

WORLD ALLIANCE FOR PATIENT SAFETY

WHO PATIENT SAFETY CURRICULUM GUIDE FOR MEDICAL SCHOOLS

A SUMMARY



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Printed in the United Kingdom

Curriculum Guide: a summary

Background

With the growing recognition of the harms caused by health care comes the need for medical students to learn how to deliver safer care. The Curriculum Guide aims to support medical schools worldwide in implementing patient safety education by providing a comprehensive curriculum for patient safety, to promote and enhance the status of patient safety worldwide and ultimately to prepare students for safe practice.

The Australian Patient Safety Education Framework was used to derive 11 topics for the Curriculum Guide. Topics within the Curriculum are designed to stand alone, each with content for 60-90 minutes' teaching and include a variety of ideas for implementation and assessment.

Implementation

Early steps include identifying learning outcomes, mapping patient safety to existing curriculum and then assessing capacity within the faculty to deliver the patient safety Curriculum and engaging in capacity building work.

Decisions regarding delivery of patient safety material will depend on the nature and content of existing curriculum, but may be matched to current educational formats. The curriculum addresses student knowledge and performance elements of patient safety, and there are

advantages to introducing both of these simultaneously. The number of topics covered may be increased over time to ease implementation.

Some aspects of patient safety link in well with existing subjects and can be incorporated into existing sessions. Others are relatively new and are likely to dedicated sessions. A balance must be struck between integration of material into existing curriculum and ability to coordinate delivery effectively.

Principles of patient safety teaching and learning

Patient safety education can be integrated into procedural skills training programmes. A number of different patient safety topics may be relevant in any given procedure, and those taught for one procedure often also apply generally.

Patient safety education can be made meaningful to students by placing the principles in context with their current and future practical roles, using relevant examples of safety and giving students an opportunity to practise their patient safety knowledge and skills.

Students learn better in a safe supportive learning environment, one which is challenging but not intimidating and where experiential learning is facilitated. Educators may adopt a variety of styles including roles as information provider,

role model, facilitator, assessor, planner and resource provider. There is an important role for patients in delivering patient safety education.

Assessing patient safety

Assessments may be formative or summative, and these may be in-course or end-of-course. Assessments strongly influence study behaviour and learning outcomes for students and therefore should align with desired learning outcomes. Blueprinting defines the competencies students are expected to meet, and can be used to map patient safety topics across the curriculum as a whole. The purpose of assessment should drive the choice of format – for example, written (e.g. multiple choice questions, modified essays, logbooks) or practical (e.g. direct observation, case-based discussions, OSCE).

Evaluating patient safety

Evaluation measures how and what is taught in the curriculum by collecting data from students, patients, teachers and/or other stakeholders. Choices must be made about what is being evaluated, who the evaluation is for and what questions the evaluation is trying to answer. There are different types of evaluation – proactive, clarificative, interactive, monitoring and impact – each answering the different questions evaluation can ask. Data for evaluation may be gathered in a number of ways – self-reflection, questionnaires, focus

groups, individual interviews, observation and documents/records. Findings of evaluation must be disseminated and action taken where appropriate.

Patient safety education activities

A number of different educational formats may be used in the delivery of the Curriculum, including lectures, ward round-based teaching, small group learning, case based discussions, independent study, patient tracking, role play, simulation and undertaking improvement projects. Each of these has benefits and challenges, and different methods are appropriate for different learning goals.

Transnational Approach

Health care is now globalized, and medical education should reflect this. The Curriculum Guide operates on universal principles that are applicable globally, and though delivery should be customized to local needs and culture. There is a need for international human and physical resource capacity building on an international level.

Introduction to topics

As future clinicians students need to learn about patient safety. There is a progression from knowing “what” to knowing “how” and ultimately to “doing”. Best learning is through hands-on experience with feedback from trainers, along with mentoring and coaching. There are a number of cultural barriers to

change which students can be helped to explore and challenge. The Curriculum can be integrated with clinical care (eg infection control). Students need to learn to practise safe health care even if the prevailing medical culture is not supportive of this, and to learn to deal with the conflicts this may create.

Topic 1: What is patient safety?

Health professionals are increasingly being required to incorporate patient safety principles and concepts into everyday practice. In 2002, WHO Member States agreed on a World Health Assembly resolution on patient safety because they saw the need to reduce the harm and suffering of patients and their families as well as the compelling evidence of the economic benefits of improving patient safety. Studies show that additional hospitalization, litigation costs, infections acquired in hospitals, lost income, disability and medical expenses have cost some countries between US\$ 6 billion and US\$ 29 billion a year. A number of countries have published studies highlighting the overwhelming evidence showing that significant numbers of patients are harmed due to their health care, either resulting in permanent injury, increased length of stay in hospitals or even death. We have learnt over the last decade that adverse events occur not because bad people intentionally hurt patients but rather that the system of health care today is so

complex that the successful treatment and outcome for each patient depends on a range of factors, not just the competence of an individual health care provider. When so many people and different types of health-care providers (doctors, nurses, pharmacists and allied health) 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. This topic presents the case for patient safety.

Topic 2: What is human factors and why is it important to patient safety?

Human factors, engineering or ergonomics is the science of the interrelationship between humans, their tools and the environment in which they live and work [3]. 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 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 impact 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, bureaucrats, economists and community members as well as the relationships between the various health- and non-health-care services add to this complexity. This topic gives medical students a basic understanding of complex organizations using a systems approach. The lessons from other industries are used to show students the benefits of a systems approach. When students think in systems they will be better able to understand why things break down and have a context for thinking about solutions. Medical students need to understand how an

individual doctor or nurse working in a hospital can do their very best in treating and caring for their patients but alone that will not be enough to provide a safe and quality service. This is because patients depend on many 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

Medical students' understanding of teamwork involves more than identification with the medical team. It requires students to know the benefits of multidisciplinary teams and how effective multidisciplinary teams improve care and reduce errors. An effective team is one in which the team members 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 responsibility among 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 healthcare 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 upon team functioning.

Topic 5: Understanding and learning from errors

Understanding why health-care professionals make errors is necessary for appreciating 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. Medical students and other healthcare professionals 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. Leape's seminal 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, there are still many embedded in a blame culture. It is crucial that students begin their vocation 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 and opportunities 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 medical students understand the objectives and relevance of the 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 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: Introduction to quality improvement methods

Over the last decade, health care has successfully adopted a variety of quality improvement methods used by other industries. These methods provide clinicians with the tools to: (i) identify a problem; (ii) measure the problem; (iii) develop a range of interventions designed to fix the problem; and (iv) test whether the interventions worked. Healthcare 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 for 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 improvement methods 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; and (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 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 carers, and when patients are fully informed and educated about their medications. Poor communication between doctors, patients and their carers has also emerged as a common reason for patients taking legal action against health-care providers.

Topic 9: Minimizing infection through improved infection control

WHO has a global campaign on infection control. We thought it important that this area be included in the Curriculum Guide not only for consistency but also because along with surgical care and medications these areas 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 and nurses 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. The topic sets out the main causes and types of infections to enable medical 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

WHO has a project on safe surgery. 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. Other 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; and (vi) failure to report errors. Minimizing errors caused by misidentification involves developing best-practice guidelines for ensuring the correct patient receives the right treatment. 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 benefit of protocols as well as knowledge of the underlying principles supporting a uniform approach to treating and caring for patients. One study of hand surgeons found that 21% of surgeons surveyed (n=1050) reported performing wrong site surgery at least once during their careers.

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 medications. Medication errors have been highlighted in studies undertaken in many countries, including Australia, 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; (v) confusion regarding the name of the medication; and (vi) poor history taking.

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