**BASIC MEDICATION COURSE CURRICULUM**
**Version 1 – September 2010**

**Aim**

To raise awareness of the frequency and types of medication errors, why they occur and methods to minimise the risk of harm to patients.

**Audience**

Basic medication courses are intended for all healthcare staff involved in the use of medicines. This includes medical, nursing, pharmacy, technical and allied healthcare staff.

**Course length**

Half day course (4 -5 hours)

**Certification**

At the end of the course healthcare staff should take a short (10- 15 minute) written examination to determine if they have obtained knowledge and understanding of the frequency, type and cause of medication errors and methods to minimise the risk of harm to patients

The certification should be time limited to a maximum of three years, after which staff should take the course again and be re-certified.

**Course Materials**

Reference to published literature from around the world (not just from the USA).

Quantitative and qualitative information and examples from the country where the basic medication safety course is being presented.


**Medication safety videos**

Consideration should be given to the use of one or both of the following videos during the course

'Just an ordinary day' – intrathecal vincristine incident re-enactment.
In English with subtitles available in six languages.
Available free to download at
[http://who.int/patienytsafety/education/vincristine_download](http://who.int/patienytsafety/education/vincristine_download)


'Beyond blame' available for sale at ISMP.org


**Recommended Curriculum**


**1, Definitions**

Medication error – not all medication errors cause harm or have the potential to cause harm

Adverse drug event - harm caused by a medicine which is preventable

Adverse drug reaction – harm caused by medicines that is not usually preventable


**2. Why errors occur**

Error theory – James Reason

- Slips and lapses
- Mistakes
- Violations

Latent errors

Human factors
Common myths in healthcare – the myth of perfection, the myth of punishment

Poorly designed/error prone systems and products
- Inadequate medicines information
- Poorly handwritten prescription and medicine documentation
- Error prone design of paper based and computerised medication systems
- Look-a-like and sound-a-like medicine products
- Poor medicine storage
- Calculation errors

## 3. Types of medication error

- Prescribing errors
- Dispensing and preparation errors
- Administration errors
- Monitoring and dose adjustment errors

- Wrong patient
- Wrong medicine
- Wrong formulation
- Wrong dose and frequency
- Wrong rate of administration
- Wrong route
- Known medication allergy
- Expired medicine
- Omitted and delayed medicine doses

High alert medicines

injectable medicines cause the highest number of incidents of deaths and severe harm

## 4. Methods to minimise the risk of harm to patients

The hierarchy of effectiveness to prevent medication errors

Forcing functions and constraints
Automation and computerisation
Standardisation and protocols
Checklists and double checking systems
Rules and policies
Education and information

## 5. Safer design of medicine systems
- Risk awareness and foresight – ability to identify error prone tasks
- Know what to do when a medication error occurs
- Medication error reporting and learning systems and a just culture
- Involve patients and care givers
- Effective independent double checking systems
- Adequate information about medicines
- Well designed medicine use systems – paper based or electronic
- Minimise use of abbreviation for medicine orders
- Minimise verbal and telephone orders

- Purchasing for safety programme – purchase medicine products that will be less error prone in practice
- Safer storage or medicine to minimise selection errors
- Systems to minimise calculation errors
- Use of technology
  - Electronic prescribing with decision support
  - Use of bar code on medicine labels
  - Infusion pumps with error reducing software
  - Automated distribution cabinets

**Key References**

Burke KG, State of the science on safe medication administration. Am J Nurs. 2005; 105:4-24.

Cohen. M. Medication Errors (2nd Edition). American Pharmaceutical Association, Washington. USA. 2007.

Council of Europe. Creation of a better medication safety culture in Europe. Building up safe medication practices.2006. Available at http://www.coe.int/t/e/social_cohesion/soc-sp/Medication%20safety%20culture%20report%20E.pdf

Institute of Medicine. To err is human. Building a safer health system. National Academy Press. 1999.

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National Patient Safety Agency. Foresight training. 2009. Available at: http://www.nrls.npsa.nhs.uk/resources/?entryid45=59840

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Roughead L, Semple S. Literature review, Medicaton safety in acute care in Australia. Sampson Institute, University of South Australia. 2008. Available at: http://www.health.gov.au/internet/safety/publishing.nsf/Content/D0DABD9912D44A14CA257516000FDABB/$File/16566-LitRev-MedSafetyAcuteCare.pdf

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http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4071443

World Health Organisation. Action on Patient Safety. The High 5's.Available at http://www.who.int/patientsafety/solutions/high5s/en/index.html

World Health Organisation. World Alliance For Patient Safety.WHO draft guidelines for adverse event reporting and learning systems. 2005. Available at: http://www.who.int/patientsafety/reporting_and_learning/en/


**Key web sites for safe medication practice information**


Australian Commission on Safety and Quality in Healthcare. Medication Safety. Australia.
http://www.health.gov.au/internet/safety/publishing.nsf/Content/PriorityProgram-06

American Society of Health System Pharmacists. Patient safety. USA
http://www.ashp.org/patientsafety

Institute For Safe Medication Practices. (ISMP). USA.
http://www.ismp.org

Institute For Safe Medication Practices Canada (ISMP-Canada). Canada.
http://www.ismp-canada.org

International Network For Medication safety.
http://www.intmedsafe.net/index.php

National Patient Safety Agency. UK
http://www.nrls.npsa.nhs.uk

National Co-ordinating Council For Medication Error Reporting and Prevention (NCC-MERP). available at: http://www.nccmerp.org