The Third Global Patient Safety Challenge: Medication Without Harm

Webinar on Medication Safety, 20 June 2019
Opening

Dr Neelam Dhingra
Coordinator
Patient Safety and Risk Management
World Health Organization
Introduction to the three key priority areas

Sir Liam Donaldson
WHO Envoy for Patient Safety

20 June 2019
Medication Safety in high-risk situations

Philip A Routledge
Emeritus Professor of Clinical Pharmacology
Cardiff University School of Medicine, Wales, United Kingdom
High-risk situations

Influencing factors

1. Medication
2. Provider and patient
3. System factors (work environment)
1. Medication factors

Some high-risk (high-alert) medications associated with harm when used in error

<table>
<thead>
<tr>
<th>High risk medicine group</th>
<th>Examples of medicines</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Anti-infective</td>
<td>Amphotericin, Aminoglycosides</td>
</tr>
<tr>
<td>P: Potassium and other electrolytes</td>
<td>Injections of potassium, magnesium, calcium, hypertonic sodium chloride</td>
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<tr>
<td>I: Insulin</td>
<td>All insulins</td>
</tr>
<tr>
<td>N: Narcotics (opioids) and other sedatives</td>
<td>Hydromorphone, oxycodone, morphine, Fentanyl, alfentanil, remifentanil and analgesic patches, Benzodiazepines, for example, diazepam, midazolam, Thiopentone, propofol and other short term anaesthetics</td>
</tr>
<tr>
<td>C: Chemotherapeutic agents</td>
<td>Vincristine, Methotrexate, Etoposide, Azathioprine</td>
</tr>
<tr>
<td>H: Heparin and anticoagulants</td>
<td>Warfarin, Enoxaparin, Rivaroxaban, dabigatran, apixaban</td>
</tr>
</tbody>
</table>

Other

High-risk medicines identified at local health district/facility/unit level which do not fit the above categories.
2. Provider and Patient Factors

The prescribing Partnership

Before prescribing:
- Decide if prescription is indicated or not
- Discuss choice with patient
- Check reference(s) sources

While prescribing:
- Right patient
- Appropriate medicine
- Appropriate dose
- Appropriate route
- Appropriate duration

Prescribing:
- Right patient
- Right medicine
- Right dose
- Right route
- Right frequency

Administering:
- Right duration
- Right labelling
- Right storage conditions

Text in color is specific to the respective medication use process

Adapted, with the permission of the publisher, from Routledge PA. Safe Prescribing; a titanic challenge. Br J Clin Pharmacol 2012;74(4):676-84
3. System factors (work environment)

Strategies to reduce medication errors

- Minimizing noise and workflow interruptions
- Preparing and administering intravenous preparations
- Standardization of chart design
- Electronic prescribing
- Quality information on prescribing
- Prescribing assessment tools
What needs to be done

Implications for countries

- Select and prioritize a small targeted list of high-risk (high-alert) medications and high-risk situations for action
- Develop an action plan, which includes processes, systems, patient involvement and education and training of health care professionals
- Choose a range of sustainable strategies
- Develop a strong safety culture within healthcare
- Develop systems for reporting medication errors
# Key Strategies for medication safety

<table>
<thead>
<tr>
<th>Key strategies</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Failure mode effects analysis (FMEA) and self-assessments</td>
<td>Proactively identify risks and how they can be minimized</td>
</tr>
<tr>
<td>Error-proof designing (forcing functions and fail-safes)</td>
<td>Build in safeguards to prevent or respond to failure</td>
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<tr>
<td>Limit access or use</td>
<td>Use constraints (e.g. restriction of access or requirement for special conditions or authorization)</td>
</tr>
<tr>
<td>Maximize access to information</td>
<td>Use active means to provide necessary information when critical tasks are being performed</td>
</tr>
<tr>
<td>Constraints and barriers</td>
<td>Use special equipment or work environment conditions to prevent hazard from reaching patient</td>
</tr>
<tr>
<td>Standardize</td>
<td>Create clinically sound, uniform models of care or products to reduce variation and complexity</td>
</tr>
<tr>
<td>Simplify</td>
<td>Reduce number of steps in the process of handoffs (handovers) without eliminating crucial redundancies</td>
</tr>
<tr>
<td>Centralize error-prone processes</td>
<td>Transfer to external site to reduce distraction of staff with expertise, with appropriate quality control checks</td>
</tr>
<tr>
<td>Preparation to respond to errors</td>
<td>Have antidotes, reversal agents or remedial measures readily available and ensure staff are appropriately trained to manage an identified error</td>
</tr>
</tbody>
</table>

Adapted, with the permission of the publisher, from Institute of Safe Medication Practices (73)
The three Action Areas

Medication Safety in High-risk situations
Medication Safety in Polypharmacy
Medication Safety in Transitions of Care

Thank you
Medication safety in polypharmacy

Alpana Mair
Head of Effective Prescribing and Therapeutics
Scottish Government
Polypharmacy

How many is too many?

Assigning a numeric threshold to define polypharmacy is not always desirable.

Consider appropriate & inappropriate polypharmacy
Multimorbidity, polypharmacy, frailty & risk of harm

More people have multimorbidity than a single disease

- 45-64 yrs: 30%
- 65-84 yrs: 65%
- ≥85 yrs: 82%

Frailty and the number of medicines

- More frailty: 1.5X more medicines
- More medicines: 2.0X more medicines

©SIMPATHY
Health and care systems approach

**Bodenheimer, T; Sinsky, C. From Triple to Quadruple Aim: Care of the Patient Requires Care of the Provider. Ann Fam Med 2014;12:573-576. doi: 10.1370/afm.1713**
Medicines: review process & Adherence

7 step process with “What Matters to you?” and shared decision making tools

http://www.polypharmacy.scot.nhs.uk
http://www.polypharmacy.scot.nhs.uk/polypharmacy-guidance-medicines-review/shared-decision-making/antiplatelets/
Monitoring & Evaluation

Benchmarking and polypharmacy indicators

- Low and middle income countries
- Benchmarking for baseline
- Medication safety indicators
- High risk drugs or combinations
- Polypharmacy appropriateness
- Medication complexity

Polypharmacy Guidance 2018: Scottish data

What needs to be done

Some points of consideration for countries

Policies and implementation plans for appropriate polypharmacy management

People-centred approach during medication reviews

Addressing appropriate polypharmacy at the point of medicines initiation, during medication review and at care transitions
Medication Safety in Transitions of Care

Ciara Kirke
Clinical Lead, National Medication Safety Programme
Health Service Executive, Ireland
Transitions of care

Changes in medication during transitions of care between home and hospital

1. Admission to hospital from home
2. Obtaining medication history
3. Verifying medication history using reliable source of medication information
4-7 Changes in medication during hospital stay
   4. Medication reconciliation at admission
   7. Medication reconciliation at discharge
8. Pre-discharge communication and patient engagement
9. Discharge from hospital to home
Most experience unintended discrepancy at admission and discharge

- 14-98% of community-dwelling older persons and 27-57% of those in residential aged care facilities had medication discrepancies (9)
- 3-97% of adult patients (9) and 22-72% of paediatric patients (10) had at least one medication discrepancy at admission
- 25-80% of patients had at least one medication discrepancy at discharge (9)
- 62% of patients had at least one unintentional medication discrepancy at transfer between units in hospital (11)
What works?

• Medication reconciliation interventions with intensive pharmacy staff involvement
  • Mueller SK et al. Arch Intern Med 2012

• Interventions targeted to patients at high risk for adverse drug events
  • Gleason KM et al. J Gen Intern Med 2010

• Emerging evidence:
  • Interventions supporting patient understanding, including pre- and post-discharge support
  • Patient-centred medication records (paper or shared electronic health records)
  • Communication between providers
What is needed?

- Leadership
- Improvement programme
- Partnering with patients and families
- Processes for medication reconciliation
- Building capacity and capability
- Information sources
- Monitoring and measuring
1. Leadership

• Understand the problem

• Commitment and planning to develop, adapt, support and monitor improvement programmes:
  • clear goals
  • long-term strategy, governance
  • collaboration with stakeholders
  • identify and allocate sufficient resources, workforce and IT
  • research
  • develop education and training
2. Improvement programme

• Engage and collaborate
• Quality improvement methods
• Tailor evidence-based solutions to local environment, test, learn, improve
• Measure, monitor, evaluate
3. Partnering with patients, families and caregivers

https://www.who.int/patientsafety/medication-safety/campaign/en/
https://www.who.int/patientsafety/medication-safety/5moments/en
1. Build the Best Possible Medication History – what the person was actually taking immediately prior to the transition
   1. Patient interview
   2. Verify with at least one **reliable** information source
   3. Back to patient

2. Reconcile, correct list

3. Adjust medication in line with new conditions and experience (e.g. harm, adherence)

4. Communicate list and changes with the person and with future healthcare providers
5. Improving information source quality and availability

- Information to build the Best Possible Medication History
  - Paper or electronic records
  - Communication and integration of information sources
- Information to support safe medication use
6. Building capacity and capability of healthcare professionals

• Workforce capacity

• Capability to
  • Understand the problem
  • Work safely in processes supporting safe practice, including taking BPMH, medication reconciliation, communicating changes
  • Working with patients as partners
  • Collaborating in multidisciplinary environments
7. Monitoring and measurement

- Monitor performance and improvement over time; small sequential samples
- Supplement with research, audit
- Suggested measures include:
  - Outstanding unintentional medication discrepancies
  - Medication reconciliation coverage (after validation)
  - Patient experience
  - Harm associated with medication at transitions
Q&A

Please use the dedicated Q&A box on the right panel
The third WHO Global Patient Safety Challenge: Medication Without Harm

Dr Neelam Dhingra
Coordinator
Patient Safety and Risk Management
World Health Organization
Geneva
Immediate Next steps

- Wider dissemination - readily available online for free access and download
- Availability and dissemination of print version through WHO regional and country offices and partners, as required
- Translation in different WHO languages
- Sharing of information and the materials in major international conferences and meetings
- Recordings of this webinar available online
Strategic Framework
WHO Follow up Action

- Facilitate the development and implementation of country programmes
- Work with countries to prioritize three key action areas
- Develop interventions to implement the key action areas
- Ensure that patients and families are closely involved
- Monitor and evaluate impact
WHO looks forward to working with Member States, experts and partners,

Linkages with other global initiatives

- Anti Microbial Resistance
- Essential Medicines programmes
- Pharmcovigilance programmes
Thank you
The reports are available:

https://www.who.int/patientsafety/medication-safety/technical-reports/en/