread of resistant bacteria and deliver better patient outcomes. The overuse and misuse of antimicrobials has resulted in the growth of multidrug-resistant microorganisms that are increasingly resistant to available antimicrobials. Antimicrobial resistance has been classified as an urgent public health and socioeconomic problem on a global scale. What is more, antimicrobial resistance has been estimated to have been responsible for the deaths of at least of 1.27 million people worldwide and associated with nearly 5 million deaths in 2019, and in 2022 was listed as one of the top 10 global health threats. In addition to the growth of multidrug-resistant microorganisms, there are often side effects and/or complications to antimicrobial treatment, including acquiring *Clostridioides difficile* (*C. diff*), kidney or liver damage, hearing loss, hemolytic anemia, and other such complications. The proper use of antimicrobials is important in the prevention of unnecessary complications due to improper antimicrobial use.

Health care practitioners are contributing to the development of antimicrobial resistance in several ways (for example, using antimicrobials when they are not indicated at all; continuing antimicrobials when they are no longer necessary; using a broad-spectrum antimicrobial when it is not required or continuing it unnecessarily after the sensitivity results are received; using the wrong antimicrobial, or prescribing the wrong dose, or continuing the prophylactic antimicrobial after it is no longer recommended).

To reduce the development and spread of resistant microorganisms and deliver better patient outcomes, hospitals must implement measures to ensure appropriate use of antimicrobials. Implementation of an antimicrobial stewardship program will help hospitals reach the goal of providing patients requiring antimicrobial treatment with the right antimicrobials, when indicated, at the right time, at the right dose, and for the right duration. The program includes guidelines for the optimal use of antimicrobial therapy for treatment of selected and/or high-risk infections such as sepsis, pneumonia. endocarditis, meningitis, urinary tract infections (UTIs), and multidrug-resistant organism (MDRO) infections. Guidelines would also include the proper use of antimicrobial prophylaxis.

An antimicrobial stewardship program may include the following elements: monitoring indications for all or selected antimicrobials prescribed, tracking patterns of antimicrobial prescribing practice, monitoring antimicrobial resistance trends with an antibiogram, informing staff on antimicrobial use and resistance on a regular basis, and educating staff about optimal antimicrobial use. Many antimicrobial stewardship programs also monitor *Clostridioides difficile* trends as a surrogate marker and develop a list of restricted antimicrobials that require prior authorization. It is imperative for the program to have the support of hospital leaders—which includes leaders' commitment to providing support that includes staffing, financial resources, evidence-based resources, and technology—to ensure an effective stewardship program. In addition to infection prevention and control professionals, the antimicrobial stewardship program involves physicians, nurses, pharmacists, trainees, and others.

Successful tracking of the effectiveness of the program requires a mechanism for oversight. Oversight may include an individual, a small work group, a coordinating interdisciplinary team, a task force, an antimicrobial subcommittee, or some other mechanism. Examples of strategies to optimize antimicrobial prescribing include the following:

- Preauthorization for general and specific antimicrobial use that includes an internal review and approval process prior to use
- Prospective review and feedback regarding antimicrobial prescribing practices, including the treatment of positive blood cultures, by a member of the antimicrobial stewardship program
- Tracking, trending, and analysis of multidrug-resistant organism occurrences
- Tracking, trending, and analysis of prescription patterns and amount used of the restricted antimicrobials on the hospital's list

Tracking the effectiveness of the program is an important element of the program's success. Examples of data that can help measure effectiveness include the following:

- All antimicrobial use (general and restricted)
- Evidence of a decrease in the inappropriate use of antimicrobials and a decrease in multidrug-resistant organisms
- Documentation that prescribers are following accepted clinical practice guidelines
- Appropriate optimal use of prophylactic antimicrobials
- Monitoring *Clostridioides difficile* trends as a surrogate marker
- Developing a list of restricted antimicrobials and monitoring prescription pattern and amount used

### Measurable Elements of MMU.01.01

1. Ⓓ The hospital implements a written program for antimicrobial stewardship that is based on scientific evidence, accepted clinical practice guidelines, and local laws and regulations and, at minimum, includes the following:
   - Documentation indicating that the scope of the antimicrobial stewardship program includes the entire hospital and all services associated with the hospital
   - Implementation of at least two evidence-based clinical practice guidelines to improve antimicrobial use for the most common indications
   - Evaluation of adherence to at least one of the evidence-based clinical practice guidelines the hospital implements (including antimicrobial selection and duration of therapy, where applicable)
2. The hospital has an interdisciplinary team that oversees the antimicrobial stewardship program. The interdisciplinary team is defined and includes, at minimum, an infection prevention and control professional, a physician, a nurse, a pharmacist, and hospital leaders.
3. The antimicrobial stewardship program demonstrates coordination among all components of the hospital responsible for antimicrobial use and resistance, including but not limited to the infection prevention and control program, the quality and patient safety program, the medical staff, nursing services, and pharmacy services.
4. The program includes guidelines for the optimal use of antimicrobial therapy for treatment of selected and/or high-risk infections, including the proper use of prophylactic antimicrobial therapy.
5. There is a mechanism to oversee the program for antimicrobial stewardship, and the program's effectiveness is monitored according to hospital policy.
6. Ⓓ The antimicrobial stewardship program collects, analyzes, and reports data to hospital leaders, medication interdisciplinary committee, infection prevention and control department, quality improvement department, pharmacy leaders, all staff, and other stakeholders per hospital policy.
7. The antimicrobial stewardship program uses program data to improve performance of antimicrobial stewardship activities.
8. Patients and families receive education on the antimicrobial stewardship program and on the appropriate use of antimicrobials.

## Standard MMU.01.02

The hospital has a medication recall system process.

### Intent of MMU.01.02

Hospitals must ensure that they have a process for receiving notifications of medication recalls and for identifying, retrieving, and returning, or safely and properly destroying, medications recalled by the manufacturer or supplier when found to be either defective or potentially harmful. Product defects may be related to incorrect packaging, potential contamination, or poor manufacturing, resulting in impurities or errors in strength/potency. Sometimes, a recall is initiated by the manufacturer, who identifies a problem with a drug and voluntarily recalls it. Other times, a government agency will request that a medicine be recalled after receiving reports of problems from the public. The hospital may receive communications about medication recalls directly from the manufacturer or from regulatory authorities. The recall process includes any medications compounded within the hospital in which products that have been recalled have been used. The hospital has a process to inform health care providers about the recall and advise them on alternative treatments, if necessary, as well as notifying patients who have received recalled medication and offering appropriate guidance as needed. The time frame for notifying health care providers and patients of the recall is according to hospital policy, the manufacturer's recommendations, and local laws and regulations.