Intent of MMU.04.02

Medication ordering and transcribing is an important process of safe medication management for the patient and for reducing the risks for adverse events. Patients entering a hospital are often taking multiple medications at home. Obtaining an accurate list of those medications and documenting them in the patient's medical record helps reduce the risk of an adverse event.

Medication discrepancies can affect patient outcomes. It can be difficult to obtain a complete list from every patient in an encounter, and accuracy is dependent on the patient's ability and willingness to provide this information. A credible effort to collect this information is recognized as meeting the intent of the requirement. Examples of a credible effort may include contacting the patient's pharmacy and/or family members or consulting with the patient's primary physician.

Medication reconciliation is defined as the process of identifying the medications currently being taken by an individual. These medications are compared to newly ordered medications, and discrepancies are identified and reconciled. The types of information that clinicians use to reconcile medications include but are not limited to medication name, dose, frequency, route, and purpose. Hospitals should identify the information that needs to be collected to reconcile current and newly ordered medications and to safely prescribe medications in the future. Height and weight information may not be collected for every patient. However, the hospital must have a process to ensure that all required information for safe prescribing is collected and documented in the patient's medical record (*see also* MMU.04.01). This can be accomplished by collecting height, weight, age, and other information from every patient; by identifying categories of patients (for example, pediatric renal impairment, oncology, burn injuries, cardiology); and by identifying types of medications (for example, chemotherapy or other medications calculated by body surface area [BSA]) for which specific information must be collected, such as height and weight.

Good medication management practices include a review of a proposed new medication against the list of medications the patient is currently taking to improve the quality and safety of adding a new medication to the patient's treatment plan and reduce the risk of an adverse medication event. A listing of all current medications is recorded in the patient's medical record and is available to the pharmacy, nurses, and physicians. The hospital establishes a process to compare the patient's list of medications taken prior to admission against the initial orders.

Measurable Elements of MMU.04.02

1. Ⓓ The hospital identifies, in writing, the information needed to reconcile current and newly ordered medications.
2. The patient's medical record contains a list of current medications taken prior to admission or registration as an outpatient, and this information is made available to the patient's health care practitioners and the pharmacy as needed. (*See also* ACC.03.00, ME 5)
3. Medication reconciliation includes comparing the initial medication orders with the list of medications taken prior to admission, according to the hospital's established process.
4. A medication review is conducted when there are changes to the patient's level of care, unit, or health care practitioner service, including the discharge planning process for medication management

Preparing and Dispensing

Standard MMU.05.00

Medications are prepared and dispensed in a safe and clean environment.

Intent of MMU.05.00

Some medications and solutions require preparation under very specific guidelines to prevent contamination and risk of infection to the patient. The pharmacy or pharmaceutical service and others with proper training and experience prepare and dispense medications in a clean and safe environment that complies with laws, regulations, and professional practice standards. The hospital identifies the standards of practice for a safe and clean preparation and dispensing environment.

For example, standards of practice can include how medication preparation areas are to be cleaned and when a mask should be worn, or a laminar airflow hood should be used in the preparation of a medication. Staff compounding and preparing these medications are trained in the principles of medication preparation and aseptic technique. Similarly, positive or negative pressure rooms and laminar airflow hoods are available and used when indicated by professional practices; for example, in the preparation of sterile compounding, total parenteral nutrition (TPN) admixtures, chemotherapy, and epidurals. Due to the need for positive and negative pressure capabilities and laminar airflow hoods to prepare these medications, it is recommended that they be exclusively prepared in the pharmacy unless the patient care unit is specialized with the needed safety equipment and staffed with trained individuals (for example, a specialized oncology unit). A common situation in medication preparation that carries a risk of transmitting contagious diseases is the use of single-use and multidose vials on more than one patient. The misuse of these vials has caused harm to individual patients through occurrences and outbreaks of bloodborne pathogens and associated infections in both inpatients and outpatients—including hepatitis B and C virus, meningitis, and epidural abscesses.

Sterile compounding is defined as the combining, admixing, mixing, diluting, pooling, reconstituting, repackaging, or altering of a drug or bulk drug substance to create a sterile medication. Ensuring a safe compounding environment takes organization and diligence. Facility requirements are intended to establish a safe environment for compounded sterile preparations (CSPs). The International Organization for Standardization (ISO) air cleanliness classification of the compounding environment is a critical measure that can be affected by facility design; therefore, facility architecture is taken into account when establishing a sterile compounding area. Environmental monitoring and related documentation must be completed on a routine basis to ensure that adequate environmental and personnel controls are in place to prevent contamination of CSPs.

Hazardous medication compounding is the compounding of hazardous drugs that pose a risk of exposure to patients and health care workers (for example, drugs that are carcinogenic, are teratogenic, or have developmental toxicity, reproductive toxicity, organ toxicity at low doses, genotoxicity, or structure and toxicity profiles of new drugs that mimic existing hazardous drugs). Hospitals must follow all applicable requirements based on laws and regulations, professional standards of practice, and hospital policy, including education, training, and responsibilities of staff handling hazardous drugs; facility and engineering controls; procedures for deactivating, decontaminating, and cleaning; spill control; and documentation of the above. These standards apply to all health care personnel who receive, prepare, administer, transport, or otherwise come in contact with hazardous drugs and all the environments in which they are handled.

Literature identifies standards and safe practices for the use of single-dose and multidose vials; for example, ensuring that all needles and syringes are single patient use only and never reentering a vial with a used needle or used syringe. Medications that do not require pharmacy-specific safety measures such as sterile compounding rooms or laminar flow hoods and that are stored in and dispensed from areas outside the pharmacy (for example, patient care units) comply with the same cleanliness measures required in the pharmacy. In addition, medication dispensing areas located on patient care units should be free from clutter and distraction.

Measurable Elements of MMU.05.00

1. Medication preparation and dispensing adhere to laws, regulations, and professional standards of practice. (*See also* IPSG.03.02, ME 1)
2. Medications are prepared and dispensed in clean, uncluttered, safe, and functionally separate areas with appropriate medical equipment and supplies. (*See also* PCI.04.00, MEs 1 and 2)
3. Staff preparing/compounding sterile products/medications are trained and competent in the principles of medication preparation and aseptic techniques and are provided resources to support the medication preparation process.
4. During preparation, staff visually inspect the medication for particulates, discoloration, or other loss of integrity.
5. Guidelines for use of single-use and multidose vials are identified and implemented in the medication processes.
6. Medications stored, prepared, and dispensed from areas outside the pharmacy (for example, patient care units) comply with the same cleanliness measures required in the pharmacy.

Standard MMU.05.01

The hospital's process for radiopharmaceuticals is in accordance with laws, regulations, and guidelines.

Intent of MMU.05.01

A process to prepare and dispense radiopharmaceuticals in accordance with laws and regulations and guidelines helps monitor the safety and efficacy of the radioactive drugs intended for patient care and treatment in the hospital. The United States Pharmacopeia and the National Formulary (USP-NF) defines a *radiopharmaceutical* as a "finished dosage form that contains a radioactive substance in association with one or more other ingredients and that is intended to diagnose, stage a disease, monitor treatment, or provide therapy. A radiopharmaceutical includes any non-radioactive reagent kit or radionuclide generator that is intended to be used in the preparation of any such substance. The terms 'radiopharmaceutical' and 'radioactive drug' are commonly used interchangeably." As applicable, radiopharmaceuticals must arrive at the hospital in the appropriate shielding equipment. Furthermore, when handling, preparing, and dispensing radiopharmaceuticals, compliance with local radiation laws and regulations for staff and environmental safety is critical.

Measurable Elements of MMU.05.01

1. Ⓓ The hospital has a written process to prepare and dispense radiopharmaceuticals in accordance with laws and regulations and clinical practice guidelines.
2. Radiopharmaceuticals are prepared by, or under the supervision of, an appropriately trained and qualified individual (for example, a nuclear technologist, registered pharmacist, doctor of medicine or osteopathy, chemist, biologist, or qualified nurse).
3. Sterile radiopharmaceutical facilities are designed and controlled to minimize airborne contamination, and provide an appropriately lighted and comfortable working environment.
4. Radiopharmaceuticals are transported and stored in accordance with laws and regulations and guidelines to maintain their stability and radioactivity until they are administered.
5. Radiopharmaceuticals are packaged in appropriate containers, and labeled to provide the following essential information:
   - Name of the radiopharmaceutical
   - Dosage
   - Expiration date
   - Radiation warning symbol(s)