Medication Safety

Course content

Introduction: Basic Principles

Topic	Learning Objectives	Presenter
Introduction to Medication Safety	• Define medication safety. • Articulate the terminology and main concepts in context of medication safety. • Give examples of various medication errors (prescribing errors, dispensing errors, medicine preparation errors, administration errors, monitoring errors, etc). • List examples of how medication safety concerns differ in various settings – hospital, office/clinic, nursing/care homes and patients' own homes.	**Dr Peter Lachman**, M.D. MPH. M.B.B.Ch., FRCPCH, FCP (SA), FRCPI, CEO ISQua
WHO's Third Global Challenge	• Describe WHO'S Third Global Challenge: Medication without Harm and its main recommendations.	**Dr Neelam Dhingra-Kumar**, MD, Coordinator, Patient Safety and Risk Management, Service Delivery and Safety, World Health Organization, Geneva
Culture of Medication Safety and Developing Shared Accountability	• Define Medication Safety culture. • Identify impact of policy vs behavior on Medication Safety culture. • Discuss the ways to support/encourage Medication Safety culture. • Describe approaches to gaining engagement across units/disciplines to	**Frank Federico**, Vice President, Institute for Healthcare Improvement (IHI)

	collaborate in improving medication safety (pharmacy, medicine, nursing, radiology, and laboratory).	
Case Study: Improving Medication Safety at Policy Level	• Give examples of addressing medication safety issues using development of guidelines and policies at the facility/provider level. • Describe challenges associated with guidelines and policy implementation, including unintended consequences. • Discuss strategies to evaluate the effectiveness of these policies.	**Alpana Mair**, Head of Prescribing and Therapeutics, Scottish Government.
Designing for Safety Using Human Factors and Ergonomics	• Describe three human factors principles (eg. simplification, redundancy, forcing function). • Give examples of how environmental design can prevent error and harm. • Outline risks/benefits of technology on medication safety (reduce and introduce error/harm). • Discuss examples of human factors contributors to medication errors. • Discuss techniques for reducing error (eg. special labelling, storage, and packaging).	**Professor Sue Hignett,** Chair in Healthcare Ergonomics & Patient Safety, Loughborough University. **Dr Thomas Jun,** Senior Lecturer in Human Factors and Complex Systems, Loughborough University. **Dr Mike Fray,** Senior Lecturer in Human Factors Design, Loughborough University.
Detecting Medication Errors and Analysing Medication Error Incident Reports	• Identify methods and data sources to detect medication errors and adverse drug events, including incident reporting, direct observation, medical record review, trigger tools, and others • Identify strengths and weaknesses of each medication event detection method. • Describe guiding principles for medication event surveillance	**James Hoffmann,** M.D., Assistant Professor, Clinical Paediatrics, Primary Children's Hospital, Utah.

	and using data for improvement.	
Reporting and Learning Systems for Medication Errors	• Define the way adverse events and other risks/ errors take place between hospital/clinic and community pharmacy. • Articulate the significance and spectrum of various documents and materials which could be produced by successful reporting/learning system. • Learn that it is possible to create a no-blame culture for enhancing adverse event reporting. • Demonstrate how to involve regulative authority and pharmaceutical industry for medication safety.	**Professor Shin Ushiro,** M.D., Executive Board Member of the Japan Council for Quality Health Care (JQ) Head of Division, Adverse Event Prevention.
Learning from Serious Medication Error	• Explain the impact of medication on the patient and implications on the patient and their family.	**Patricia O'Connor**, Executive Director, QI Discovery
Understanding Challenges in the Safe Use of Medications	• Enumerate risk factors for adverse drug events and medication errors. • Develop a general understanding of how problems occur in the medication use process. • Identify and describe the most common types of drug-related problems. • Discuss relationships between drug-related problems and drug-related morbidity. • Identify improvements with written orders.	**Terri Warholak,** PhD, RPh, CPHQ, FAPhA, Professor Assistant Dean-Designate, Academic Affairs and Assessment, College of Pharmacy, University of Arizona
Prescribing Errors	• Articulate key approaches for addressing prescribing errors. • Describe how health information technology can be used to address prescribing errors: (computerised	**Ciara Kirke**, Clinical Lead, National Medication Safety Programme, Quality Improvement Division,

	provider order entry, clinical decision support, etc.). • Describe the disadvantages health information technology and new error types that can occur. • Define the impact of implementing intervention strategies to address the prescription errors. • List the benefits and risks of electronic prescribing.	Health Service Executive, Ireland

High Risk Medications and Clinical Specialities

Topic	Learning Objectives	Presenter
Antimicrobial Stewardship	• Define the risk of medication safety incidents associated with antibiotic use and over prescription (re: antimicrobial resistance). • Describe medication errors associated with the use of beta-lactam antimicrobial and how to prevent them. • Create a list of which antibiotics have highest risk. • Learn the initiatives to reduce the problem.	**Professor Sabiha Essack,** B. Pharm., M. Pharm., PhD South African Research Chair in Antibiotic Resistance & One Health
Medication safety in Primary Care	• Understand where medication related harm occurs in primary care. • Learn about improvement work that has taken place to make medicines safer in primary care. • Learn about a system wide approach to medication reconciliation. • Hear about good medicines management in GP Practices and Community Pharmacies to minimise harm.	**Neil Houston,** GP Clinical Lead, Safety Improvement in Primary Care, Dollar Health Centre, Scotland.

Medication Safety in Intensive Care	• List the main risks for patients in the intensive care. • Describe interventions that can be used to decrease medication harm. • Consider the issues with medication reconciliation in the intensive care. • Describe the challenges of polypharmacy in the intensive care.	**Laura Johnstone,** Bpharm, GradDipClinPharm, Medication Safety Pharmacist, Cairns Hospital, Australia.
Medication Safety in Mental Health	• Articulate medication safety in mental health context. • Describe strategies to improve medication safety in mental health. • Describe the interventions that improve monitoring in mental health.	**Rosemary Smyth,** Director Standards & Quality Assurance/Training & Development, Mental Health Commission Ireland
High-risk Medicines	• Learn some strategies to handle high-risk medicines to improve medication safety. • Describe how minimizing opportunities for errors with high-risk medicine can be dealt with at policy level (standards and policy directives, protocols, etc). • Demonstrate how to develop error-reduction strategies around the use of high risk and high-alert medications. • List the implications of opioid abuse.	**Margaret Jordan**, MSc (Res), BPharm, Advanced Practice Pharmacist, FSHP, AACPA Project Pharmacist-Pharmacy in the (General) Practice. **Judy Mullan,** PhD, FSHP, BA, BPharm, Director at the Centre for Health Research Illawarra Shoalhaven Population (CHRISP), Australian Health Services Research Institute (AHSRI), University of Wollongong, Australia.
Medication Safety for Older Adults	• Different pharmacokinetics. • Medications that increase risk. • Polypharmacy. • Consequences of medication harm. • Falls confusion etc. • How to address reducing falls and related injuries and medication contributors: drugs in the elderly, e.g., Beers list	**Kirstyn James,** MD, MRCPI, Higher Specialist Trainee in Geriatric and General Internal Medicine, Royal College of Physicians in Ireland.

	that contribute to falling in hospitals, nursing homes and at home. • Strategies to reduce sleep aid drugs to reduce falls in the night in hospitals and nursing homes.	

Transitions of Care

Topic	Learning Objectives	Presenter
Medication at Transitions in Care	• Define medication reconciliation. • Outline existing medication reconciliation tools. • Outline the main benefits of medication reconciliation. • Describe how medication reconciliation using information technology (IT) can improve medication safety. • Share examples of typical barriers and problems with medication reconciliation and solutions developed. • Describe the scale and nature of the problem of incomplete medication reconciliation at transitions of care. • List the components of good practice to achieve successful reconciliation and communication at transitions of care. • Gain an understanding of the types of interventions that can address and improve medication management at transitions, together with the evidence-base and economic case for their use. • List mistakes taking place in the home setting. • List the key strategies to manage transitions to a safe medication process in the home setting. • Discuss benefits and challenges for using medication management solutions. • Describe the infrastructure of leadership, accountability, and	**Ciara Kirke,** Clinical Lead, Medication Safety, Quality Improvement Division at Health Service Executive, Ireland.

	communication needed for improving medication safety across systems.	

Interventions

Topic	Learning Objectives	Presenter
Introduction and Evaluation of Interventions to Increase Reliability	• Describe some examples of common medication safety interventions. • Discuss the key issues in developing, evaluating and publishing interventions to enhance medication safety.	**Bryony Dean Franklin**, Director, Centre for Medication Safety and Service Quality, UCL School of Pharmacy / Imperial College Healthcare NHS Trust.
Using Smartphone Apps to Improve Medication Safety	• Describe how smartphones can be used as a platform for tracking the medication. • Outline the key benefits of using these innovative applications. • Give examples of problems that can occur and how to create a safety net.	**Dan Burns**, Pharmacy Director, Pharmapod

Interventions: Administration of Medicines

Topic	Learning Objectives	Presenter
Interventions for the Safe Administration of Medications	• Understand how dosing aids are used to improve medicine management for certain group of people. • Be aware of the limitations associated with dose administration aids. • Describe how to avoid problems with dose administration aids. • Articulate how safer design of packaging, medication nomenclature, etc can improve medication safety. • Describe approaches to facilitate and promote safe administration of medications.	**Joshua Anderson,** Medication Safety and Clinical Pharmacist

Interventions: Systems and Practices

Topic	Learning Objectives	Presenter
Reducing Medication Errors with Barcodes	• Describe at what stage of the medical process the medication error can occur and how this can be addressed with barcode medication administration. • Give examples of standards for barcode medication. • Describe the impact of medication barcode information through using an online platform to monitor and improve medication safety. • Give examples of problems that need to be managed with use of bar codes. • Discuss the importance of single unit barcoding.	**Pieter Helmons**, Hospital Pharmacist and Chief Pharmacy Informatics Officer (CPMO), St Jansdal Hospital in Harderwijk, Netherlands
Using Unit Huddles to Reduce Adverse Drug Events	This session will provide case stories of an improvement technique that: • revealed sources of medication errors on hospital units. • engages doctors, nurses and pharmacists to identify and solve contributing causes. • identified unintended consequences from cost-reduction efforts. • provides tools for conducting effective huddles.	**Gail Nielsen**, Fellow and Faculty, Institute for Healthcare Improvement