



Information Note 1

Summary of the Contents of the WHO Patient Safety Curriculum Guide: Multi-professional Edition

The Multi-professional Patient Safety Curriculum Guide is a comprehensive guide for patient safety education in the fields of dentistry, medicine, midwifery, nursing and pharmacy. The Curriculum Guide lays the foundations for capacity-building in essential patient safety principles and concepts.

As patient safety teaching is relatively new for most health-care educators, the Curriculum Guide provides, in a single publication, educational frameworks and features a variety of concepts and methods for teaching and assessing patient safety. It is designed to be easily integrated into existing health-care education curricula, using a flexible approach to meet individual needs, and is applicable to different cultures and contexts. While it offers health-care schools and universities a recommended framework and resource materials, individual adaptations to local requirements, settings, student learning needs and resources are encouraged.

The Multi-professional Patient Safety Curriculum Guide comprises two parts:

Part A is aimed at health-care educators. It offers background information on how to select and teach each curriculum topic, makes suggestions on assessing institutional capacity to integrate patient safety teachings, and provides techniques for exploring how this subject can fit into the institution's existing curricula. Part A also highlights the educational principles that are essential to patient safety teaching and learning and proposes approaches for student assessment, as well as evaluation of the current patient safety curricula. The importance of faculty engagement as an essential component for maintaining the sustainability of the programme is emphasised throughout the document. At the same time, clear examples on how patient safety might be taught are provided throughout Part A.

Part B addresses health-care educators and students. It contains 11 ready-to-teach, topic-based patient safety programmes that can be used as a whole or on a per topic basis. The topics are:

Topic 1: What is patient safety?	Topic 7: Using quality-improvement methods to improve care
Topic 2: Why applying human factors is important for patient safety	Topic 8: Engaging with patients and carers
Topic 3: Understanding systems and the effect of complexity on patient care	Topic 9: Infection prevention and control
Topic 4: Being an effective team player	Topic 10: Patient safety and invasive procedures
Topic 5: Learning from errors to prevent harm	Topic 11: Improving medication safety
Topic 6: Understanding and managing clinical risk	

Rationale for each Curriculum Guide topic

Health-care professionals who teach students may not immediately appreciate why certain topics are included in this Curriculum Guide. They may already be teaching a particular topic, but have not categorized it as patient safety. Teachers may also discover that many of the principles and concepts addressed in this Curriculum Guide are similar to existing educational material, but with a different emphasis. The significance of each topic in the learning of health-care students is clarified below.

Topic 1: What is patient safety?

Given that health-care professionals are increasingly being required to incorporate patient safety principles and concepts into everyday practice, this topic presents the case for patient safety.

We have learnt over the last decade that adverse events occur not because people intentionally hurt patients. They are, rather, due to the complexity of today's health-care systems, especially in developed countries, where the successful treatment and outcome for each patient depend on a range of factors and not just the competence of one individual health-care provider. When so many different types of health-care providers (doctors, nurses, pharmacists and allied health-care workers) are involved, it is very difficult to ensure safe care unless the system of care is designed to facilitate timely and complete information and understanding by all the health professionals. Similarly, in developing countries, a combination of numerous unfavourable factors such as understaffing, inadequate structures and overcrowding, lack of health-care commodities and shortage of basic equipment, poor hygiene and sanitation, all of which can be attributed to limited financial resources, contribute to unsafe patient care.

Topic 2: Why applying human factors is important for patient safety

Human factors is an area of expertise of engineers and cognitive psychologists. This topic may provide some challenges for health professional faculty as well as students. Human factors, engineering or ergonomics is the science of the interrelationship between humans, their tools and the environment in which they live and work. Human factors engineering will help students understand how people perform under different circumstances so that systems and products can be built to enhance performance. It covers the human-machine and human-to-human interactions such as communication, teamwork and organizational culture.

Other industries such as aviation, manufacturing and the military have successfully applied knowledge of human factors to improve systems and services. Students need to understand how human factors can be used to reduce adverse events and errors by identifying how and why systems break down and how and why human beings miscommunicate. Using a human factors approach, the human-system interface can be improved by providing better-designed systems and processes. This often involves simplifying processes, standardizing procedures, providing backup when humans fail, improving communication, redesigning equipment and engendering a consciousness of behavioural, organizational and technological limitations that lead to error.

Topic 3: Understanding systems and the effect of complexity on patient care

Students are introduced to the concept that a health-care system is not one, but many systems made up of organizations, departments, units, services and practices. The huge number of relationships between patients, carers, health-care providers, support staff, administrators, economists and community members, as well as the relationships between the various health-care

and non-health-care services, add to this complexity. This topic gives students a basic understanding of complex organizations using a systems approach. Lessons from other industries are used to show students the benefits of a systems approach.

When students think in terms of '*systems*', they will be better able to understand why things break down and so will have a context for thinking about '*solutions*'. Health-care students need to appreciate how, as a provider of health care, working in a hospital or rural health clinic, they will be doing their best to treat and care for their patients, but that alone they will not be able to provide a safe and quality service. This is because patients depend on a number of people doing the right thing, at the right time for them. In other words, they depend on a system of care.

Topic 4: Being an effective team player

Students' understanding of teamwork involves more than identification with the team comprising their own profession. It requires students knowing the benefits of multidisciplinary teams and how effective multidisciplinary teams improve care and reduce errors. An effective team is one where the team members, including the patient, communicate with one another as well as combining their observations, expertise and decision-making responsibilities to optimize patient care.

The task of communication and flow of information between health providers and patients can be complicated due to the spread of clinical and professional responsibility among different members of the health-care team. This can result in patients being required to repeat the same information to multiple health providers. More importantly, miscommunication has also been associated with delays in diagnosis, treatment and discharge, as well as failures to follow up on test results.

Students need to know how effective health-care teams work, as well as techniques for including patients and their families as part of the team. There is some evidence that multidisciplinary teams improve the quality of services and lower costs. Good teamwork has also been shown to reduce errors and improve care for patients, particularly those with chronic illnesses. This topic presents the underlying knowledge required to become an effective team member. However, knowledge alone will not make a student a good team player. They need to understand the culture of their workplace and how it impacts on team dynamics and functioning.

Topic 5: Learning from errors to prevent harm

Understanding why health-care professionals make errors is necessary to appreciate how poorly-designed systems and other factors contribute to errors in the health-care system. While errors are a fact of life, the consequences of errors on patient welfare and staff can be devastating. Health-care professionals and students alike need to understand how and why systems break down and why mistakes are made, so they can act to prevent and learn from them. An understanding of health-care errors also provides the basis for making improvements and implementing effective reporting systems. Students will learn that a systems approach to errors, which seeks to understand all the underlying factors involved, is significantly better than a person approach, which seeks to blame people for individual mistakes. Lucian Leape's influential article in 1994 showed a way to examine errors in health care that focused on learning and fixing errors instead of blaming those involved. Although his message has had a profound impact on many health-care practitioners, many are still stuck in a blame culture. It is crucial that students begin their vocation by understanding the difference between blame and systems approaches.

Topic 6: Understanding and managing clinical risk

Clinical risk management is primarily concerned with maintaining safe systems of care. It usually involves a number of organizational systems or processes that are designed to identify, manage and prevent adverse outcomes. Clinical risk management focuses on improving the quality and safety of health-care services, by identifying the circumstances that put patients at risk of harm and acting to prevent or control those risks. Risk management involves every level of the organization, so it is essential that students understand the relevance of clinical risk management strategies in their workplace. Managing complaints and making improvements, understanding the main types of incidents in the hospital or clinic that are known to lead to adverse events, knowing how to use the information from complaints, incident reports, litigation, coroners' reports and quality-improvement reports to control risks are all examples of clinical risk management strategies.

Topic 7: Using quality-improvement methods to improve care

Over the last decade, health care has successfully adopted a variety of quality-improvement methods used by other industries. These methods provide health-care professionals with the tools to:

- (i) identify a problem;
- (ii) measure the problem;
- (iii) develop a range of interventions designed to fix the problem;
- (iv) test whether the interventions worked.

Health-care leaders, such as Tom Nolan, Brent James, Don Berwick and others, have applied quality-improvement principles to develop quality-improvement methods for health clinicians and managers. The identification and examination of each step in the process of health-care delivery is the bedrock of this methodology. When students examine each step in the process of care, they begin to see how the pieces of care are connected and measurable. Measurement is critical for safety improvement. This topic introduces the student to the principles of improvement theory and the tools, activities and techniques that can be incorporated into their practice.

Topic 8: Engaging with patients and carers

Students are introduced to the concept that the health-care team includes the patient and/or their carer, and that patients and carers play a key role in ensuring safe health care by:

- (i) helping with the diagnosis;
- (ii) deciding about appropriate treatments;
- (iii) choosing an experienced and safe provider;
- (iv) ensuring that treatments are appropriately administered;
- (v) identifying adverse events and taking appropriate action.

The health-care system underutilizes the expertise patients can bring, such as their knowledge about their symptoms, pain, preferences and attitudes to risk. They are a second pair of eyes if something unexpected happens. They can alert a nurse, doctor, pharmacist or other health-care worker if the medication they are about to receive is not what they usually take, which acts as a warning to the team that checks should be made.

Research has shown that there are fewer errors and better treatment outcomes when there is good communication between patients and their health-care providers, and when patients are fully informed and educated about their medications. Poor communication between health-care professionals, patients and their carers has also emerged as a common reason for patients taking legal action against health-care providers.

Topic 9: Infection prevention and control

Because of the worldwide problem of infection prevention and control and the efforts by WHO to reduce health care-associated infections, it is considered important that this area be included in the Curriculum Guide not only for consistency, but also because together with surgical care and medications, they constitute a significant percentage of adverse events suffered by patients. The problem of infection control in health-care settings is now well established, with health care-associated infections being a major cause of death and disability worldwide. There are numerous guidelines available to help doctors, nurses, dentists and others minimize the risks of cross-infection. Patients who have surgery or an invasive procedure are known to be particularly prone to infections and account for about 40% of all hospital-acquired infections. This topic sets out the main causes and types of infections to enable health-care students to identify those activities that put patients at risk of infection and to prepare students to take the appropriate action to prevent transmission.

Topic 10: Patient safety and invasive procedures

By recognizing the unacceptable harm caused by surgery, WHO has successfully campaigned to reduce surgical adverse events. One of the main causes of errors involving wrong patients, sites and procedures is the failure of health-care providers to communicate effectively (inadequate processes and checks) in preoperative procedures. Some examples of wrong site/procedure/patient are:

- (i) the wrong patient in the operating room (OR);
- (ii) surgery performed on the wrong side or site;
- (iii) wrong procedure performed;
- (iv) failure to communicate changes in the patient's condition;
- (v) disagreements about stopping procedures;
- (vi) failure to report errors.

Students can learn to understand the value of all patients being treated in accordance with the correct site/procedure/patient policies and protocols. Such learning would include the benefits of using checklists or protocols, as well as knowledge of the underlying principles supporting a uniform approach to treating and caring for patients.

Topic 11: Improving medication safety

An adverse drug reaction has been defined by WHO as any response to a medication that is noxious, unintended and occurs at doses used for prophylaxis, diagnosis or therapy. Patients are vulnerable to mistakes being made in any one of the many steps involved in ordering, dispensing and administering medication.

Medication errors have been highlighted in studies undertaken in many countries which show that about 1% of all hospital admissions suffer an adverse event related to the administration of medications. The causes of medication errors include a wide range of factors including:

- (i) inadequate knowledge of patients and their clinical conditions;
- (ii) inadequate knowledge of the medications;
- (iii) calculation errors;
- (iv) illegible handwriting on the prescriptions;
- (v) confusion regarding the name of the medication;
- (vi) poor history taking.

Link: <http://www.who.int/patientsafety/education/curriculum/en/index.html>