Minnesota Hospital Association

Medication Safety Road Map

MHA's road maps provide hospitals and health systems with evidence-based recommendations and standards for the development of topic-specific prevention and quality improvement programs, and are intended to align process improvements with outcome data. Road maps reflect published literature and guidance from relevant professional organizations and regulatory agencies, as well as identified proven practices. MHA quality and patient safety committees provide expert guidance and oversight to the various road maps.

Each road map is tiered into fundamental and advanced strategies:

- **Fundamental strategies** should be prioritized for implementation, and generally have a strong evidence base in published literature in addition to being supported by multiple professional bodies and regulatory agencies.
- **Advanced strategies** should be considered in addition to fundamental strategies when there is evidence the fundamental strategies are being implemented and adhered to consistently and there is evidence that rates are not decreasing and/or the pathogenesis (morbidity/mortality among patients) has changed.

Operational definitions are included to assist facility teams with road map auditing and identifying whether current work meets the intention behind each road map element.

Resources linked within the road map include journal articles, expert recommendations, electronic order sets and other pertinent tools which organizations need to assist in implementation of best practices.

Road map sections	Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)	If specific road map element is missing, consider the following resources:
Interdisciplinary medication safety team	**FUNDAMENTAL** *(check each box if "yes")* ☐ The facility has an interdisciplinary team involved in addressing medication safety with representation from across the facility. - The interdisciplinary team includes physicians or providers knowledgeable in medication safety, nursing, safety/quality, and pharmacy. ☐ The interdisciplinary team reviews the medication safety plan throughout the year and updates the plan as needed to prioritize and address newly identified improvement opportunities. - Answer yes if the hospital has a medication safety plan that is reviewed and updated on an ongoing basis by an interdisciplinary medication safety team. ☐ The interdisciplinary team reviews data results at least quarterly and identifies and strengths and opportunities.	• The American Hospital Association, Health Research and Education Trust, and Institute for Safe Medication Practices have developed "Pathways for Medication Safety", a tool designed to help hospitals identify specific medication safety strategic initiatives.

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Interdisciplinary medication safety team, continued	- Answer yes if staff report medication errors/near misses, and the interdisciplinary team reviews that data at least quarterly to identify opportunities for improvement.	
	ADVANCED *(check each box if "yes")* ☐ The facility has a designated coordinator for medication safety. - Answer yes if the facility has a designated person responsible for medication safety policies, procedures and initiatives. ☐ The interdisciplinary team commissions subgroups as needed to address priority issues requiring subject matter experts.	
Track progress on process and outcome measures	**FUNDAMENTAL** *(check each box if "yes")* ☐ A process is in place to collect medication safety process data for hypoglycemic agents. - Answer yes it you complete the Opioid, Anticoagulant, Hypoglycemic road map or otherwise track data for your hypoglycemic agent processes. ☐ A process is in place to collect medication safety process data for anticoagulants. - Answer yes it you complete the Opioid, Anticoagulant, Hypoglycemic road map or otherwise track data for your anticoagulant processes. ☐ A process is in place to collect medication safety process data for opioids. - Answer yes if you complete the Opioid, Anticoagulant, Hypoglycemic road map, or otherwise track data for your opioid processes. ☐ A process is in place to collect medication safety process data for antibiotics. - Answer yes if you track data for your antibiotic processes. ☐ A process is in place to track and improve the number of patients with INR>5 (or outside of established therapeutic range). - Answer yes if you track the number of patients who acquire an INR>5 (or outside of established therapeutic range), not present on admission.	• The ASHP Foundation Insulin-Use Safety Recommendations includes a webinar on 10 ways to prevent insulin errors in your hospital. • American Diabetes Association Standards of Medical Care in Diabetese – 2017 provides key clinical practice recommendations. • The Institute for Safe Medication Practices has several resources available to improve safety with anticoagulant therapy. Their website contains links to a self-assessment tool and a FMEA for anticoagulants. • The American Hospital Association has a Quality Advisory from June 2016 titled "Ending the Opioid Epidemic: New Patient Education Tool and Other Resources for Hospitals". • The Joint Commission Sentinel Event Alert (August 2012) "Safe Use of Opioids in Hospitals". • View this article from CDC Vital Signs for more information about antibiotic prescribing in hospitals. • The Institute for Safe Medication Practices has several resources available to improve safety with anticoagulant therapy. Its website contains links to a self-assessment tool and a FMEA for anticoagulants.

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Track progress on process and outcome measures, continued	☐ A process is in place to track and improve the number of patients with blood glucose <40 (or outside of established therapeutic range). - Answer yes if you track the number of patients who acquire blood glucose <40 (or outside established range), not present on admission. ☐ A process is in place to track and improve the number of patients with naloxone administrations (or established opioid measure). - Answer yes if you track the number of patients who are administered naloxone (or other established outcome measure) to reverse hospital acquired over-sedation. ☐ A process is in place to track and improve the number of technology-related medication errors. - Answer yes it you are tracking smart infusion pump and other device-related medication errors. ☐ A process is in place to collect and improve the number of medication errors not related to hypoglycemic agents, opioids, anticoagulants, technology, or antibiotics. - Answer yes if your medication safety plan includes tracking the source of all medication-related errors and a review process to identify opportunities for improvement. ☐ Standard criteria exist for conducting audits (e.g. chart audits) when needed, for example to affirm the reliability of process and outcome data. - Answer yes if the facility has standard criteria established for how to conduct audits to review compliance with processes or to verify outcome data, for example. ☐ The facility's medication safety event reporting system (electronic or paper) is designed to capture sufficient detail about adverse drug events to allow for adequate event analysis. - Answer yes if every medication error is tracked in detail for event analysis and learning.	• The American Hospital Association has a Quality Advisory from June 2016 titled "Ending the Opioid Epidemic: New Patient Education Tool and Other Resources for Hospitals". • See the "Proceedings from the ISMP Summit on the use of Smart Infusion Pumps: Guidelines for Safe Implementation and Use". • Overview of safety recommendations for medication management technology from ISMP. • The IHI Global Trigger Tool for measuring adverse events offers a sampling approach for the design of safety work. • The National Coordinating Council for Medication Error Reporting and Prevention offers an index for categorizing medication errors according to the severity of the outcome. This helps institutions track medication errors in a consistent, systematic manner. • ISMP tool: Assess-ERRTM™ worksheet to assist with error report investigation. • National Patient Safety Foundation, RCA2: Improving Root Cause Analyses and Actions to Prevent Harm.

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Medication safety data sharing	**FUNDAMENTAL** *(check each box if "yes")* ☐ Medication safety program data and adverse drug event data and learnings are shared on a regular basis with frontline clinical staff, leadership and medical staff. - Answer yes if medication safety program data and learnings are shared through stories as well as through data (e.g. included in daily briefings, unit staff meetings, safety committees, newsletters, etc.)	• Institute for Safe Medication Practices (ISMP) Discussion Paper on Adverse Event and Error Reporting in Healthcare: http://www.ismp.org/Tools/whitepapers/concept.asp.
Screening and monitoring	**FUNDAMENTAL** *(check each box if "yes")* ☐ A process is in place to provide stat laboratory test results 24 hours a day/7 days a week to ensure safe and timely monitoring of high risk medications. ☐ The facility's electronic health record directly interfaces with the laboratory system to automatically alert practitioners to abnormal values, indicating a potential need to modify medication therapy. ☐ The facility's electronic health record and/or pharmacy computer system screens medication therapy against the patient's clinical profile for contraindications, interactions and dose appropriateness before drugs are administered. ☐ The facility's electronic health record and/or pharmacy computer system alerts health care practitioners to duplicate class orders for medications. ☐ The facility's electronic health record and/or pharmacy computer system performs dose range checks. ☐ A process is in place for practitioners to screen for and document existing diseases or conditions that could affect the dosing of medication therapy prior to initiating anticoagulant, hypoglycemic or opioid therapy.	

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Risk analysis	**ADVANCED** *(check each box if "yes")* ☐ Prospective risk analysis methods (e.g., drug monograph, failure modes and effects analysis (FMEA)) are used to proactively identify potential risks associated with introduction of new medications and medication modalities (e.g., fentanyl PCA or liposomal bupivicaine) and new devices (e.g., smart pumps). ☐ A process is in place to prioritize and act upon issues identified through prospective risk analysis methods.	• IHI has a Failure Modes and Effects Analysis (FMEA) Tool. • ISMP FMEA Resources include a sample FMEA and bibliography. • The IHI Model for Improvement is a framework to guide improvement efforts.
Teams	**ADVANCED** *(check each box if "yes")* ☐ In facilities with multiple teams addressing medication safety (e.g. anticoagulation therapy team, pain committee or diabetes management team), key teams lead and develop institutional policies and procedures related to specific high-alert medications and information is shared within and across teams. - Answer yes if the anticoagulation therapy team leads anticoagulation practices; pain team leads opioid practices; diabetes management team leads hypoglycemic agent practices, for example, and the teams share information.	
Medication safety education and expectations	**FUNDAMENTAL** *(check each box if "yes")* ☐ Medication safety program education and expectations are incorporated into training and orientation for all relevant direct care personnel upon hire or contracting. - Answer yes if medication safety is addressed in orientation and training for direct care staff (nurses, physicians, pharmacists, pharmacy technicians) even if employed by outside agencies. ☐ Medication safety program education is provided to direct care staff when new relevant information is available and at least annually.	• ISMP has a website with multiple Medication Safety Tools and Resources for educational use.

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Medication safety education and expectations, continued	☐ A process is in place to provide new hire/new contractor education and competency assessment on high risk medications for providers, prescribers, pharmacy, and nursing staff. - Education process includes how to conduct effective independent double checks for high risk medications. ☐ A process is in place for the development of policies which clearly delineate the roles and responsibilities of physicians, prescribers, pharmacists, and nurses for high risk medication use. ☐ Patients/families are educated on medication safety and on adverse drug event prevention measures they can expect to see from staff and providers caring for them in the hospital. - Answer yes if patients are informed about bedside barcoding, purpose of medications, potential side effects of medications, and why nurses ask name and birthdate before medication administration, for example. ☐ A process is in place to promptly inform patients/families when an adverse drug event has occurred. ☐ Medication safety program education and expectations have been incorporated into new physician orientation. ☐ The facility has structured communication tools, e.g., Situation, Background, Assessment, Recommendation (SBAR), for communication related to high risk medications at all levels of the organization.	
	ADVANCED *(check each box if "yes")* ☐ Medication safety program education and expectations have been incorporated into new employee orientation for support staff. - Support staff include laboratory, supply chain, operations staff. ☐ Medication safety program education is provided to support staff when new relevant information is available. - Support staff include laboratory, supply chain, operations, for example. ☐ The facility has a process in place to evaluate staff competencies related to high-risk medications on an ongoing basis. ☐ The facility promotes informed decision-making by providing education about medications to patients and families.	• ISMP has a website with multiple Medication Safety Tools and Resources for educational use. • ISMP has a brochure for consumers "America's Medicine Cabinet: Using Medicines Safety" • IHI, Shared Decision Making: Diabetes medication decision aid cards.