

Patient Safety Challenge: Medication without Harm

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Medications have proven to be effective and everyone uses it for various reasons such as diagnosis, cure, treatment or prevention of illness at some point or other in their life. It is also essential for the public to know that medications can also induce harm if not correctly prescribed, stored, dispensed, administered or not monitored for side effects.

In the intensive care units (ICUs), on an average, patients are exposed to 1.7 errors/day and medication errors account for 78 percent of medical errors. The strategies of 'Avoidable harm in health care' include prevention of medication errors and unsafe medication practices. World patient safety day 2022 has selected the theme, Medication Safety with the tagline Medication without Harm. It is the responsibility of all the health care workers involved in medication management, as well as the patients and their families to promote medication safety.

Global Patient Safety Challenge: Medication without Harm

WHO initiated the third Global Patient Safety Challenge: Medication without Harm (2017). It aims to reduce the level of severe, avoidable harm related to medications by 50 percent over the next five years, globally. The challenge was launched in March 2017 at the Global Ministerial Summit on Patient Safety in Bonn, Germany.

Global Patient Safety Challenges identify a patient safety burden that poses a significant risk to health, then develop frontline interventions and partner with countries to disseminate and implement the interventions. Each challenge focuses on a topic that poses a major and significant risk to patient health and safety.

Error-Prone Processes

Medication error refers to any preventable event at different stage of medication process such as prescription, transcription, distributing medication, and administration, which can lead to incorrect use of medicines or damage to the patient. Lack of medication knowledge of physicians and nurses and weak inter-professional collaboration between physicians and nurses is one of the main causes of medication errors.

- Prescribing errors - incorrect dose, route, fre-

quency, drug name, duplication and illegible order by the physicians

- Transcription errors - wrong drug, dose, route, frequency or wrong bed number by the nurses
- Administration errors - Wrong medication, Wrong patient, Wrong time, Wrong dose, Wrong route, Wrong documentation
- Dispensing errors - wrong drug / strength by the pharmacy, Delays – when dispensing time exceeds 15 minutes for Stat orders, Discharge medications delay 30 minutes and 45 minutes for regular orders.

Few studies have indicated that one of every three medication errors could be attributed to either a lack of knowledge about the medication or a lack of knowledge about the patient.

Near Miss Events, Adverse Drug Reactions (ADRs), Adverse Drug Event (ADE)

A patient safety event that reaches the patient but does not cause harm also needs a close call. Prescription Errors, Transcription errors and dispensing errors detected before they reach the patient are called near miss events. The errors detected by the prescription audit team in the pharmacy are also included in this category.

An adverse drug reaction is an undesirable response associated with use of a drug that either compromises therapeutic efficacy, enhances toxicity, or both. ADRs can be manifested as diarrhoea or constipation, rash, headache, or other non-specific symptoms.

An adverse drug event includes any response to a drug which is noxious and unintended and which occurs at doses normally used in humans for prophylaxis, diagnosis or therapy of disease, or for the modification of physiological function.

Flagship Areas to Improve Medication Safety

The challenge aims to improve medication safety by strengthening the systems for reducing medication errors and avoidable medication-related harm. The three flagship areas of the challenge defined by WHO are: Polypharmacy, High-risk situations, Transitions of care.

Polypharmacy: Polypharmacy means the use of five or more medications daily by an individual including prescription, over-the-counter and complementary medicines. Polypharmacy continues to grow in re-

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cent days because of increase in aging populations. Polypharmacy is not necessarily ill-advised. It can lead to negative outcomes or poor treatment effectiveness. Polypharmacy is often associated with a decreased quality of life, including decreased mobility and cognition.

High-risk situations: High-risk medicines are associated with significant patient harm or death if they are misused or used in error. Three main factors contributing to high-risk situations are: medications, particularly high-risk (high-alert) medications, provider/ patient factors, systems factors (work environment). The important five high-alert medications are insulin, opiates & narcotics, injectable potassium chloride (or phosphate) concentrate, intravenous anticoagulants (heparin), and sodium chloride solutions above 0.9%.

Transitions of care: Transitions of care are recognised as high clinical risk for patients. Passing from one care setting to another, particularly for patients with complex and chronic care needs, opens the potential for mistakes, oversights, misunderstandings or often, a marked absence of vital information that should flow from the hospital to the receiving carer.

Strategic Framework: Working Together to Make it Safer

The Strategic Framework for medication safety needs commitment to reduce medication errors and medication-related harm and strengthen measurement and safety monitoring systems. Four fundamental problems lay the ground for the strategic framework.

- Patients and the public are not always medication-wise passive uninformed recipients of medicines they are not empowered to play their part in making the process of medication safer.
- Medicines are sometimes complex and can be puzzling in their names, or packaging and sometimes lack sufficient or clear information. Confusing 'look-alike soundalike' medicines names and/or labelling and packaging are frequent sources of error and medication-related harm that can be addressed.
- Health care professionals sometimes prescribe and administer medicines in ways and circumstances that increase the risk of harm.
- Systems and practices of medication are complex and often dysfunctional, and can be made more resilient to risk by modification.

The actions planned in this Challenge are based on four domains of work, one for each fundamental problem identified. These are: (a) patients and the public (b) medicines (c) health care professionals (d) systems and practices of medication. In each of these domains, there are many ways in which using medications can cause avoidable harm.

Best Practices for Improving Medication

- Maintain up-to-date references of current medications and have those references available at the time the drug is prescribed.
- Understand the patient's condition and diagnosis and indications for the medication considering alternative therapies. Consider conditions that may affect the efficacy of the medication, such as dosages, route of administration, patient weight, renal and hepatic functioning, and other patient characteristics, such as pregnancy.
- Understand the potential interactions between a newly prescribed medication and other medications already being used by the patient, including non-prescribed medications and supplements, as well as therapies being considered (including surgical treatments).
- Recognise the potential risk of high-alert medications, the drugs with a heightened risk of patient harm.
- Handing over of the patient to another health care professional during shift changes and inter- or intra-hospital transfers.
- Post-hospital medication reconciliation reduces the likelihood of medication errors and adverse drug events.
- Identify patients on hospital admission who are most 'at risk' from medication-related adverse drug events and actions
- Periodic education on the use of antibiotics for the doctors and nurses. Suitable updates on patterns of resistance, newer drugs, food and drug interactions, problems encountered etc., shall be also communicated to the doctors and nurses periodically by intranet or in departmental meetings

Safe Prescription of Medication orders

The medication orders should be legible and include the following components: name of the drug, dose, route of administration and frequency. Use zeros and decimal points, Standardised abbreviations and Verbal medication orders should be limited to urgent situations when written (or electronic) medication orders are not feasible.

Stakeholders' responsibility in reducing medication errors: Hospital governance, senior administrative leadership, clinical leadership, and safety/risk management leadership need to work collaboratively to reduce medication errors

Provide staff training: Create a multidisciplinary team that includes physicians, nurses, pharmacists, and information technology personnel. Assess opportunities to reduce medication errors using a self-assessment process (ISMP Medication Safety Self-Assessment for Hospitals, 2011). Create and

deliver monthly or quarterly education on medication error and patient safety updates.

Create protocols: Create a universal checklist for medication administration that includes: Patient name, List of patient's current medicines, Medication to be given and its (a) Dose, (b) Route, Timing, (c) Documentation, (d) Systematise tools and practices, including checklists, for patient allergy and medication interaction checks on every patient.

Systems change with technology: CPOE (Computerised Provider Order Entry), Medication bar-coding, Patient education and adherence, Correct and on-time medication administration (Acute Care Guidelines for Timely Administration of Scheduled Medications, 2011) can be monitored with the help of technology.

Empowering patients and families in safe use of medications: Engaging patients to actively participate in their care has become a priority for policy makers, with the goal of improving health care delivery system quality and efficacy. Patients gain knowledge of their health conditions, treatment plans, or health care access through providers, communities, or policy interventions. Self-determination empowers patients to seek more health information, acquire more knowledge of their health from providers or other sources, and become more confident.

5 Moments for Medication Safety - WHO

The 5 Moments for Medication Safety are the key moments where action by the patient or caregiver can greatly reduce the risk of harm associated with the use of their medications.

Future Areas of Research in Medication Safety

The recent Institute of Medicine (IOM) report on medication safety identified several areas needing future research, including the following:

- Most effective mechanisms to improve communication between patients and clinicians regarding the safe use of medications.
- Most effective mechanisms to improve patient education on safe use of medications.
- Effective self-management support strategies in improving patient outcomes.
- Information about specific medications be effectively used by patients; Impact of that information on patients' adherence and communication with clinicians?
- Patient-centred approaches to medication safety that decrease errors associated with medications and improve patient outcomes.



5 Moments for Medication Safety



- Medication-related competencies as core competency of the current workforce.
- Impact of free samples on patient adherence and health outcomes.

Conclusion

Medication management is a complex multi-stage and multi-disciplinary process, involving doctors, pharmacists, nurses and patients. Errors can occur at any stage from prescribing, dispensing and administering, to recording and reporting. There are a number of safety mechanisms built into the medication management system and it is recognised that nurses are the final stage of defence.

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