

**ASHP Center of Excellence in Medication-Use Safety**

**and Pharmacy Practice Certification Standard**

**Essential Elements**

**Progress Accountability Tool**

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| **Standard Element Description** | **Standard**  **Element** | **Responsible**  **Person(s)** | **Progress** |
| **Standard 1: Organizational Relationships** | | | |
| The pharmacy executive ensures that medication-use systems function safely, effectively, and efficiently across all points of care in the health system. | 1.1 |  |  |
| The pharmacy executive advances patient care services through use of data, process standardization, and pharmacy best practices and innovations in education, training, technologies, and automation. | 1.1 |  |  |
| Pharmacy leaders, managers, and pharmacists, as well as pharmacy technicians when appropriate, are members of health-system committees and task forces focused on medication management. | 1.2 |  |  |
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| **Standard 2: Team-Based Care** | | | |
| New comprehensive medication management (CMM) service implementation is prioritized and developed based upon an assessment of need performed by pharmacy department leaders in cooperation with medical, nursing, and health-system leadership. | 2.1 |  |  |
| Pharmacists provide CMM as integral members of interprofessional teams. As providers of care, they are responsible and accountable for ensuring that all patient care and population health needs are addressed involving the use of medications. | 2.1 |  |  |
| At discharge, the pharmacy department participates in patient-centered processes that ensure the appropriateness of discharge medications, such as Meds-to-Beds programs, for dispensing medications and educating patients and their family members or caregivers on these medications and for communicating patient care medication needs to the next level or location of care. In some cases, pharmacists share education responsibilities with nurses, dieticians, and other health care professionals. Post-discharge follow-up of high-risk patients based upon populations served is conducted to prevent readmissions and adverse drug events. | 2.2 |  |  |
| The health-system’s business continuity plan considers the provision of pharmacist patient care services in emergency situations. Factors to consider include system failures, technology disruptions, and breakdowns in the medication procurement process. | 2.6 |  |  |
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| **Standard 3: Leadership & Management** | | | |
| Pharmacy Department management focuses on the pharmacist's value and responsibilities as a patient care provider and as a leader of the pharmacy department through organizational structures that support the mission. | 3.1 |  |  |
| Pharmacy department strategic planning and determination of measures short- and long-term quality and safety goals and implementation activities are linked to operational and financial goals performed in collaboration with institutional leadership and other health-system staff (e.g. nursing, clinical, and medical staff), and aligned to be consistent and relevant with the goals of the health-system. | 3.2.1 |  |  |
| Pharmacists are responsible for the provision of patient care and for the supervision and management of support staff. Sufficient support staff (i.e., pharmacy technicians, clerical persons, interns) is employed to facilitate the provision of care. | 3.11.1 |  |  |
| The pharmacy department is led by a pharmacy executive who is responsible for strategic planning, design, operation, and improvement of the health-systems medication management systems. Depending on the health system’s organizational structure and other factors, designations such as chief pharmacy officer, pharmacy director, or pharmacist-in-charge may also be used; notwithstanding the title, the pharmacy department is managed by a professionally competent, legally qualified pharmacist clinician. | 3.11.2 |  |  |
| Pharmacists, where allowed, leverage and use an expanded scope of practice, including prescribing, to optimize patient care. | 3.11.5.3 |  |  |
| Collaborative practice agreements (CPAs) or equivalent are used by the health system to create a formal practice relationship between pharmacists and physicians. CPAs are aligned with a pharmacist’s education and training and allow a pharmacist to assume responsibility for specific patient care functions that are otherwise beyond their typical scope of practice. | 3.11.5.4 |  |  |
| Ethical principles drive all clinical and business decisions related to medication use. | 3.14 |  |  |
| An ongoing competency assessment program is used for all pharmacy staff members. | 3.16 |  |  |
| The pharmacy department staffing plan is based on workload statistics and patient care needs. | 3.17 |  |  |
| Pharmacy leaders collaborate with physicians, nurses, health-system administrators, and others to outline key pharmacy services that are essential to safe and effective patient care and employee engagement as outlined in the scope of services document. | 3.18 |  |  |
| The pharmacy executive demonstrates passion and an impatience for the status quo and seeks opportunities to trial and integrate new technologies, practice models, care models, and use of personnel and assets. | 3.19.1 |  |  |
| The pharmacy executive and leaders use pharmacy analytics to optimize clinical practices and medication-related outcomes. | 3.19.2 |  |  |
| The pharmacy executive collaborates with other leaders within and external to the health system to shape a vision for innovations in patient care, pharmacy practice, and training, as well as with colleagues to investigate opportunities to ask critical questions and clear new professional pathways. | 3.19.3 |  |  |
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| **Standard 4: Patient Care Services** | | | |
| CMM is an essential service within the health-system. Pharmacists providing CMM services use current medical evidence and standards of practice in care of patients, are responsible and accountable for addressing all medication-related needs of the patients and the populations they serve, and share accountability with their teams for achieving optimal medication-related and population outcomes.  CMM services are provided based upon patient need and, therefore, are independent of time of day or day of the week.  CMM services meet the medication needs of the health-system’s patient population and the community served. The pharmacy workforce leads medication reconciliation processes during care transitions.  CMM services include but are not limited to pharmacokinetic-, pharmacodynamic-, and pharmacogenomic-related care; drug information; and disease prevention and wellness promotion programs, among others.  Pharmacists and their interprofessional teams utilize the CMM systematic approach to assess and address medication management needs of patients using established CMM steps (See Standard for 10 steps).  [**Interpretation and Guidance:** Survey teams will exercise judgement for achievement of this element considering the health-system’s scope of services and patient care needs, demonstrated value, and outcomes measures. Strategic plans should include CMM services offered and plans for expansion or extensions as integral components.] | 4.1 |  |  |
| The scope of CMM services is well defined and documented, and it is consistent with the health system’s scope of services and provides accessible, efficient, and effective care at the patient and population levels. | 4.1.3 |  |  |
| Pharmacists document patient encounters and the service provided in the patient’s medical record in accordance with standards and regulations of practice as required by compliance rules and regulations set forth by state and federal governments and payer contracts, as well as to meet the needs of communication and continuity of care with other team members. | 4.1.4 |  |  |
| Pharmacy services are provided to surgical services, anesthesia, and all other procedures areas. These services include the preparation, distribution, and control (including reconciliation and disposal) of medications and controlled substances used in the surgical areas, as well as patient-specific clinical pharmacy services. | 4.3.1 |  |  |
| The pharmacy department, generally through the investigational drug service (IDS), maintains control of all medications used for research purposes in the health system and ambulatory clinics. As such, the pharmacy department (or IDS) provides receiving, storage, accountability, and dispensing functions for medications used for research in the health system and its ambulatory clinics, provides clinical pharmacy review of protocols and patient care services, and participates in monitoring efforts for patients and research sponsors. | 4.4 |  |  |
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| **Standard 5: Operations** | | | |
| Adequate space and design, equipment, and supplies are available for all professional and administrative functions of the pharmacy department.  The space and design allow pharmacy staff to conduct its operations, maintain workflow, and deliver patient care services, including private consultations and education, efficiently, safely and effectively. The workspace is structured to minimize interruptions and allow staff to concentrate on their assigned duties. | 5.1 |  |  |
| The pharmacy department ensures accurate, efficient, and timely distribution of medication by using applicable information technology and automation at each step in the medication-use process as outlined in Standards 11 and 12 to document receipt, storage, preparation, distribution, and administration of medications. | 5.1.1 |  |  |
| The medication order review process may be centralized or decentralized and involve staff pharmacists or clinical pharmacists practicing at all levels (e.g., residents to clinical pharmacy specialists). A system for retrospective medication order review is used for medications that are removed from floor stock supply, during emergent conditions when time does not safely permit prospective review, and in cases of medication administration controlled by physicians (e.g., procedures areas, operating rooms). | 5.2.3 |  |  |
| In the event that the pharmacy is not open 24 hours daily, the pharmacy department uses remote medication order review and verification before the preparation and dispensing of medications occurs in all parts of the health system. In such cases, agreements outlining all parameters of services are maintained with the pharmacy department providing remote services, and P&T committee-approved policies and procedures for pharmacy and medication access, selection, preparation, and dispensing are available to all caregivers. Additionally, the pharmacy department providing remote services has access to the formulary and all medication policies, guidelines, and restrictions. When the pharmacy reopens, reconciliation is done for all medications prepared and/or dispensed while the pharmacy was closed. | 5.2.4 |  |  |
| All medications are prepared and dispensed [by the pharmacy department] for patient use in single-unit packages (unit dose packaging) and in a ready-to-administer form with machine-readable coding in all areas of the health system, including unit-of-use packages dispensed for outpatient use. | 5.3.1 |  |  |
| The pharmacy department maintains 24 hours of operation daily for the provision of needed pharmacy services and are required for all health systems with clinical programs that require intensive medication therapy (e.g., transplant programs, open-heart surgery programs, intensive care units, and trauma centers). When 24-hour pharmacy services are not feasible, a pharmacist is available on an on-call basis to come onsite to prepare and dispense medications needed that are not contained within ADCs. Alternatively, the medications needed may be sent ready-to-administer from another hospital by courier. Remote clinical services and medication order processing are employed (to the extent permitted by law and regulation) to provide pharmacy services using profiled ADCs. | 5.7 |  |  |
| Pharmacy leaders collaborate with physicians, nurses, health-system administrators, and others to outline key pharmacy services that are essential to safe and effective patient care and employee engagement as outlined in the scope of services document. Pharmacy leaders use innovative approaches to consider potential benefits and risks of flexible staffing models, telehealth practices, legal requirements, and accreditation standards, professional standards of practice, and the resources and technology available in individual settings. | 5.8.1 |  |  |
| Accreditations: The quality of care from the outpatient and specialty pharmacies is assessed by specific accreditation, such as ASHP, ACHC, and URAC. | 5.9.3 |  |  |
| The scope of services for outpatient and specialty pharmacies is aligned with the scope of pharmacy services of the health system. It includes each one of the following bullets: the population(s) served, medications dispensed and related protocols, clinical management of specialty medications, patient care services provided (including methods and evidence-based guidelines), patient support services (e.g., financial assistance information, patient education), desired therapeutic goals (e.g., disease cure, quality of life, symptom reduction), and other information as appropriate. | 5.9.5 |  |  |
| The specialty pharmacy provides services that enable patient access to medications. The specialty pharmacy completely and accurately provides benefits investigation (BI), PA, and benefits coordination services to patients in a consistent manner. These services enable access to specialty pharmaceuticals, proper patient education, patient acceptance of medication therapy, and formulary and benefits coverage compliance. BI services may include the following: complete insurance review (i.e., medical and/or pharmacy benefit), formulary status assessment, HUB coordination between drug manufacturers and patients, financial assistance enrollment, payment clearance, selection of appropriate specialty pharmacy, selection of appropriate route of delivery of the specialty medications, and patient advisement related to all of these services. | 5.9.8 |  |  |
| Sterile products compounding/preparation occurs in facilities and equipment that comply with appropriate standards, regulations, and best practices, including appropriate 503A compounding guidance from the U.S. Food and Drug Administration, USP General Chapters <797> and <500>, CMS Conditions of Participation, and state board of pharmacy (or equivalent) regulations. Facilities also meet requirements for CMS accreditation and incorporate best practices from safety and professional organizations (e.g., ISMP, ASHP). | 5.10.1 |  |  |
| Sterile products compounding processes meet appropriate requirements: Sterile products are prepared in appropriate primary and secondary engineering controls. Engineering controls are inspected and certified according to standards and regulatory requirements. Secondary engineering controls, whether buffer rooms or segregated compounding areas, are within positive- or negative-pressure specifications as required for nonhazardous or hazardous medication handling and meet required air changes per hour. Containment secondary engineering controls are exhausted externally. | 5.10.2 |  |  |
| Assigned beyond-use dates for compounded sterile products are appropriate for the compounding environment and risk-level of the preparation. | 5.10.5 |  |  |
| Premixed (intravenous) sterile medication products are used whenever commercially available. If used, proprietary bag-and-vial products follow manufacturer instructions for use and are assigned appropriate beyond-use dates. Vendors used for procurement of outsourced preparations are thoroughly vetted for quality assurance and regulatory compliance. Outsourced products are reviewed to ensure assigned beyond-use dates are appropriate. Compounding from bulk active pharmaceutical ingredients (API) is only performed when necessary and is completed according to specific nonsterile-to-sterile policies, procedures, training, and competencies. | 5.10.9 |  |  |
| A system to prevent, minimize, manage and mitigate medication shortages to minimize patient risk is used within the health system and coordinated by the pharmacy department. Policies, procedures, and strategies for addressing medication shortages are used by task forces or committees and are approved or reviewed by the P&T committee. The medication shortage management program includes interprofessional, key stakeholder involvement. As appropriate, ethical discernment is included in decisions related to shortage management. | 5.13.1 |  |  |
| When patient’s own medications are used, they are not stored at bedside, and they are administered only pursuant to a prescriber’s order and according to policies and procedures that ensure the pharmacist’s identification and validation of the integrity of the medication, as well as its secure storage. | 5.17 |  |  |
| The procedure for returning recalled, expired, and other unusable medications and devices includes an established process for removing from use any medications or devices subjected to a recall, notifying appropriate healthcare professionals, identifying patients who may have been exposed to the recalled medication, and, if necessary, communicating available alternative therapies to prescribers. | 5.19 |  |  |
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| **Standard 6: Quality and Performance Improvement** | | | |
| The pharmacy department implements and maintains a continuous quality improvement (CQI) program. | 6.1 |  |  |
| The pharmacy department CQI program is structured to assess the effectiveness and safety of patient care services, adherence to standards, and overall quality and integrity of the practice. | 6.1 |  |  |
| The pharmacy department maintains internal procedures for ongoing surveillance and reporting to assess overall appropriateness of services and implement quality improvements as needed to integrate quality metrics to drive quality improvement and refocus efforts on areas of need. | 6.1 |  |  |
| The pharmacy department uses an ongoing, systematic program to assess the quality of all pharmacy services. The program includes routine evaluation of all aspects of the medication-use process, application of evidence-based practice for the implementation of new services, performance of automation and technology, and comparison with peer organizations for evaluation and innovation. External tools are also used for benchmarking and planning, such as those published by professional organizations (e.g., ASHP Practice Advancement Initiative, ISMP self-assessments). | 6.2.2 |  |  |
| The pharmacy department aligns its CQI program with measures and/or indicators of the following:  • Health system,  • Department or service line,  • Measures of clinical programs (e.g., inpatient, outpatient, specialty, clinical programs),  • Pharmacist interventions (recorded in EHR or pharmacy information system),  • National indicators (e.g., TJC National Patient Safety Goals),  • Peer benchmarking, and  • Internal benchmarking. | 6.2.2 |  |  |
| The pharmacy department uses a balanced scorecard, dashboard, or similar approach that monitors patient outcomes, medication safety, productivity, and financial impact. | 6.3.2 |  |  |
| The pharmacy department’s quality performance metrics and measures and corresponding results are reported routinely to interprofessional stakeholders, including medical staff, nursing staff, health system leaders, and others, as appropriate. | 6.4.1 |  |  |
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| **Standard 7: Financial Management** | | | |
| The pharmacy department has a designated pharmacy executive as its leader and sufficient personnel to oversee the department’s financial affairs and interface with the health-system finance department. | 7.1 |  |  |
| The pharmacy department budget is consistent with the health-system’s financial management process, is based on patient care needs, and supports the scope of and demand for pharmacy services. Oversight of workload and financial performance is managed in accordance with the health-system’s requirements. | 7.2 |  |  |
| The pharmacy department uses a monthly and quarterly pharmacy department and medication budget monitoring and reporting system to evaluate performance, take corrective action, and assist in future budget predictions. Explanations of major variances to the budget are completed to justify fluctuations. | 7.3 |  |  |
| For qualifying 340B-covered entities, the 340B program is managed effectively to ensure compliance, with savings optimized across the health system. | 7.6 |  |  |
| Pharmacy leadership identifies, assesses, designs, implements, and monitors entrepreneurial opportunities for the pharmacy department. | 7.7 |  |  |
| The pharmacy strategic planning process includes environmental scanning, opportunity assessment, and goal alignment related to new business ventures within the pharmacy enterprise. | 7.7 |  |  |
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| **Standard 8: Education and Training** | | | |
| Pharmacy department leaders demonstrate a commitment to education and training and, together with pharmacy department staff members, actively contribute to interprofessional educational programs offered by the health system, including those offered by professions other than pharmacy. | 8.1 |  |  |
| PGY1 and PGY2 residency programs provided by the pharmacy department are accredited by ASHP. | 8.1 |  |  |
| All education and training programs demonstrate positive impacts on pharmacy practice and services to patients. | 8.2 |  |  |
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| **Standard 9: People** | |  |  |
| The pharmacy department conducts independent programs or participates in health-system programs to measure and sustain or improve employee engagement within the pharmacy department and health system. Such programs are conducted with sufficient regularity to ensure opportunities to make meaningful change. | 9.1 |  |  |
| Pharmacy department leaders provide resources for the professional, emotional, physical, and social wellbeing and resilience of the pharmacy staff by modeling life-work balanced behaviors; developing and implementing programs to measure and affect positive change in employee wellbeing and resilience; and developing programs aimed at the prevention, recognition, and treatment of burnout. Such programs may be independent of or a part of programs offered by the health system. | 9.3 |  |  |
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| **Standard 10: Medication Use** | | | |
| Medication-use policy decisions are founded on evidence-based clinical, ethical, legal, social, philosophical, quality-of-life, safety, and economic factors that result in optimal patient-centered care. The pharmacy department is actively engaged in all aspects of medication-use policy development and approval across all parts of the health system. | 10.1 |  |  |
| The pharmacy and therapeutics (P&T) committee or its equivalent is the interprofessional committee responsible for developing and recommending approval of medication-use policies, including written criteria for medication product selection, formulary management, medication guidelines, medication restrictions, and therapeutic interchange.  In addition, the P&T committee participates in pharmacy department and/or health system coordinated performance improvement activities related to procurement, prescribing, dispensing, administering, monitoring, and overall use of medications. | 10.1.1 |  |  |
| The pharmacy department has a proactive, strategic, structured process and sufficient resources for supporting a center for medication policy or similarly named division or process within the pharmacy department or process that is responsible for medication-use policy development, formulary management, and P & T committee processes. | 10.1.2 |  |  |
| The P&T committee develops an evidence-based formulary of medications and medication-associated products and devices accepted for use in the health system. The formulary is based on the best evidence available and reflects the current clinical judgment of the medical staff, pharmacists, nurses, and other healthcare experts. | 10.1.3 |  |  |
| The formulary is reviewed on an on-going basis for necessary additions and deletions. Formulary decisions reflect evidence-based analyses of comparative efficacy and safety and analyses of economic and humanistic outcomes, at minimum. | 10.1.3 |  |  |
| The P&T committee (or equivalent) has responsibility for development, evaluation, and approval of all medication-use guidelines. Guidelines may be focused on individual medications or medication classes or may involve management of complex disease states. The pharmacy department (center for medication policy) develops medication-use guidelines in collaboration with physician stakeholders and other healthcare professionals. Through medication-use evaluation, a process exists for evaluating the effectiveness and outcomes of approved medication-use guidelines. | 10.1.5 |  |  |
| The pharmacy department (center for medication policy) and P&T committee establish an organized ongoing, criteria-based process to evaluate the effectiveness of the pharmacy department’s medication-use system. Evaluations include clinical and fiscal responsibility and the safety of, and compliance with, established therapeutic and medication guidelines. | 10.1.7 |  |  |
| Medication-use evaluation is conducted as a collaborative effort of prescribers, pharmacists, nurses, administrators, and other healthcare professionals on behalf of their patients. Results and recommendations from medication-use evaluations are reported to the P&T and medical executive committees, at minimum, as well as stakeholders. | 10.1.7 |  |  |
| To the extent possible, dosing and dosage forms specific to special populations or medications (e.g., pediatrics, geriatrics, high-cost medications, and high-risk medications) are standardized across the health system, embedded in the electronic ordering system, and approved through the P&T committee process. | 10.1.9 |  |  |
| Pharmacy department leaders and staff members collaborate with other health-system leaders and staff members (e.g., medical, nursing, biomedical engineering, human factors, risk management, quality) using a process to evaluate new IT needs of the health system and its employees. Such process may be a technology assessment committee or a similar body, or it may be another committee charged with this responsibility. | 10.2 |  |  |
| Medication safety and safe medication practices are health-system priorities, as demonstrated in their prominence within strategic plans and/or annual plans within the health system and the pharmacy department. | 10.3 |  |  |
| Medication safety systems that support safe medication use encompass all steps of the medication-use process, whether they are within the health system or the pharmacy department. | 10.3 |  |  |
| Pharmacy department managers and staff members exert leadership in establishing, maintaining, and refining a Just Culture in the health system and in the pharmacy department. Evidence exists of a non-punitive approach to reporting medication events, near misses, and errors in the pharmacy department and in the health system. Analysis of medication event reports and near misses begin with a systems-based approach rather than starting with individual failures. | 10.3.1 |  |  |
| Pharmacy department leaders assume responsibility and accountability roles for medication safety within interprofessional committees of the health system, as well as within the pharmacy department. | 10.3.2 |  |  |
| Evidence exists of safe medication-use planning as demonstrated by the organizational culture, use of an event reporting and trending system and communication plan for results at all levels of the health system, influence on medication policy development and medication use, and systems for education of staff members regarding medication-use safety. | 10.3.2 |  |  |
| The medication safety committee may be freestanding committees within the hospital or health-system or may be subcommittees of the P & T committee, a quality committee, or another medical staff committee or interprofessional committee that includes physicians, nurses, pharmacists, and other health-care professionals but which reports to a medical staff committee such as the medical executive committee. | 10.3.3 |  |  |
| If the leader of the medication safety committee is not a pharmacist, the pharmacy department organizational structure includes a position for a pharmacy medication safety leader or of a position that includes responsibilities of a pharmacy medication safety leader (e.g., assistant director with such job responsibilities). | 10.3.3 |  |  |
| The medication safety committee establishes, reviews, and revises policies and procedures regarding medication event reporting, analysis, aggregation, and trending; completes medication safety risk assessments to help identify risks within the health system; communicates to healthcare professionals regarding events and any related practice or medication policy changes; and follows up on actions resulting from events reported. Such events include actual errors or near misses. | 10.3.3.2 |  |  |
| Systems, such as root-cause analysis, failure mode effect analysis and other appropriate tools, are used by the pharmacy department and the medication safety committee to evaluate medication events | 10.3.3.2 |  |  |
| An easily accessible event reporting system is used by health-system personnel to report medication events that may occur prospectively, concurrently and retrospectively. In this Standard, medication events include both medication errors, adverse drug events, and near misses. | 10.3.4 |  |  |
| Pharmacy department leaders lead health-system efforts or collaborate with the medication safety or other appropriate committee(s) to, among other things, do the following: identify potential and actual medication events; determine and evaluate data that will be collected by the reporting system; use trigger tools to identify potential or real events by healthcare professionals and medical records staff members; and participate in event review, analysis efforts, and chart reviews.  Efforts exist to prevent, detect, and resolve medication-related problems that may result in patient harm from medications or the prescribing, preparation, and/or administration of medications. | 10.3.4 |  |  |
| The pharmacy department assumes leadership roles or leads strategies to enhance the safety of medication-use systems within the health system, including, but not limited to the following:  • Using processes for medication selection for the formulary (e.g., conducting a medication safety assessment in the review process);  • Collaborating on the development, implementation, review, and evaluation of medication guidelines, protocols, pathways, and restrictions;  • Implementing standardized concentrations and limits for concentrations used for all routes of all medications (e.g., those administered orally, intravenously, and epidurally, among others);  • Ensuring that medications are stored safely and securely outside of the pharmacy, in collaboration with clinical department leaders and medical staff members;  • Monitoring the literature for new safety warnings and mechanisms to assess risk;  • Maintaining an active proactive process to assess the medication-use system continually for safety;  • Participating in national event reporting systems and encouraging event reporting;  • Assisting with evaluations of vendors and manufacturers for inclusion in the supply chain procurement process;"   * Participating in medication shortage management processes;   • Collaborating with information technology leaders and staff members to ensure safe use of informatics systems and the EHR, including medication prescribing and administration documentation using the electronic medication administration record (eMAR); monitor processes in the electronic health record; develop, monitor, and evaluate medication-related rules and alert firings; and use systems to minimize alert fatigue for all healthcare disciplines;  • Using automation and informatics systems to store and dispense medications safely on patient care units, in procedures areas, and in areas where medications may be dispensed and administered, including inpatient areas, diagnostic and treatment areas, and ambulatory care clinics;  • Educating or collaborating with other healthcare professionals to assess patient and employee medication safety educational needs, and then developing and delivering educational programs focused on safe medication use;  • Conducting research, or collaborating with other healthcare professionals to conduct research, related to systems and processes surrounding and affecting safe medication use; and  • Ensuring evidence-based medication use continually by analyzing and reporting use patterns and outcomes." | 10.3.5 |  |  |
| The pharmacy executive and pharmacy department leaders actively engage with the health-system’s executive leadership and quality and safety experts to ascertain goals, aims, and interventions for the system and to influence medication-related goals, aims, and interventions in the pursuit of high-value care and improved patient outcomes. | 10.4.1  Compliments 6.2.2 |  |  |
| The pharmacy department collaborates with other disciplines to provide medication stewardship programs, which are designed to improve patient outcomes, minimize unintended consequences of medication use, and control medication costs. Medication stewardship programs may include, but are not limited to, antimicrobial, anticoagulant, and other hematologic, opioid, and high-risk or high-cost therapy programs, and they may include prophylactic, empiric, and therapeutic medication uses. | 10.5.1 |  |  |
| Following stewardship program implementation, data are collected according to parameters set by the program or medication policy and are evaluated to determine successes in clinical and economic outcomes, opportunities for program improvement, opportunities for program expansion, and opportunities for education to ensure or improve compliance with the stewardship program parameters. When appropriate, adjustments to programs are made while continuing to provide care, and program adjustments are re-evaluated to determine the success of program changes. | 10.5.5 |  |  |
| Results of medication stewardship programs are reported to prescribers, medication policy, medication safety, medication quality/performance improvement, financial, and leadership committees/bodies of the health system. | 10.5.6 |  |  |
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| **Standard 11: Information and Medication-Use Technology** | | | |
| The health system uses an electronic information management system to maintain patient records, such as an integrated or closed-loop information system or EHR for all inpatients and outpatients. Such systems are interoperable and transparent with respect to usability, security, and functionality across the continuum of care.  Alternatively, a comprehensive pharmacy information system is used that is interfaced with other health-system information systems and software systems, such as a prescribing system, laboratory system, nursing charting and documentation system, radiology and other diagnostic department systems, ambulatory care or physician office practice systems, and other appropriate systems to promote safe and effective medication use. If a comprehensive pharmacy information system is used, pharmacy leaders and staff employ high-reliability principles when designing and selecting information technology systems. | 11.1 |  |  |
| The health-system EHR or pharmacy information system houses patient information (age, height, weight, allergies/sensitivities, at minimum), patient medication profiles, the health-system medication formulary and all relevant guidelines and restrictions, clinical decision support tools, and all diagnostic information needed to perform all pharmacy clinical and operational functions for safe medication ordering, preparation, dispensing, administration, and monitoring. | 11.1.2 |  |  |
| The health system uses a fully deployed computerized provider order entry (CPOE) or electronic prescribing system for ordering medications. If separate electronic health record systems are used for ambulatory care or in physician offices, the pharmacy department staff has access to patient records in those systems. | 11.4.3 |  |  |
| Clinical decision support alert firings are monitored and adjusted to minimize alert fatigue for all caregiver disciplines (e.g., medicine, nursing, pharmacy). Alert inclusion and exclusion criteria may include verification of diagnosis or review of laboratory test results before initiation of medication therapy and medication order specific factors, such as dosage forms, routes of administration, frequencies, dose, order status, and ordering provider, among other things. | 11.5.2 |  |  |
| Alerts are configured to guide prescriber actions, such as to discontinue a conflicting order, cancel an order, modify the order (e.g., change the dose, dosage form, route, frequency, start date, end date), modify pre-existing medication orders, add monitoring orders, continue with the order, and/or suspend the order. | 11.5.2 |  |  |
| A medication administration record generated by the EHR or pharmacy information system is used throughout the health system. | 11.6.2 |  |  |
| The electronic MAR (eMAR) contains all patient and medication information needed for safe administration of all medications used (e.g., medication name, dose, dose units, route, and duration of administration, frequency) in addition to all required patient information. | 11.6.2 |  |  |
| Manual systems exist for EHR and eMAR downtime operations. Appropriate double checks are used to minimize transcribing errors, and quality systems exist for monitoring manual system effectiveness and safe use. | 11.6.3 |  |  |
| Barcode medication administration technology is used by nurses to document medication administration, unless emergent circumstances preclude use. | 11.7.1 |  |  |
| The pharmacy department dispenses all medications with unique barcodes and uses systems to generate barcodes if they are not provided by manufacturers. | 11.7.1 |  |  |
| Pharmacy department representatives collaborate with nursing department representatives to develop, implement, use, review, and revise policies and procedures regarding use of patient barcodes (usually wrist bands or ankle bands) and requirements for scanning medications before administration and for identifying and resolving barcode reader and barcode incompatibilities. | 11.7.1 |  |  |
| Data provided by barcode medication administration vendors are used by pharmacy and nursing department leaders and representatives, as well as by representatives of other appropriate disciplines (e.g., medication safety, quality, risk management), for quality improvement initiatives to optimize use of scanners and determine reasons and resolutions for lack of use or errors. | 11.7.1 |  |  |
| Intravenous medication administration pumps with infusion libraries [smart pumps] are used for controlled administration of all sterile product medications throughout the health system. | 11.8.1 |  |  |
| Smart pump Infusion libraries and dosing parameters, frequently referred to as guardrails, use standardized medication concentrations, and are developed and maintained by an interprofessional committee of health-system leaders and employees, including perspectives from medicine, nursing, pharmacy, risk management, safety, engineering, information technology, and others determined by the health system. | 11.8.2 |  |  |
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| **Standard 12: Automation and Technology** | | | |
| The pharmacy department, in collaboration with appropriate departments, uses a plan for the use of integrated automation throughout the health system. Such plan includes a needs assessment, parameters for specifications and selection of devices to be used (in the pharmacy department and throughout the health system), guidelines for developing new automation implementation plans, guidelines for developing initial and ongoing training, policies and procedures for all areas requiring them, and a process for monitoring use of the device(s). | 12.1 |  |  |
| The pharmacy department manages quality assurance concerns for all medication packaging, repackaging, and compounded dosage forms whether these processes occur within the department or are done by a contracting service. | 12.2.2 |  |  |
| Barcode scanning is used in medication compounding processes for both nonsterile and sterile products, including for all compounding devices used in sterile products clean rooms (e.g., parenteral nutrition pumps, repeater pumps). | 12.3.2 |  |  |
| Automated dispensing cabinets (ADCs) are used for medication control and security throughout the health system and are interfaced with the health-system and/or pharmacy clinical information system (electronic health record) as a closed-loop system. | 12.4.1 |  |  |
| The pharmacy department establishes target rates for acceptable limits of ADC medication removal overrides; gains approval from the P&T committee and/or medication safety committee; and monitors, measures, and reports override metrics and trends to the P&T committee, the medication safety committee, appropriate patient care units and/or service lines and their leaders, and quality committee(s). | 12.4.5 |  |  |
| Pharmacy department leaders and staff members use available self-assessment tools and recommendations, such as ISMP guidelines, for the safe use of ADCs. This includes the following core safety processes:  • Providing a safe and ideal environmental condition for the safe use of ADCs,  • Establishing ADC system security,  • Providing profiled ADCs and monitoring system overrides,  • Selecting and maintaining appropriate ADC configuration and functionality,  • Selecting and maintaining optimal ADC inventory,  • Implementing safe ADC stocking and return processes,  • Displaying important patient and medication information,  • Developing procedures for accurate ADC withdrawal and transfer to the bedside for administration, and  • Providing staff education and competency validation." | 12.4.6 |  |  |
| When carousels and robotics are incorporated into the inventory management process, all safety-related functions of the carousel (e.g., barcoding, medication selection) are used to ensure safe mediation storage and distribution, including receiving into and dispensing from the carousel. When used, automated dispensing cabinets and carousels are fully interfaced and integrated to ensure patient safety. | 12.5.6 |  |  |
| The pharmacy department, to the extent possible, uses intravenous technology-assisted workflow (IV TAWF) to support sterile products compounding. This may include volumetric, gravimetric, workflow queues, or barcode scanning. [Compounding devices that are used in the pharmacy department for sterile and nonsterile medication compounding when appropriate is considered to be standard of care]. | 12.6.1 |  |  |
| Unique barcodes are developed when needed for all medications that are repackaged and do not have a manufacturer barcode, and these unique barcodes are integrated into all informatics, inventory management, and automated systems. | 12.9.1.2 |  |  |
| The pharmacy department has sufficient resources to develop, implement, and maintain technology-related medication-use safety standards. | 12.10 |  |  |
| Video cameras are routinely placed at entry points to the pharmacy facilities, at dispensing windows, and in locations where medications are stored.  Video cameras are used in pharmacy warehouses, satellites, and investigational drug service pharmacies to ensure medication security. | 12.11.1 |  |  |
| Video cameras are installed in sterile products compounding facilities and equipment and in workflow management systems to facilitate remote checking of products and processes and to ensure quality systems. | 12.11.1 |  |  |

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| Standard | Essential Elements |
| 1 | 3 |
| 2 | 4 |
| 3 | 13 |
| 4 | 5 |
| 5 | 17 |
| 6 | 7 |
| 7 | 6 |
| 8 | 3 |
| 9 | 2 |
| 10 | 26 |
| 11 | 14 |
| 12 | 12 |
| Total | 112 |