

Editorial:

Patient Safety

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Patient safety is a fundamental principle of health care. Every point in the process of care-giving contains a certain degree of inherent problem concerning safety.

Adverse events may result from problems in practice, products, procedures or systems. Ensuring patient safety demand a complex system-wide effort, involving a wide range of actions in performance improvement, environmental safety and risk management, including infection control, safe use of medicines, equipments, safe clinical practice and safe environment of care. Every year, tens of millions of patients worldwide suffer disabling injuries or death due to unsafe medical care. Nearly one in ten patients is harmed while receiving health care in well-funded and technologically advanced hospital settings.

We know much less, however, about the burden of unsafe care in non-hospital settings, where the majority of health care is delivered globally. Even more importantly, we have very little evidence about the burden of unsafe care in developing countries where there may be greater patient risk due to limitations in infrastructure, technology and resources. The economic burden of unsafe care is also compelling. Studies show that additional medical expenses due to unsafe care resulting in prolonged hospitalization, loss of income, disability and litigation cost some countries many billions of dollars a year.

Unsafe injections alone are estimated to cost the world US\$ 535 million in direct medical costs. When the World Alliance for Patient Safety was established in 2004, one of the identified priority

areas was research, since it is seen as an essential building block for achieving safer health care. To succeed with this goal, we need greater knowledge about what is required and better use of available knowledge. Research for patient safety is still in its infancy and although global priorities have now been determined and competencies for researchers identified, more work needs to be done. How research is translated into country health policies and individual health practices will be the key to future improvements in patient safety globally.

Fostering specific research to improve patient safety requires significant energy to strengthen research capacity. WHO Patient Safety's goal is to encourage qualitative and quantitative research initiatives as well as the collaborative use of research evidence to reduce patient harm worldwide and make health care safer. Following are the areas of concern regarding patient safety.

Maternal and newborn care:

This is a priority area for WHO since more than two million babies and mothers die worldwide each year from childbirth complications. The majority of these deaths occur in developing countries and many could be avoided. Research is needed to understand what the main avoidable causes underlying this problem are and to identify effective, affordable and acceptable solutions to improve health care and prevent harm during labour and the post-labour period. Research to identify and overcome the barriers for implementation of recommended practices is essential.

Health care-associated infections:

Infection caused during health care is estimated to affect some 1.4 million people at any given time. In developed countries, the toll is 5-10% of patients admitted to hospitals, while in some developing countries, as many as a quarter of all patients may be affected by a health care-associated infection. With the sharp rise in antimicrobial resistance worldwide, it is crucial that research also focuses on reducing resistance to drugs and the spread of multidrug resistant pathogens. Research into the epidemiology of risk factors for health care-associated infections in hospitals and into the feasibility and effectiveness of infection control practices is necessary.

Coordination and communication:

Communication, transfer of knowledge and handing-overs between service providers remain central to optimizing patient safety. An analysis in 2005 identified communication problems as the single biggest cause of nearly 70% of sentinel events in the hospital setting. Research is essential to advance the development and implementation of effective communication strategies that are critical to eliminating errors that occur as a result of human factors.

Unsafe injection practices:

Up to 40% of injections are given worldwide with syringes and needles reused without sterilization. In some countries this proportion is as high as 70%. Unsafe injection practices cause an estimated 1.3 million deaths each year worldwide, a loss of 26 million years of life and an annual burden of US\$ 535 million in direct medical costs. Future research should focus on understanding the epidemiology and burden of disease transmitted through unsafe injection practices and developing strategies to improve practices that are acceptable and affordable.

Unsafe blood products:

An estimated 5-15% of HIV infections in developing countries are caused by unsafe blood transfusions. A WHO study showed that 60 countries were not able to screen all donated blood for blood-borne infections, including HIV. Research is urgently needed on the broader aspects of blood safety, including the effectiveness of blood safety strategies and behavioral risk factors among blood donors, particularly in developing countries.

Adverse drug events:

Research estimates show that about 10% of patients in acute care settings experience an adverse drug event of which a large fraction are preventable. Hospital admissions due to adverse drug reactions may represent more than 10% of total admissions in some countries. It is critical to identify effective strategies for detecting and preventing medication errors in both inpatient and outpatient settings. More research is also needed in this area, focusing on developing countries, where it is suspected that rates of adverse drug events are even higher than in developed countries.

Inadequate knowledge, skills and competencies:

One of the major structural challenges for health systems is the inadequate numbers and skills distribution of qualified health providers and the incomplete knowledge about safe practices. Developing and transitional countries have estimated the deficit of doctors, nurses and midwives to ensure the safety of their health-care systems to be in the millions. Even the best trained and well educated staff can be affected negatively by stress and fatigue, increasing the frequency of adverse patient outcomes. Research is needed to identify the most cost-effective mechanisms to ensure that health-care professionals retain the competency required to provide safe care.