

WHO Patient Safety Curriculum Guide for Medical Schools



WHO Library Cataloguing-in-Publication Data

WHO patient safety curriculum guide for medical schools.

1.Patient care - education. 2.Schools, Medical - organization and administration. 3.Curriculum - trends. 4.Clinical competence. 5.Health personnel - education. 6.Safety management. 7.Practice guideline. I.World Health Organization. II.World Alliance for Patient Safety.

ISBN 978 92 4 159831 6

(NLM classification: WX 167)

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Designed by 22 Design

Printed in France

Medical Curriculum Foreword

Medicine has changed greatly over the last century. Our knowledge of the physiology, biochemistry and genetics of human life has improved, as has our understanding of the diseases that affect health.

As the technical ability to treat disease has grown, the complexity of medical practice has increased significantly. The same drugs and surgeries that can save lives have the potential to cause harm. Modern health care is delivered in teams, not by individuals. Modern clinicians rely on the support of intricate health-care systems to enable them to carry out their task. Errors can occur at each stage in any of these processes. There is a constant threat of accidental harm, which cannot easily be removed.

High risk organisations, such as the airline industry, meticulously apply layers of protection to their routine work to reduce risk to acceptable levels. Systems are built so that human error – which is to some extent inevitable – does not cause catastrophe. Flying has now become very safe.

In recent years, a science of patient safety has developed. Harm to patients is not inevitable and can be avoided. To achieve this, clinicians and institutions must learn from past errors, and learn how to prevent future errors. We need to adapt our ways of working to make safe health care a robust and achievable goal.

Traditionally, curricula for doctors and medical students have focused on pure clinical skills: diagnosis of illness, treatment of disease, after-care and follow-up. However, team working, quality improvement and risk management have been overlooked. These skills are fundamental to patient safety.

It is therefore fitting that the WHO Patient Safety has developed this curriculum which will enable and encourage medical schools to include patient safety in their courses. Reducing harm caused by health care is a global priority. Incorporating the knowledge of how to do this into the medical student curriculum is an urgent necessity.

This Curriculum Guide is only a start. A plan is underway to adapt it for use by other health-care professionals including nurses and pharmacists. It is only one strand of what we need to build safer health-care systems. However, there is no doubt that engaging clinicians from the earliest stages of their training is crucial.

This Guide is a timely, valuable project, and I look forward to seeing its early and widespread use.



Sir Liam Donaldson
Chair, WHO Patient Safety

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Acronyms

AHRQ	Agency for Healthcare Research and Quality
APSEF	Australian Patient Safety Education Framework
ARCS	accelerated recovery colectomy surgery
CAT	computed axial tomography
CDC	Centers for Disease Control and Prevention
CPI	clinical practice improvement
CT	computed tomography
D&C	dilation and curettage
ECG	electrocardiogram
EMQ	extended matching question
HBV	hepatitis B virus
HIV	human immunodeficiency virus
HRO	high reliability organization
ICU	intensive care unit
IHI	Institute for Healthcare Improvement
IPE	interprofessional education
IV	intravenous
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
LOS	length of stay
MCQ	multiple choice question
MEQ	modified essay question
Mini-CEX	mini clinical evaluation exercise
MRI	magnetic resonance imaging
MRSA	methicillin-resistant staphylococcus aureus
MSF	multisource feedback
NASA	National Aeronautics and Space Agency
NCPA	National Center for Patient Safety
NPSEF	National Patient Safety Education Framework
NSAID	non-steroidal anti-inflammatory drugs
OR	operating room
OSCE	objective structured clinical examination
PBL	problem-based learning
PDSA	plan-do-study-act
SBA	short best answer question paper
TB	tuberculosis
UK	United Kingdom
USA	United States of America
WHO	World Health Organization

PART A: TEACHER'S GUIDE

WHO Patient Safety
Curriculum Guide
for Medical Schools

1. Background

Why do medical students need patient safety education?

Health care outcomes have significantly improved with the scientific discoveries of modern medicine. However, studies from a multitude of countries show that with these benefits come significant risks to patient safety. We have learnt that hospitalized patients are at risk of suffering an adverse event, and patients on medication have the risk of medication errors and adverse reactions. A major consequence of this knowledge has been the development of patient safety as a specialized discipline. Clinicians, managers, health-care organizations, governments (worldwide) and consumers must become familiar with patient safety concepts and principles. Everyone is affected. The tasks ahead of health care are immense and require all those involved care to understand the extent of harm to patients and why health care must move to adopt a safety culture. Patient safety education and training is only beginning to occur at all levels. Medical students, as future doctors and health-care leaders, must also be prepared to practise safe health care. Though medical curricula are continually changing to accommodate the latest discoveries and new knowledge, patient safety knowledge is different from other because it applies to all areas of practice.

Medical students, as future clinicians, will need to know how systems impact on the quality and safety of health care, how poor communication can lead to adverse events and much more. Students need to learn how to manage these challenges. Patient safety is not a traditional stand alone discipline; rather, it is one that integrates into all areas of medicine and health care. The World Health Organization's (WHO) World Alliance for Patient Safety, and other projects such as this one, aims to implement patient safety worldwide. Patient safety is everyone's business, all the way from patients to politicians. As medical students are among the

future leaders in health care, it is vital that they are knowledgeable and skilful in their application of patient safety principles and concepts. The WHO Patient Safety Curriculum Guide for Medical Schools sets the stage for medical students to begin to practise patient safety in all their clinical activities.

Building students' patient safety knowledge needs to occur throughout medical school. Patient safety skills and behaviours should begin as soon as the students enter a hospital, clinic or health service. By getting students to focus on each individual patient, having them treat each patient as the unique human being they are and using their knowledge and skills carefully students themselves can be role models for others in the health-care system. Most medical students have high aspirations when they enter medicine, but the reality of the system of health care sometimes deflates their optimism. We want students to be able to maintain their optimism and believe that they can make a difference, both to the individual lives of patients and the health-care system.

What is the Curriculum Guide?

The Curriculum Guide is a comprehensive programme for implementation of patient safety education in medical schools worldwide. It comprises two parts. Part A is a teacher's guide, which has been designed to assist teachers to implement the Curriculum Guide. We are aware that patient safety is a new discipline and many clinicians and faculty staff are unfamiliar with many of the concepts and principles. This lays the foundations for capacity-building in patient safety education and Part B provides a comprehensive, ready-to-teach, topic-based patient safety programme that can be implemented either as a whole or on a per topic basis.

Why was the Curriculum Guide developed?

Since the Harvard study [1] in 1991 first described the extent of harm to patients, other countries have found similar results, notwithstanding the differences in their cultures and health systems. The realization that health care actually harms patients has increased scrutiny of patient care in the context of an increasingly complex health system. This complexity has been intensified by rapidly changing medical technology and service demands [2,3]. Doctors, nurses and allied health-care workers are expected to work while managing this complexity, provide evidence-based health-care services and keep patients safe. However, unless they are properly educated and trained in patient safety concepts and principles they will struggle to do this.

Patient safety education for health professionals in the higher education sector has not kept up with workforce requirements [3-7]. Reporting of specific curricula on medical error or patient safety courses in undergraduate medical education has only recently started to gain ground in the published literature [5,8]. The need for patient safety education of medical clinicians was confirmed by a study of a multi-institutional assessment of patient safety knowledge among 693 medical trainees [9]. This study found that

are unsure how to integrate patient safety learning into existing curriculum. [11-13] Second, educators need to be open to new areas of knowledge [3]. One of the difficulties in introducing new curricula is a reluctance to address knowledge that originates from outside medicine such as systems thinking and quality improvement methods [12]. It has also been suggested that the historical emphasis on treatment of disease rather than prevention of illness creates a culture that finds it difficult to give merit to a “non-event”, that is, an adverse event that is preventable [3]. A third factor relates to entrenched attitudes regarding the traditional teacher–student relationship—one that may be hierarchical and competitive [10] and where an “expert” disseminates information to the student [3,4].

In 2007, the Association for Medical Education in Europe [10] called for patient safety education to be integrated throughout the undergraduate course, including the first year, when awareness of the nature and the extent of threats to patient safety can be raised and generic skills can be developed. This Curriculum Guide seeks to fill the gap in patient safety education by providing a comprehensive curriculum designed to build foundation knowledge and skills for medical students that will better prepare them for clinical

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