

Patient Safety

Making health care safer



World Health
Organization

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Patient safety – a global concern

Patient safety is a fundamental principle of health care. A number of high-income countries have published studies showing that significant numbers of patients are harmed during health care, either resulting in permanent injury, increased length of stay in health care facilities, or even death. According to a new study, medical errors are the third leading cause of death in the United States. In the United Kingdom, recent estimations show that on average, one incident of patient harm is reported every 35 seconds. Similarly, in low- and middle-income countries, a combination of numerous unfavourable factors such as understaffing, inadequate structures and overcrowding, lack of health care commodities and shortage of basic equipment, and poor hygiene and sanitation, contribute to unsafe patient care. A weak safety and quality culture, flawed processes of care, and disinterested leadership teams further weaken the ability of health care systems and organizations to ensure provision of safe health care.

Ensuring the safety of patients is a high visibility issue for those delivering health care - not just in any single country, but

worldwide. The safety of health care is now a major global concern. Services that are unsafe and of low quality lead to diminished health outcomes and even to harm. The experience of countries that are heavily engaged in national efforts clearly demonstrates that, although health systems differ from country to country, many threats to patient safety have similar causes and often similar solutions. Treating and caring for people in a safe environment and protecting them from health care-related avoidable harm should be a national and international priority, calling for concerted international efforts.

Delivering safer care in complex, pressurized and fast-moving environments is one of the greatest challenges facing health care today. In such environments, things can often go wrong. The most important challenge in the field of patient safety must be how to prevent harm, particularly 'avoidable harm', to patients during treatment and care. All preventable errors can, and should be, avoided. But in order to provide high quality health services, the safety of each and every patient deserves to be given the highest priority.



The burden and impact of unsafe care



Every year, an inadmissible number of patients suffer injuries or die because of unsafe and poor quality health care. Most of these injuries are avoidable. The burden of unsafe care broadly highlights the magnitude and scale of the problem.

- It is commonly reported that around 1 in 10 hospitalized patients experience harm, with at least 50% preventability.
- In a study on frequency and preventability of adverse events, across 26 low- and middle-income countries, the rate of adverse events was around 8%, of which 83% could have been prevented and 30% led to death.
- It is estimated that 421 million hospitalizations take place in the world annually, and approximately 42.7 million adverse events occur in patients during those hospitalizations.
- Approximately two-thirds of all adverse events happen in low- and middle-income countries.

It is estimated that the cost of harm associated with the loss of life or permanent disability, which results in lost capacity and productivity of the affected patients and families, amounts to trillions of US dollars every year. Furthermore, the psychological cost to the patient and their family, associated with the losing a loved one or coping with permanent disability, is significant though more difficult to measure. Studies on direct

medical costs associated with poor care 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 per year. Loss of trust in the system and loss of reputation and credibility in health services are additional forms of collateral damage caused by unsafe health care.

The evidence currently available shows that 15% of hospital expenditure in Europe can be attributed to treating safety accidents. It is estimated that the aggregate cost of harm, in terms of lost capacity and productivity of the affected patients and families, comes to trillions of US dollars every year. The cost of preventing these errors is insignificant in comparison. In the United States alone, focused safety improvements led to an estimated US\$ 28 billion in savings in Medicare hospitals alone, between 2010-15.

Medical errors occur right across the spectrum, and can be attributed to both system and human factors. The most common adverse safety incidents are related to surgical procedures (27%), medication errors (18.3%) and health care-associated infections (12.2%). Yet, in many places, fear around the reporting of errors is manifested within health care cultures, impeding progress and learning for improvement and error prevention.



The World Health Organization's work on patient safety

The global need for quality of care and patient safety was first discussed during the World Health Assembly in 2002, and resolution WHA55.18 on 'Quality of care: patient safety' at the Fifty-fifth World Health Assembly urged Member States to "pay the closest possible attention to the problem of patient safety". Since then, there have been several international initiatives, which have brought the importance of the matter to the attention of policy-makers in many countries.

However, there have been limited systemic improvements in the safety of health care globally, and in some situations efforts made have been unsustainable and uncoordinated. In many countries, health services, where they are available, are of poor quality, thus endangering the safety of patients, compromising health outcomes, and this leads to lack of trust of the population in health

services. Clear policies, organizational leadership capacity, data to drive safety improvements, skilled health care professionals and effective involvement of patients in their care, are all needed to ensure sustainable and significant improvements in the safety of health care.

The World Health Organization's (WHO) strategic objectives in the area of patient safety are to provide global leadership for patient safety and to harness knowledge, expertise and innovation to improve patient safety in health care settings. WHO's unique convening role at the global level provides a vehicle for improving patient safety and managing risk in health care through international collaboration, engagement and coordinated action between Member States, institutions, technical experts, patients, civil society, industry, as well as development partners and other stakeholders.



Our vision

A world where every patient receives safe health care, without risks and harm, every time, everywhere.

Our mission

To facilitate sustainable improvements in patient safety and managing risks to prevent patient harm.

Our approach

WHO's work on patient safety began with the launch of the World Alliance for Patient Safety, in 2004, and has evolved over time. The WHO Patient Safety and Risk Management unit has been created to coordinate, disseminate and accelerate improvements in patient safety and managing risks in health care to prevent patient harm worldwide.

Our approach to driving improvements



Expected outcomes

- **Improved patient safety**
- **Reduced risks and harm**
- **Better health outcomes**
- **Enhanced patient experience**
- **Lower costs**

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Since 2002, improving patient safety has been mandated by successive global and regional resolutions. WHO has been instrumental in shaping the patient safety agenda worldwide by providing leadership, setting priorities, convening experts, fostering collaboration and creating networks, issuing guidance, facilitating change and building capacity, and monitoring trends. Placing the patient at the centre of improvement strategies for safer health care, WHO's work on

patient safety is driving improvements through the following key strategic areas:

- Providing global leadership and fostering collaboration
- Developing guidelines and tools, and building capacity
- Engaging patients and families for safer health care
- Monitoring improvements in patient safety.



Medication Without Harm WHO's third Global Patient Safety Challenge

One of the concrete ways in which WHO facilitates improvements on the ground is through a 'Global Patient Safety Challenge'. The Challenge identifies a patient safety burden that poses a major and significant risk to patient health and safety, and then develops front-line interventions to tackle the issue. WHO provides leadership and guidance, in collaboration with Member States, stakeholders and experts, to develop and implement interventions and tools to reduce risk, improve safety and facilitate beneficial change. The two previous challenges, *Clean Care is Safer Care* and *Safe Surgery Saves Lives*, sparked action to reduce health care infection and risks associated with surgery, respectively.

Globally, the cost associated with medication errors is US\$ 42 billion each year, almost 1% of global expenditure on health.

WHO has initiated its third Global Patient Safety Challenge: *Medication Without Harm*, to address a number of issues related to medication safety.

This Challenge aims to reduce medication-related harm caused by unsafe medication practices and errors. The Challenge focuses on improving medication safety by strengthening the systems for reducing medication errors and avoidable medication-related harm, with the goal to

Reduce the level of severe, avoidable harm related to medications by 50% over 5 years, globally.

The Challenge was launched in March 2017 during the Second Global Ministerial Summit on Patient Safety in Bonn, Germany, in the presence of global health leaders and policy-makers. This event secured political support with commitments from health ministers to act as catalysts for change.

Countries are requested to prioritize taking action on medication safety, designate leaders to drive action and devise their own tailored programmes centred on local priorities. WHO will lead the process of change by providing support to countries for developing national programmes, instigating large-scale international research, providing guidance and developing practical tools for front-line health workers and for patients.

In driving forward the third Global Patient Safety Challenge, WHO will provide support with action in 10 key areas:

1. to lead action to progress the key components of the Challenge;
2. to facilitate country programmes;
3. to commission expert reports for planning and guiding actions to be taken;
4. to develop strategies, guidelines, plans and tools on safe medication practices;
5. to publish a strategy setting out research priorities and mobilize resources for international research on hospital admissions resulting from medication-related adverse events;
6. to hold regional launches to secure political commitment, as a follow-up from the global launch;
7. to create communication and advocacy strategies, alongside a global campaign with promotional and educational materials for in-country use;
8. to ensure patients and families are closely involved in all aspects of the Challenge, including in the development of patient tools;
9. to monitor and evaluate impact of the Challenge;
10. to mobilize resources to enable successful implementation of the Challenge.

WHO will also seek to develop a greater understanding of medication-related harm in low- and middle-income countries and adapt the Challenge to the varying needs of diverse settings.

A real story of harm from a medication error

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A couple took their two-week-old baby girl for a routine check-up. The paediatrician ordered two injections of vitamin K. The nurse gave the baby one injection and passed the second vial to the parents. On their way home, the baby cried continuously. When she suddenly stopped crying, her parents realized she was no longer breathing. They rushed her back to the clinic, where the staff immediately began to resuscitate. The baby girl died later that afternoon.

As the grieving parents tried to understand what had happened, they looked at the vial of medicine they had remaining. It said EPINEPHRINE. They realized their baby had not been given vitamin K as they had thought. Clinic staff told them that the vitamin K and epinephrine bottles were similar in size and colour and were easy to confuse. "Look-alike" packaging is an ever-present challenge in dispensing of medications.





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Global Ministerial Summits on Patient Safety

Since 2016, the Governments of the United Kingdom and of Germany have co-led an initiative, in collaboration with WHO, to organize annual global ministerial summits on patient safety for seeking political commitment and leadership to prioritize patient safety globally. As part of this, health ministers, high-level delegates, experts and representatives from international organizations meet once a year to progress the agenda at the political level, with different countries

invited to host the Summit each year. WHO is committed to sustaining and taking forward this global initiative and work with countries to develop systems for improving the safety of patients and managing the risks to prevent patient harm.

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"I have full confidence that this summit will further invigorate a movement that makes patient safety a burning issue that no one can ignore".

Dr Margaret Chan, WHO Director-General at the Second Global Ministerial Summit on Patient Safety in Bonn, March 2017





Global Patient Safety (GPS) Network

Multiple stakeholders are active in the field of patient safety and a wealth of experience, best practices and lessons learned are available. With the support of the Governments of Japan and Oman, WHO has created a network to connect actors and stakeholders from national and international patient safety and quality agencies and institutions; ministries of health; national/regional/zonal focal points from countries across all six WHO regions; WHO country, regional and global focal points for patient safety and quality of care; international professional bodies and other key stakeholders. The primary aims of the network are to:

- encourage leadership commitment;
- collect evidence from a variety of standpoints, to inform future policies and practice;
- strengthen knowledge transfer and technical capacity across borders;
- institutionalize patient safety for sustainability;
- encourage the sharing and application of best practices.

Global Knowledge Sharing Platform for Patient Safety (GKPS)

Health care systems are still missing a timely and systematic way for sharing the lessons learned on patient safety incidents, as well as an effective approach to disseminating and facilitating the implementation of good patient safety practices.

The web platform addresses these gaps by providing space to systematically share the lessons learned from the systemic analysis of incidents and the implementation of safety practices, with a structured and sustainable process for enhancing linkages among authorities who manage reporting and learning systems, clinicians, safety managers and patient advocates.

The platform connects key stakeholders involved in reporting and learning systems and the implementation of safety practices by sharing methods, tools and experiences of safety managers and local users, to speed up effective dissemination of patient safety and quality improvement strategies. WHO is developing GKPS together with the Centre for Clinical Risk Management and Patient Safety in Florence, the WHO Collaborating Centre for Human Factors and Communication for the Delivery of Safe and Quality Care.



Developing guidelines and tools, and building capacity

Patient safety education and training Multi-professional Patient Safety Curriculum Guide

WHO has published the *Multi-professional Patient Safety Curriculum Guide* to assist in patient safety education in universities, schools and professional institutions in the fields of dentistry, medicine, midwifery, nursing and pharmacy. Its implementation, adaptation, incorporation and related educational tools have been widely accepted as a core strategy to improve safety at the sharp end. Locally adapting the Guide can help encourage its uptake, and there are a variety of tools available to support its adaptation and implementation in countries.



WHO is currently in the process of developing an international patient safety e-academy based on the *Multi-professional Patient Safety Curriculum Guide* for building the capacity of health care professionals in patient safety.

Educational Councils Network

Educational councils act as a key mechanism for incorporating patient safety into the curricula for the education and training of health care professionals, including doctors, nurses, pharmacists and dentists through on-going training programmes. A WHO network of educational councils from around the world is now being created, which will foster information sharing and facilitate the implementation of patient safety curricula in educational institutions globally for improving patient safety.



Competencies for leadership, teamwork and communication for patient safety

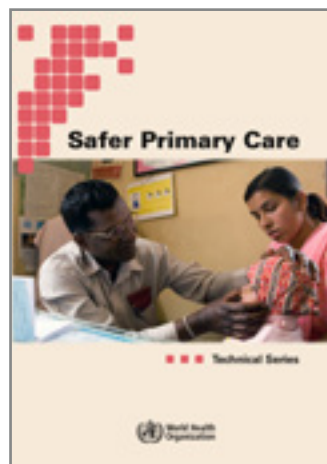
A competency framework, assessment tool and guide for leadership in patient safety are currently in development for building leadership capacity in patient safety at the organizational level. Recognizing the multidisciplinary nature of safe health care provision, a framework for competencies will also be developed for inter-professional teamwork and communication for patient safety.

Safer primary care

Primary health care strives to keep communities healthy. It has been heralded by some experts as the principal vehicle for achieving sustainable, universal health coverage and for ensuring no one is left behind. However to date, most patient safety research has focused on the hospital setting, and not on primary care where the majority of health care is actually delivered. Recognizing the scarcity of accessible information on safer

primary care, WHO recently developed a technical series on safer primary care to provide a compendium of information on key issues that can affect safety in primary care, to contribute to building national capacity in designing and delivering safer primary care services.

The *WHO Technical Series on Safer Primary Care* is a series of nine monographs related to patients, the health workforce, care processes, and tools and technology, which explore the magnitude and nature of harm and provide some possible solutions and practical steps for improving safety in primary care. The topics covered in the series are:



- Patient engagement
- Education and training
- Human factors
- Administrative errors
- Diagnostic errors
- Medication errors
- Multimorbidity
- Transitions of care
- Electronic tools.

Case study: Thailand

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Building a safety competent workforce in Thailand

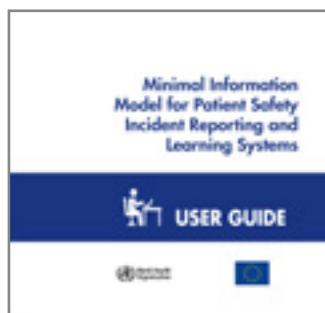
The Healthcare Accreditation Institute of Thailand successfully incorporated safety and quality topics into the Thai medical curriculum in 133 institutions, using a locally adapted version of the *WHO Multi-professional Patient Safety Curriculum Guide*. A collaborative approach was used, engaging key patient safety leaders, education institutions and training 120 trainers for a successful scale-up. Some key learning opportunities from this experience included:

- start with an interest group to lead advocacy and implementation;
- set up a central organization to coordinate and provide support; and
- devise a long-term evaluation plan for assessing improvements in professional competency.

Patient safety incident reporting and learning systems

Minimum Information Model

The *Minimal Information Model for Patient Safety* is a simple tool to facilitate the collection, analysis, comparison, sharing, and global learning derived from adverse events, and can be used by countries or institutions looking to set up or improve their current reporting and learning system. It was developed through the analysis of real adverse event data provided by multiple institutions and countries. The User Guide for the *Minimal Information Model for Patient Safety* has been developed to provide guidance for incorporating the information model while establishing patient safety incident reporting and learning systems.



Patient Safety Incident Reporting and Learning Guidelines

At the heart of most patient safety programmes in health care systems is a process for gathering and analysing data on errors and incidents that happen during the delivery of care. The *WHO Guidelines on Patient Safety Incident Reporting and Learning Systems* are scheduled to be released towards the end of 2017. This guidance will include key lessons learned from experiences within and outside health care, guidance on enhancing the reporting of incidents, including adverse events, near misses and errors in health care, capturing and aggregating data, assessing progress, engaging patients in reporting and learning, and translating data into meaningful action for better quality and safer care.



The WHO Safe Childbirth Checklist

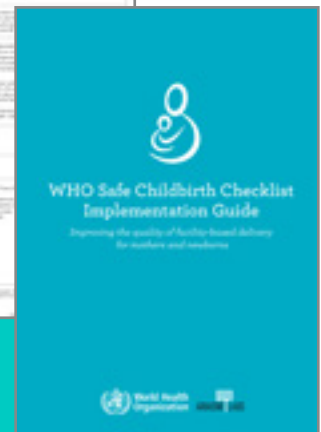
Estimates from 2015 suggest that, every year, 303 000 women die during pregnancy and childbirth worldwide, while 2.7 million babies die during the first 28 days of life and 2.6 million babies are stillborn. In addressing the major causes of maternal and neonatal death, the *WHO Safe Childbirth Checklist* synthesizes existing WHO evidence-based recommendations for safe childbirth into a simple and practical tool that helps health care workers adhere to the essential care standards needed during every child's birth.

The *WHO Safe Childbirth Checklist* is designed to improve the delivery of safe and essential practices around the time of birth, and the *WHO Safe Childbirth Checklist Implementation Guide* is to support health facilities which are planning to use and implement the Checklist.

Case study: Sudan

Piloting the WHO Safe Childbirth Checklist

The Sudanese Ministry of Health conducted a study in one of its largest hospitals to explore attitudes towards and compliance with the WHO Safe Childbirth Checklist. The Checklist improved the spirit of teamwork and communication, and revealed broader weaknesses in the system for complying with essential safety practices, such as the importance of hand hygiene. Support from nursing matrons was by far the most enabling factor revealing the central role of an actively engaged leadership in implementing new safety initiatives.





The WHO Surgical Safety Checklist

Globally, one in 25 patients has a surgical operation every year. Complications resulting from an operation occur for a quarter of all these patients. At least half of the cases in which surgery leads to harm are considered preventable. In 2008, the Second Global Patient Safety Challenge: Safe Surgery Saves Lives was launched. Extensive consultation with experts resulted in the development of the *WHO Surgical Safety Checklist*. The 19-item, three-phase checklist aims to decrease the potential for errors and adverse events, in part by increasing teamwork and communication in surgery. The Checklist's implementation has resulted in significant reductions in morbidity and mortality (around 36% on average) and has been implemented both at institutional and national levels. The Checklist is now used by a majority of surgical service providers around the world.

Surgical Safety Checklist		World Health Organization	Patient Safety
Before induction of anesthesia Both team and environment Has the patient confirmed by the identity, sex, age, date of birth, and weight? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate monitors and capabilities set up and working? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate lines in the patient and the patient's history reviewed? <input type="checkbox"/> Yes <input type="checkbox"/> No Have the patient's history and current status been reviewed? <input type="checkbox"/> Yes <input type="checkbox"/> No Are all critical test results reviewed? <input type="checkbox"/> Yes <input type="checkbox"/> No Are all critical test results reviewed? <input type="checkbox"/> Yes <input type="checkbox"/> No	Before skin incision Both team, anesthesia and oxygen Is the patient's skin and hair prepared? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate antibiotics given? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate antibiotics given? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate antibiotics given? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate antibiotics given? <input type="checkbox"/> Yes <input type="checkbox"/> No Are the appropriate antibiotics given? <input type="checkbox"/> Yes <input type="checkbox"/> No	Before patient leaves operating room Both team, anesthesia and oxygen Have verbally confirmed: - The patient's identity - The location of the procedure - The type of anesthesia, drugs and fluids - The patient's vital signs - The patient's condition - The patient's condition - The patient's condition - The patient's condition - The patient's condition - The patient's condition	



Engaging patients and families for safer health care

Patients for Patient Safety

WHO's Patients for Patient Safety (PFPS) programme relates to engaging patients and families in improving the safety of health care and enhancing and building their capacity to become informed and knowledgeable partners in their own care.

As part of this programme, a network of PFPS advocates was created a number of years ago for patients and families who have experienced harm as a result of unsafe health care. The motivation for joining the network is often to give meaning to their personal tragedy and honour their loved ones' lives by sharing their experience and expertise, but also to raise public awareness and stimulate change in the system. PFPS advocates call for greater patient engagement and empowerment in direct care, as well as at the organizational and policy level. They take this advocacy role on an individual way, reflecting their own personal experience of harm.

PFPS national workshops have been able to bring together PFPS advocates, health care professionals, local leaders, health care organizations and policy-makers to share knowledge about the national health system and explore mechanisms to improve patient engagement for safety. Through the workshops and ongoing technical support, PFPS aims:

- to advocate to the health care providers and policy-makers so they can more meaningfully engage with patients, families and communities;
- to foster collaboration between patients, families, communities, health care providers and policy-makers with the aim of co-producing improvement strategies, tools and initiatives;
- to raise awareness of the need for a more active role of patients and families in managing their own care;
- to engage partners and organizations to promote local leadership and ownership.

Case study: Uganda

Engaging patients and the wider community – the Community Health and Information Network initiative

In many low- and middle-income settings, the “doctor knows best” complex remains unchallenged, and a high proportion of patients are passive recipients of health care. The aim of Community Health and Information Network (CHAIN) Uganda's work is to improve safety by empowering patients to become active participants and partners in their care. Numerous community and patient engagement methods have been deployed. Community dance, sport and drama events, SMS text messaging services, as well as media campaigns, have been effective engagement techniques in low-resource settings. The engagement technique considered most effective was the open discussions held between community members and health professionals. These informal discussions about what patient safety is, and what patients can do to help, contribute to increased awareness, health literacy and knowledge, and empower patients to reduce the risk of harm.

Moving forward, engagement has been realized as a core strategy for advancing universal health coverage, safe and quality health care, service coordination and people-centredness. WHO is developing a comprehensive guide to engaging patients and families as part of the efforts to build country capacity in developing safe health systems which embed the concepts of patient and family engagement and people-centredness. This guide will provide practical suggestions on how to meaningfully engage patients and families, in direct care and

organizational and policy levels for improved access, integration, safety and quality of health service delivery. It contains tips for patients, health care professionals, policy-makers and other key stakeholders, to advance patient and family engagement along the whole continuum of care, from health promotion to palliation. To complement the guide, several educational, informational and communication tools are being developed for use by patients and families.

WHO is working with the Canadian Patient Safety Institute, the WHO Collaborating Centre for Patient Safety and Patient Engagement, to strengthen patient and family engagement for safer health care.



Monitoring improvements in patient safety

Measurement of patient safety

It is important to measure and monitor patient safety improvements over time. This may include having clear definitions of patient safety incidents, defining global, national and subnational indicators and measurement methodologies, setting up national or local incident reporting systems where data is compiled regularly or using tools to assess patient experiences and measure improvements. Good quality data is fundamental to this. WHO is, therefore, developing patient safety measurement tools and country guidance on measurement for responding

to growing country needs to monitor patient safety improvements.

In order to develop efficient patient safety metrics, WHO is collaborating with the Organization for Economic Cooperation and Development, the World Bank Group, Health Data Collaborative and other international partners to align this work with other global monitoring and evaluation initiatives. The main objectives of WHO's work on patient safety measurement are to develop sound methodologies, to work with countries to assess and build good information infrastructure, and to closely monitor the global patient safety situation as it improves.





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