



WORLD ALLIANCE FOR PATIENT SAFETY

2006-2007
P R O G R E S S R E P O R T



World Health
Organization

World Alliance for Patient Safety

PROGRESS REPORT 2006-2007



Patient safety cannot be improved without a range of valid reporting, analytical and investigative tools that identify the sources and causes of risk in a way that can then lead to preventive action. There is also a need for an international standardization of terminology in definition, common methods of measurement and evaluation, and the compatible reporting of adverse events. The Alliance is working with an extensive group of international agencies and experts to address these challenges.

Dr Timothy Evans
Assistant Director-General
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Introduction

The World Alliance for Patient Safety is now entering its fourth year of operation. It has been a remarkable three years as international interest and concern about unsafe health care has grown rapidly.

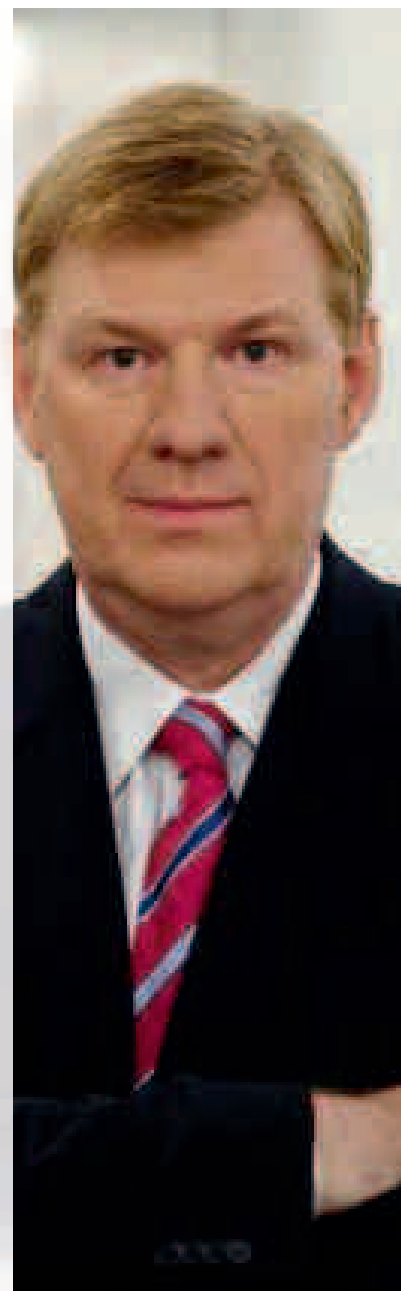
The Alliance's inaugural programmes each started with clear objectives, outstanding leaders and well-defined workplans. As each programme has developed, implementation has been further strengthened and all the initial goals have been met or exceeded. In particular, the first Global Patient Safety Challenge, '*Clean Care is Safer Care*', has achieved remarkable results.

Countries covering over 78% of the world's population have pledged to formally commit at ministerial level to reduce the risk of health care-associated infection in their health systems.

The World Alliance brings together the best of the World Health Organization's style of working and ability to get things done, exert influence, build coalitions of the willing and engage the world's experts. The Alliance has been fortunate to draw on these strengths. As a result, the engagement and commitment of Member States has been unprecedented, hundreds of experts have given freely of their time, leading professional bodies and non-governmental organizations around the world have joined the movement. Individuals from all over the world are now involved in our day-to-day activities.

Patients, family members and health care consumers have been vital contributors to the Alliance's work since its outset. We remain proud that we try at all times to put them at the centre of our work. We also encourage all health systems and every health organization around the world to do so.

Active engagement of consumers is not easy. It is not simply something where a box can be ticked. It is about changing values and attitudes as well as behaviour. Yet, the potential rewards are rich. Health services with patients and their families involved in advising, planning, designing and delivering care will be much safer than if they are simply passive bystanders or ritual consultees.





This 2006-2007 Progress Report and the Forward Programme for 2008-2009 provide a full stock-take of the Alliance's work and an account of the new directions that work will take as the global portfolio of action and ideas on patient safety expands.

The Progress Report sets out another significant challenge that has been with us from the beginning: how can we show that we are being successful? Engagement, commitment and activity are vitally important and, as the report demonstrates, these are firmly established. We need, though, to go further and show that we are making a real difference to the people who experience health care around the world.

We will not rest until we can demonstrate that we are saving lives and reducing harm in measurable ways. That is why we are very pleased to have gained the agreement of Johns Hopkins University for the establishment of an evaluation unit to be led by Professor Peter Pronovost, and his Quality and Safety Group, who will work alongside all of our programme leads to ensure that "evaluation" is a core component of everything we do. This will enable our success to be judged in concrete and visible terms.

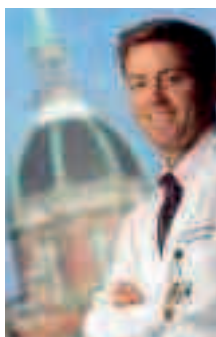
We start this report with an essay by Professor Peter Pronovost about the project he led in Michigan, which had at its heart the question, "how do we know we are safer?"

Making care safer, doing less harm and consigning to the history books some of today's risks of health care remain the Alliance's reason for being. We look forward to continue working with everyone on the inspiring agenda set out for our next Forward Programme.

*Sir Liam Donaldson
Chair
World Alliance for Patient Safety*



Matching Michigan



*Professor Peter Pronovost,
Director, Quality
and Safety Research
Group, Johns Hopkins
University, Baltimore,
USA*

Eliminating central line-associated bloodstream infections

In 1988, a year when 350 000 people worldwide contracted polio, the World Health Organization (WHO) committed to eradicating the disease. Success was remarkable. By 2004, there were only 1170 cases of polio worldwide, 760 of which were in a single country.

The maturing field of patient safety has lacked such a success story. The Keystone Intensive Care Unit (ICU) project has sought to change that. Professor Peter Pronovost and his staff from the Johns Hopkins Quality and Safety Research Group, and the Michigan Health and Hospital Association (MHA) Keystone Center, joined forces with the bold goal of eliminating, or nearly eliminating, central-line-associated bloodstream infections (CLABSI) in the state of Michigan. This intervention had been successfully piloted at Johns Hopkins Hospital, but had never been applied on a broader scale. The Keystone ICU project, funded by the United States Agency for Health Care Research and Quality, set a new standard for rates of these infections and for rigorously conducted quality-improvement efforts.

While other topics may also be appropriate for global focus, central-line-associated bloodstream infections are common, costly and often lethal. In the United States, Wenzel has estimated that CLABSI afflict an estimated 48 600 ICU patients every year, that 50% of these patients will die, with perhaps as many as 17 000 of those deaths being directly attributed to the infection. Historically, these infections and subsequent deaths were often seen as inevitable and unpredictable.

B o x 1

CHANGE MODEL

	SENIOR LEADERS	TEAM LEADERS	STAFF LEADERS
ENGAGE	How does this make the world a better place?		
EDUCATE	What do we need to know?		
EXECUTE	<ul style="list-style-type: none"> • What do we need to do? • What are the barriers to doing it? • How can we do it with our resources and culture? 		
EVALUATE	How do we know we improved safety?		



The research team led by Peter Pronovost sought to provide senior hospital leaders and ICU caregivers with a framework to answer the difficult question: "How do we know we are safer?" (see Box 1). The research team presented this framework in the form of a "change model" that would lay out the key steps to moving from envisioning a project purpose "how does *this project make the world a better place*" to assessing the project's impact "how do we know we have *improved safety*?"

To evaluate harm, the rates of CLABSI were monitored. All Michigan hospitals with an adult ICU were invited to participate in the project, which was launched in October 2003 and is still ongoing. In addition to multifaceted interventions to reduce CLABSI, ICUs implemented the comprehensive unit-based safety programme (CUSP). In this programme, team leaders measure their culture of safety; educate staff on the science of safety; identify hazards through error-reporting and asking staff how the next patient could be harmed; have a senior executive partner with the team to provide resources and remove barriers; mitigate one hazard per quarter (using a simplified root-cause analysis tool); and implement one teamwork improvement tool such as *daily goals*, *morning briefings* or *interdisciplinary shadowing* each quarter. CUSP provides a structured approach that empowers and equips busy caregivers to improve safety culture, mitigate hazards, and improve communication and teamwork. Like the CLABSI intervention, the use of CUSP was also initially piloted in ICUs at Johns Hopkins Hospital, where it was associated with significant improvement in the safety culture. It is now used widely throughout the hospital with similar results.

Improving patient safety requires commitment. Each Keystone ICU designated at least one physician and nurse as team leaders who learned about the science of safety, informed their colleagues of the interventions, and routinely reported progress back to staff. ICU teams were supported by MHA and the Johns Hopkins faculty with bimonthly conference calls and two state-wide meetings each year. Local teams were provided with materials giving evidence to support the interventions, suggestions for implementing them, instructions regarding which data to collect, how to collect them, and when and how to report results back to staff. Although data collection



was standardized, the way each ICU ensured that all patients reliably received the recommended interventions was not. Given their resources and culture, team leaders at each hospital would redesign care to ensure that all patients reliably received the recommended interventions. Team leaders were also encouraged to enlist the assistance of their senior leaders and local hospital infection control practitioner(s) to obtain bloodstream infection data and help with implementing the intervention.

To reduce CLABSI, efforts were made to increase the use by caregivers of evidence-based interventions recommended by the US Centers for Disease Prevention and Control (CDC) that had been identified by the project research team as having the highest impact in reducing pathogen transmission and the lowest barriers to implementation. Five interventions were selected and converted into explicit behaviour: wash your hands, use full barrier precautions, clean the skin with chlorhexadine, avoid the femoral site if possible, and remove unnecessary catheters.

The strategy to increase use of these evidence-based interventions was based on the project's change model that involves senior leaders, team leaders and patient-care leaders during four phases: engage, educate, execute and evaluate. To engage clinicians, they were asked to tell stories of patients who had become infected and to present baseline rates of infection to staff. To educate team leaders and infection-control experts, ICU clinicians were taught about the evidence supporting the five recommended interventions. To execute, teams were asked to consider three principles for the reliable design of health care: standardize care, create independent checks, and learn from mistakes. Teams were asked to store all the equipment needed to comply with the evidence-based recommendations in one place such as a cart (standardization). Nurses assisting physicians during central-line placement used a checklist to ensure that patients received recommended practices (an independent check). Teams investigated each infection to identify areas for improvement (learning from mistakes). Finally, to evaluate, teams submitted monthly data to MHA and shared CLABSI rates with their staff. A safety scorecard (Box. 2) was used in order to track performance at the unit level and compare it to peer performance at the hospital, national and international level. These comparisons are key, as they benchmark progress within a complex project such as this for unit and hospital leaders.

Measurement

Throughout the study, data on the number of CLABSI and catheter (central line) days were collected monthly by a trained hospital infection control practitioner

Box 2

SAMPLE SAFETY SCORECARD

	World	Country	Hospital	Unit
How often do we harm? (CLABSI rates)				
How often do we provide evidence-based care?				
How do we know we learned from our mistakes?				
Are we improving/maintaining a safe culture?				



using the CDC definitions. The quarterly CLABSI rate was calculated as the number of infections per 1000 catheter days for each three-month period. Each quarterly rate was assigned to one of eight categories based on when the intervention was implemented: the pre-implementation baseline, the intervention implementation period, or one of six three-month intervals occurring up to 18 months post-implementation.

Results

The impact of this intervention on the safety culture and CLABSI was amazing. The percentage of ICUs in which a consensus of caregivers (60% or more) reported a good safety climate increased from 16% in 2004 to 59% in 2006. For example, the percentage of ICUs that agreed strongly with the safety climate item “I am encouraged by my colleagues to report any patient safety concerns I may have” increased from 25% in 2004 to 53% in 2006.

The analysis included 103 ICUs that used standardized CDC definitions for CLABSI. The overall median (mean) infection rate decreased from 2.7 (mean: 7.7) per 1000 catheter days at pre-intervention baseline to 0 (mean: 2.3) at 0–3 months post-intervention ($P \leq 0.002$), and was sustained at 0 (mean: 1.4) over 18 months of post-intervention follow-up. The final analysis showed a 66% reduction in the rate of CLABSI (Fig. 1).

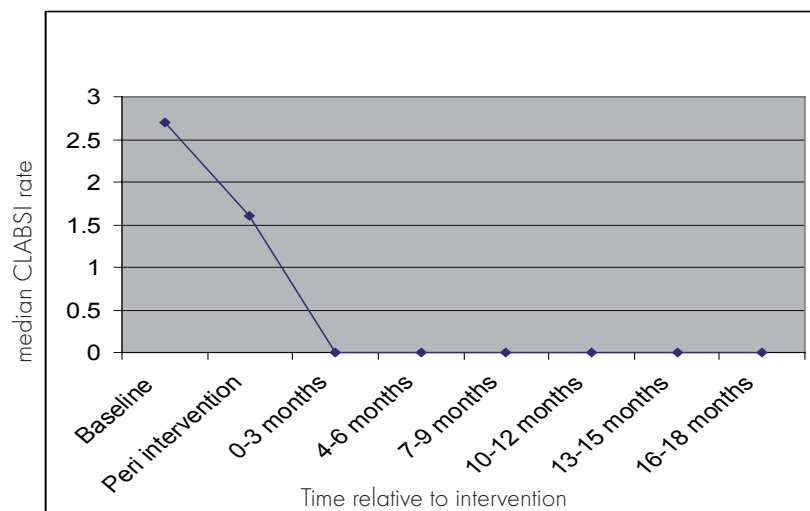


Figure 1: CLABSI improvement

Note: The multilevel Poisson regression model demonstrated a 66% reduction in the incidence rate ratio of CLABSI.

The MHA Keystone ICU project demonstrated that in hospitals committed to improving patient safety, substantial and large-scale improvements in ICU patient outcomes are possible, with relatively simple and inexpensive interventions. Hospitals should thus strive to eliminate, not just reduce, central-line-associated bloodstream infections.

The obvious question after this study is whether the results can be replicated. Can CLABSI become a special patient safety campaign? Some hospitals in New Jersey and all ICUs in the state of Rhode Island have implemented this intervention with similar results. Others have implemented similar interventions with equally impressive improvements.

Next steps

Thanks to this experience, much has been learned: the world is small, situations are more alike than different, and significant advances in patient safety cannot be made alone. Together, however, much can be done to improve quality. To implement projects such as these requires the technical skill to summarize evidence for reducing these infections, measure them, and manage the data to evaluate progress. It is probably inefficient for individual hospitals to do this technical work. Rather, countries or groups of countries may wish to consider participating in a collaborative project similar to Keystone ICU, in which they partner with technical experts and clinicians to eliminate CLABSI. In doing so, they will not only benefit patients, but also build capacity to address the myriads of potential safety problems that require attention.

The implementation of this project exemplifies many of the core tenets of the World Alliance for Patient Safety, namely, producing a culture of safety, promoting education, proactively identifying risk, encouraging teamwork, basing practice on evidence and above all realizing the benefits of knowledge-sharing and collaboration. Such simple strategies have the potential to truly become international and the World Health Organization's World Alliance for Patient Safety plays a vital part in achieving this goal. Due to this, the Alliance and its partners have selected this programme as one area of focus for its 2008-09 work programme. Moreover, expanding this programme has already begun in 2007.

PHOTOS OF KEYSTONE TEAMS





Initial work has been developed with the Ministry of Health of Spain, involving the Spanish Sociedad Española de Medicina Intensiva, Crítica y Unidades Coronarias, Grupo de Trabajo de Enfermedades Infecciosas (SEMICIUC) and leading the country-wide implementation of a strategy based on the Michigan project. This initiative can provide valuable lessons to WHO and serve as inputs to the definition of the Alliance's "Matching Michigan" strategy which will be developed in 2008-09. With the aim to assessing feasibility, the SEMICIUC has piloted a preliminary strategy in nine hospitals beginning in 2007 and is releasing the results of the pilot in 2008.

Success will require commitment, collaboration and constancy of purpose. Ministers of health alone cannot accomplish this goal, clinicians alone cannot overcome barriers, and administrators alone cannot remedy this ill. Rather they should all work together, with technical coordination at country level to help support implementation of improvement initiatives at the hospital level. Spain has initiated efforts to eliminate catheter-related bloodstream infections and many other countries are considering it. It would be good if, five years from now, *Central Line-Associated Bloodstream Infections* could be patient safety's polio campaign, and the suffering from such infections nearly eliminated. Beyond the significance of eliminating an infection that is common, costly and often lethal, global capacity to efficiently and effectively translate evidence into practice would have become a reality.





"Keystone" testimonials

"The Keystone ICU project has fostered multidisciplinary collaboration, effective communication, the establishment of common outcome objectives and a clear vision for clinical quality and safety based on the best available scientific evidence."

Director, Critical Care and Emergency Services

"I would say that from a small, community hospital standpoint Keystone has been phenomenal. There is no way that we would have had the resources to rise to the level that this project has taken us this quickly. Keystone has also cemented teamwork and alliances between the hospitals that already had previous associations. We have begun working from a systems approach with regards to the Keystone processes. The "groupthink" that occurs because of Keystone is the intrinsic piece that makes it work."

Department Manager

"I think Keystone has been welcomed with open arms by the state of Michigan as a whole. The large numbers of hospitals that have signed up shows the state's commitment to quality and outcome. The fact that all the adult ICUs in our health system are actively following the Keystone project is testimony to our goal of no avoidable deaths by 2008."

Intensivist

"We have been involved in the Keystone ICU project since March 2003. Initially we were intimidated by the time commitment and the amount of work that would be associated with this project. We began one step at a time. The success energized us, and we continue to be amazed at the positive effect we have on our ICU patient outcomes. We are proud to be members of the Keystone ICU project."

Patient Care Services Director

"I have spent 22 years in critical care here in a university health system and have never been so professionally stimulated and excited to participate in change... no small feat."

Patient Safety Coordinator, Academic Medical Center



"Within the first year of the project we demonstrated a decrease in patient length of stay (LOS) as well as ventilator days. So far we have decreased our cost per patient day by 33% from last year."

Manager, Critical Care Unit

"This is the most worthwhile and rewarding project I have been involved with in my 23-year nursing career."

Director, ICU

"Participating in the Keystone project is a huge opportunity for a small community hospital. Safety and quality need to be top priority no matter what size hospital patients choose for their care. We are so fortunate to work side by side with some of the best and biggest hospitals in our nation – learning from each other – not competing with one another when it comes to delivering the best in safe care for our patients."

Nurse Manager

"The most valuable components of the Keystone project include the collaboration with others, in-house and throughout the state; the support from the MHA and Johns Hopkins; and the structure provided to keep the project moving consistently in a positive direction. When we meet resistance or issues, because it is the Keystone project, they get resolved more quickly and the changes are supported. I have been doing quality improvement projects for a long time and this is by far the best."

Assistant Project Manager

"The Keystone ICU project has been an outstanding success in our Critical Care Medicine Unit and is a source of well-earned pride among our staff. It has been instrumental in creating a climate of positive change."

Medical Director



FIRST CHALLENGE

Clean Care is Safer Care

The First Global Patient Safety Challenge

The first Global Patient Safety Challenge was launched in October 2005. Its aim is to galvanize global commitment and action to reduce health care-associated infections (HAI) worldwide. Through the work of the Challenge, today, countries representing over 78% of the world's population have pledged to address these problems within their health systems. This Challenge has contributed to mobilizing countries, organizations and individuals to launch intensified action to make health care safer, and more particularly to achieve cleaner and safer care. By promoting hand hygiene in health care as an integrated infection control element, the Challenge has enabled the development of comprehensive hand hygiene guidelines and their translation into practice through a multimodal implementation strategy and toolkit. Hand hygiene is the main entrance to better infection control and safer patient care.

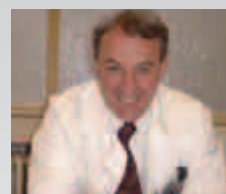
The first Challenge has reached beyond hand hygiene, since attention has also been focused on the promotion of clean care practices in their broadest sense, relating to already established WHO programmes concerned with injection and immunization safety (clean equipment), emergency and surgical procedure safety (clean procedures), blood transfusion safety (clean products), and safe water and sanitation (clean environment).

The Challenge has sought to promote global commitment to and action on reducing health care-associated infections, by encouraging clean and safe care in the following ways:

- country commitment;
- awareness-raising;
- technical guideline-related work.



Programme Leader:
Professor Didier Pittet, Director of
Infection Prevention and Control,
Geneva University Hospitals,
Geneva, Switzerland



"Hand hygiene is a central pillar of infection control. The first Global Patient

Safety Challenge has seen hand hygiene improvement act as a gateway to health-care facilities turning their attention to broader infection control and patient safety improvement. There has been a deep impact in many countries. As the number of countries committed to 'Clean Care is Safer Care' increases, so too does our commitment to continue to work with regions, countries and individual facilities in ensuring that improvement and action are sustained and patient harm reduced."

Didier Pittet



PROGRESS DURING 2006–2007

Country commitment

At country level, WHO regional patient safety focal points have encouraged ministries of health to make formal commitments to tackle HAI. So far, 81 countries/territories have signed a statement of commitment/pledge outlining their intention to take action to address the problem of HAI within their country (Fig 2).



Figure 2: Countries planning to commit in 2008

Ministers of health have committed to a number of actions (Box 3). In most of the 81 signatory countries, the ministers have used a template of a "pledge statement"; however, the template has sometimes been adapted to reflect the local context. In Thailand, additional commitments were included relating to medicines safety, and in China, the pledge included a detailed statement with broad commitments.

Box 3

TEMPLATE OF MINISTERIAL STATEMENT TO ADDRESS HEALTH CARE-ASSOCIATED INFECTION

I resolve to work to reduce health care-associated infection through actions such as:

- Acknowledging the importance of health care-associated infection;
- Developing or enhancing ongoing campaigns at national or sub-national level to promote and improve hand hygiene among health-care providers;
- Making reliable information available on health care-associated infection at community and district levels to foster appropriate actions;
- Sharing experiences and, where appropriate, available surveillance data, with the WHO World Alliance for Patient Safety;
- Considering the use of WHO strategies and guidelines to tackle health care-associated infection, in particular in the areas of hand hygiene, blood safety, injection and immunization safety, clinical procedures safety, and water, sanitation and waste management safety;

I resolve to work with health professionals and associations in this country:

- To promote the highest standards of practice and behaviour to reduce the risks of health care-associated infection;
- To foster and sustain collaboration with research institutions, training schools, educational centres, universities and health-care settings of other WHO Member States to ensure full utilization of knowledge and experience in the field of health care-associated infection;
- To encourage senior management support and role-modelling from key staff to promote the implementation of interventions to reduce health care-associated infection.

In the past three years, 18 countries/territories have developed or enhanced national or sub-national campaigns to promote hand hygiene among health-care providers (see Fig. 3). In most cases, this initiative was taken because of or influenced by the ministerial commitment to the first Global Patient Safety Challenge.



Figure 3: Countries with hand hygiene campaigns

In August 2007, the first meeting of representatives from campaigning nations convened in Geneva. The meeting was concerned with enhancing and strengthening existing campaigns, ensuring solidarity between Member States and considering how such a partnership could contribute both to sustainability and spread, with special emphasis on how campaigning could work within a developing country context.

Global awareness

A core group of experts in hand hygiene and infection control has guided and supported our work all along. The core group is comprised of academic experts representing geographical diversity, with each member of the group ensuring the dissemination of the key messages of the Challenge within their networks. The Alliance and the International Federation of Infection Control (IFIC) have joined forces and invited all 66 IFIC specialist professional organizations to demonstrate commitment to the Challenge and to take action in their respective countries. Response to this is currently being evaluated.



The programme also liaises closely with and takes advice from the International Council of Nurses. Successful awareness-raising depends on a network of supportive and interested parties, both internal and external to WHO, and hinges on using a common voice with constant reinforcement and promotion of the central messages relating to 'Clean Care is Safer Care'.

Dissemination among academic professionals and front-line staff has taken place through the publication of the core scientific evidence underpinning hand hygiene promotion in peer-reviewed journals: 25 papers have been published since the launch of the Challenge, 10 of these in 2007.

Regional partnerships for clean, safe care

- By working with a network of regional patient safety focal points, the messages of the first Challenge have been promoted through three regional workshops in WHO's African Region, the Region of the Americas/Pan American Health Organization and the South-East Asia Region. Regional workshops have contributed both to awareness-raising and system-strengthening and have included a strong component of training and dissemination of the tools and strategies associated with the Challenge.
- In WHO's African Region, focal points on patient safety have been identified in more than half of the Member States, and national/hospital steering committees for patient safety are being established in these countries. Their role is crucial in the dissemination of knowledge about patient safety, which is an area that is still poorly explored and promoted in this region. A background paper entitled *Patient safety in the African health-care services: issues and solutions*, to be presented at the Regional Committee in September 2008, has been prepared and will serve to catalyze political commitment from Member States to develop a resolution on patient safety issues.
- Within WHO's Region of the Americas, a network of country focal points has driven the flow of knowledge which has resulted in concrete commitments to act in Argentina and Brazil where networks of health-care facilities are preparing to implement 'Clean Care is Safer Care'.
- In the South-East Asia Region of WHO, a regional workshop was linked with previous workshops on patient safety and HAI prevention and this has resulted in a commitment to strengthen regional action on HAI prevention.



- In WHO's European Region, dissemination of the key messages of the Challenge has mostly taken place thanks to activities in the framework of national hand hygiene campaigns and through collaboration with relevant partners. A formal collaboration plan has been established with the European Centre for Disease Prevention and Control in order to obtain synergies at country level. In addition, agreement was reached between the European Society for Clinical Microbiology and Infectious Disease (ESCMID) in order to share responsibilities and tasks in the preparation of the ESCMID/SHEA training course in hospital epidemiology in 2008.
- In the Eastern Mediterranean Region of WHO, links with partners have resulted in two pilot sites, one in Pakistan and the other in Saudi Arabia, with numerous complementary sites being closely linked with the two primary pilot sites.
- In WHO's Western Pacific Region, work is under way following the recent appointment of a dedicated focal point for patient safety.

Involving Patients

- A survey of patient perspectives on the importance of hand hygiene in health care is currently being carried out. The survey will help understand how patients can become more involved in making hand hygiene a priority. Responses have so far been received from over 40 countries across all WHO regions. The survey and interview work is being done in collaboration with an external lead from the University of Pennsylvania and the Alliance's Patients for Patient Safety programme.
- The Patients for Patient Safety programme has provided invaluable leadership to the Patient Involvement Task Force and has ensured that the patient perspective is central to all new activities.

Developing expertise

The multimodal implementation strategy (Box 4) and toolkit of WHO's *Guidelines on Hand Hygiene in Health Care* is being field-tested in the six WHO regions:

- to provide local data on the resources required to carry out the recommendations;
- to generate information on the feasibility, validity, reliability and cost-effectiveness of the interventions;
- to adapt and refine proposed implementation strategies.



Box 4

WHO'S MULTIMODAL HAND HYGIENE IMPROVEMENT STRATEGY — FIVE INTEGRATED COMPONENTS TO STOP THE SPREAD OF INFECTION

1. System change:
 - antiseptic hand-rubs placed at the point of patient care in all health-care facilities;
 - access to water, soap and non-reusable towels.
2. Training and education of staff aimed at improving knowledge and understanding of optimal hand hygiene practices.
3. Observing and evaluating staff perception and practices and giving feedback on performance.
4. Using reminders in the workplace.
5. Supporting hand hygiene and clean care through a culture of cleanliness and patient safety.



Field-testing focuses on the implementation of a five-step process incorporating pre- and post-implementation evaluation. Pilot work is already occurring in Bangladesh, Costa Rica, Hong Kong SAR, Italy, Mali, Pakistan, the Russian Federation and the Kingdom of Saudi Arabia (Fig. 4).

Field testing the implementation



Figure 4: Field testing in the pilot and complementary test sites

WHO formulation for alcohol-based handrub

In many developing countries, access to alcohol-based handrubs, the cornerstone of the strategy to make hand hygiene feasible, is limited or non-existent through commercial channels. To overcome this difficulty, a simple formula and instruction booklet to enable low-cost indigenous manufacture of the product has been developed in the context of the first Challenge. Pilot sites in Bangladesh, Costa Rica, Hong Kong SAR and Mali have produced handrub according to the formulation developed by WHO. In Hong Kong SAR, the high volumes produced have resulted in a relatively low-cost product (50 US cents for a 100 ml bottle). Outside the pilot context, Kenya and Mongolia have contributed feedback on the successful production of the WHO formulation and other sites are involved in similar exercises.



Tool availability

Tools for local implementation are available in relation to each component of the multimodal strategy. While the majority of tools are freely available on the web site (<http://www.who.int/gpsc/tools/en/>), a number of tools related to evaluation and monitoring are restricted to participating test sites only. Box 5 summarizes the integrated components of the multimodal strategy.

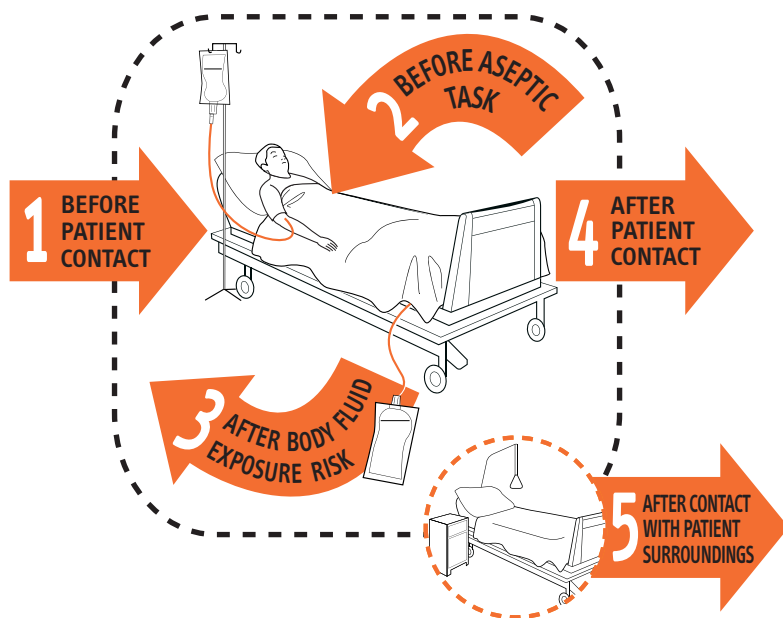


Box 5: Integrated components of the multimodal strategy



The newly developed *Five moments for hand hygiene* is a novel concept incorporating social marketing, human factors and the science behind hand hygiene compliance. It is being used to convey messages to health-care staff on the indications and opportunities for hand hygiene. It proposes a unified vision for trainers, observers and health-care workers to facilitate education, minimize variations between individuals and lead to a global increase in adherence to correct hand hygiene practices. It is accompanied by a manual for observers and a training DVD (Box 6).

Your 5 moments for HAND HYGIENE



Box 6: Increasing reliability with hand hygiene compliance - the observation tools

The entire strategy and use of the tools are being promoted through the web site and presentations at international infection control and infectious disease conferences, as well as other patient safety meetings. During 2007, members of the first Global Patient Safety Challenge team and core group participated in over 30 such events.



Involving others

Any health-care facility may participate in the testing phase of WHO's strategy and access the tools by registering to become a complementary test site (CTS). This provides another "window" for future measurement of the strategy's impact and learning about the validity and user-friendliness of the tools. Support offered by the Alliance to complementary test sites is limited. The required material is being made available, together with the steps for implementation and evaluation through the *Guide to implementation* (Box. 5). A specific web-based community forum has also been established where questions related to the implementation and evaluation can be raised.

CONCLUSION

The first Global Patient Safety Challenge promotes the worldwide adoption of simple strategies to ensure the world of health care gets better at hand hygiene, better at infection control and ultimately better at keeping patients safe. Alcohol-based handrubs are at the heart of this approach and the potential to harness the power of the marketplace to ensure all countries of the world have access to these essential products is now an achievable goal. The central messages of the First Global Challenge, 'Clean Care is Safer Care', are spreading across the whole world, and momentum is being generated at all relevant levels with action at the bedside occurring in more and more countries. This Challenge is beginning to transform the world of infection control with its simple strategies for improvement.

WEB SITES:

- » The first Global Patient Safety Challenge – *Clean Care is Safer Care*:
www.who.int/patientsafetyetc
- » WHO *Guidelines on Hand Hygiene in Health Care* (Advanced Draft):
http://www.who.int/patientsafety/information_centre/ghhad_download/en/index.html
- » Implementation tools:
<http://www.who.int/gpsc/tools/en/>
- » How to register as a complementary test site:
www.who.int/patientsafetyetcetc





H I G H L I G H T S

Awareness-raising	Country commitments	Technical guideline-related work
<ul style="list-style-type: none"> • A Year of Cleaner and Safer Care, November 2006. • Two regional workshops (SEARO and PAHO). • Keynote/plenary lectures at over 30 international conferences. • Ten academic publications in peer-reviewed journals in 2007. • Bimonthly news bulletin. • Partnership work with IFIC. • Translation into the official UN languages of all implementation tools. 	<ul style="list-style-type: none"> • 81 countries committed by the end of 2007. • 78 % of the world population now signed up to cleaner and safer care. • AFRO: Kenya, Mali, Rwanda, Uganda • AMRO/PAHO: Argentina, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, El Salvador, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, United States of America, Uruguay and 14 Caribbean States • SEARO: Bhutan, Bangladesh, India, Indonesia and Thailand • EURO: Belarus, Belgium, Bulgaria, Denmark, Finland, Germany, Georgia, Iceland, Ireland, Italy, Kazakhstan, Kyrgyzstan, Luxembourg, Malta, Republic of Moldova, Netherlands, Norway, Russian Federation, Slovenia, Spain, Tajikistan, Switzerland and United Kingdom. • EMRO: Bahrain, Islamic Republic of Iran, Jordan, Kingdom of Saudi Arabia, Kuwait, Sultanate of Oman, Pakistan, Sudan, Qatar, United Arab Emirates • WPRO: Australia, China, Malaysia, Mongolia, Philippines and Singapore. • First meeting of campaigning nations held in Geneva, 21 representatives from 20 countries. 	<ul style="list-style-type: none"> • Development of a guide to implementation and a series of over 40 implementation tools. • Patient involvement survey resulting in 238 responses from 19 Member States. • AFRO: the Point G Hospital, Bamako, Mali, concluded the baseline evaluation phase, step 2, shared results with WHO and is preparing for a large-scale hand hygiene promotion campaign during its implementation phase. • AMRO/PAHO: the National Children's Hospital (Costa Rica) is in the implementation phase, step 3. • SEARO: Chittagong Medical College Hospital, Bangladesh, is undertaking pre-intervention baseline-data collection (step 2). • EURO: Italy is participating in the testing phase with 143 hospitals currently in the implementation phase (step 3). Implementation across Italy is occurring within the context of a nationwide campaign. A network of more than 40 intensive care units, monitoring the impact of the strategy on HAI, has been selected as the official pilot site. • EMRO: this region has two main pilot sites, one in Pakistan and the other in Saudi Arabia. In Pakistan, the site is the Pakistan Institute of Medical Sciences (phase 1) which is planning for the campaign to start in early 2008. The sites in Saudi Arabia are the Riyadh Medical Complex and the King Abdul-Aziz Medical City, Riyadh (phase 1). Campaigns are to start in early 2008. • WPRO: the Queen Mary Hospital together with a number of associated hospitals in Hong Kong SAR is in the end-phase of implementation and about to enter phase 4 (follow-up/evaluation).

SECOND CHALLENGE

Safe Surgery Saves Lives

The Second Global Patient Safety Challenge

"Surgical teams worldwide, in every situation, shall use a common *Surgical Safety Checklist* to improve safety in surgical care". With this vision in mind, the **second Global Patient Safety Challenge** will be launched in June 2008. The focus of the Challenge will be the development of the WHO *Surgical Safety Checklist*.

The World Alliance for Patient Safety began work on the second Challenge in January 2007. The programme '**Safe Surgery Saves Lives**' aims to improve the safety of surgical care around the world. By focusing attention on this public health issue, WHO recognizes the importance of improving the safety of surgery as part of the overall patient safety agenda of all Member States.

The incidence of traumatic injuries and other surgical conditions is rising as a proportion of the total global burden of disease. Every year, an estimated 63 million people require surgical treatment for traumatic injuries, 31 million for malignancies, and 10 million for obstetric complications. Other estimates indicate that surgery occurs at least as frequently as childbirth, and with much higher rates of death and complications. Surgery is one of the most complex health services and may be among the costliest.

Problems with surgical safety are recognized in many developed countries and account for at least half of the avoidable adverse events that result in death or disability. There are, however, few internationally-agreed standards for the provision of these services.

In the developing world, the probability of adverse events is even higher owing to the poor state of infrastructure and equipment, the unreliable supply and questionable quality of drugs, shortcomings in waste management and infection control, poor



Programme Leader:
Dr Atul Gawande,
Associate Professor,
Harvard School of Public Health,
Boston, USA



"Surgical care has been an essential component of public health systems worldwide for a century. The quality and safety of that care has been dismayingly variable in every part of the world. The 'Safe Surgery Saves Lives' campaign aims to change that by raising the standards that people everywhere can expect."

Atul Gawande



performance of personnel resulting from low motivation or insufficient technical skills, and severe underfinancing of the essential operating costs of health services.

Surgical care and its safe delivery may affect the lives of millions of people worldwide. By defining a core set of minimum standards that may be applied universally across borders and in all situations, the 'Safe Surgery Saves Lives' programme hopes to create an environment of safety to improve both the access to and safety of surgical care.

PROGRESS DURING 2007

Experts and clinicians with experience in a broad range of health-care settings were assembled and the evidence for improving safety in surgery reviewed. A set of basic standards of practice for the delivery of surgical services has been developed. The goal is to improve surgical outcomes for patients, regardless of circumstance or environment. By improving processes already in place in many operating theatres, safety should be enhanced and quality increased without requiring substantial financial investments in health infrastructure. The recommendations that are made should be simple, widely applicable and measurable, regardless of the setting.

Close links were established with other programmes, particularly with WHO's Programme on Emergency and essential surgical care and its initiative on the integrated management of emergency and essential surgical care.



Thematic content and direction

During 2007, four working groups were established to evaluate the areas most susceptible to benefit from intervention for the purpose of improving the safety of surgical care.

The four thematic areas for evaluation and improvement are:

1. Prevention of surgical site infections;
2. Safe anaesthesia;
3. Safe surgical teams;
4. Measurement and quality assurance mechanisms.

The goals of the first three working groups were to identify a number of essential components of safe surgery for which standards may be translated into safety tasks and defended, based on published evidence. Support should come from data-driven studies or expert consensus. Each of these tasks is included as one element of the WHO *Surgical Safety Checklist*. Behind each task, a technical document will provide evidence-based or consensus-driven support for its inclusion.

The goal of the fourth working group was to identify the type of data that might be collected as a vital statistic for surgery. The purpose of creating such statistics is to establish a database that will enable the amount and safety of surgery to be assessed. Using maternal mortality as a model, where rates of death are used to evaluate the safety of childbirth and to mobilize political support for improvement, the group defined which surgical statistics would be needed. The implications and cost of collecting and analyzing such data should be considered prior to implementation. The group created a technical document describing the type of measurements, how they might be collected, and how they might be used. In addition, the group will help determine measures for assessing the uptake and effect of the *Surgical Safety Checklist* during a test phase.

Each of the technical documents arising from the second Challenge will become part of an evidence-based compendium, creating WHO's *Guidelines for Safer Surgery* that will represent the detailed scientific work on which the simplified Surgical Checklist will be based.

The product is a simple *Surgical Safety Checklist* that comprises a set of basic tasks that will either need to be completed or confirmed prior to commencing the operation, during the operation or after completion of the operation (Box 7).





Simple interventions such as delivering antibiotics prior to skin incision, confirming the appropriate procedure is performed on the appropriate patient, and improving communication between the surgeon, anaesthetist and nurse will all improve the safety of surgery. Examples of items on the *Surgical Safety Checklist* include:

Preoperative period

- Communication between the operative team and the patient confirming the procedure and the consent for treatment;
- confirmation of patient allergies;
- comprehensive examination of the anaesthetic machinery and medications;
- communication between the surgeon and anaesthesia provider.

Perioperative period

- Confirmation of imaging and laboratory results;
- confirmation of sterility of the instruments and equipment;
- appropriate and timely administration of antibiotics;
- communication of critical events that will occur during the procedure.

Immediate postoperative period


- Reconciliation of instrument and sponge counts;
- communication between the surgeon, nurse and anaesthesia provider regarding the intraoperative events and the postoperative care plan.

By using the specific steps outlined in the communication between all members of the surgical team including anaesthesia professionals, nurses, surgical providers, and the patient and family members will be improved. In addition to the safety checks which form part of the *Surgical Safety Checklist*, there will be space on the checklist for including one or more customized tasks. These may be surgical team-specific (based on input from the various team members), specialty-specific (such as safety steps specific to orthopaedic or cardiac procedures), or situation-specific (such as specific resource availability in a resource-poor hospital). Finally, each country or WHO region will be encouraged to modify the *Surgical Safety Checklist* by translating it into different languages and adapting it to their own cultures, situations and environments. Such flexibility and adaptability should allow its widespread use in diverse settings.

Box 7

THE SURGICAL SAFETY CHECKLIST

DRAFT***DRAFT***DRAFT***DRAFT***DRAFT***DRAFT***DRAFT***DRAFT***DRAFT***DRAFT



World Health
Organization

SURGICAL SAFETY CHECKLIST

(DRAFT)

SAFE SURGERY SAVES LIVES

GLOBAL PATIENT SAFETY CHALLENGE

SIGN IN - PRIOR TO INDUCTION OF ANAESTHESIA, VERIFY:

☐ PATIENT CONFIRMED IDENTITY, SITE, PROCEDURE AND CONSENT

☐ SITE MARKED/NOT APPLICABLE

☐ ANAESTHESIA SAFETY CHECK COMPLETED

☐ PULSE OXIMETER ON PATIENT AND FUNCTIONING

DOES PATIENT HAVE A:

KNOWN ALLERGY

☐ NO ☐ YES

DIFFICULT AIRWAY/ASPIRATION RISK

☐ NO ☐ YES, AND NEEDED EQUIPMENT AND ASSISTANCE AVAILABLE

RISK OF >500CC BLOOD LOSS (200MG IN CHILDREN)

☐ NO ☐ YES, AND ADEQUATE IV ACCESS AND FLUIDS PLANNED

TIME OUT - PRIOR TO SKIN INCISION:

☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE

☐ SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM PATIENT, SITE, PROCEDURE, POSITION

ANTICIPATED CRITICAL EVENTS

☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS, OPERATIVE DURATION, ANTICIPATED BLOOD LOSS?

☐ ANAESTHESIA TEAM REVIEWS: WHAT ARE CRITICAL RESUSCITATION PLANS, PATIENT-SPECIFIC CONCERNS, IF ANY?

☐ NURSING TEAM REVIEWS: WHAT ARE THE STERILITY INDICATOR RESULTS, EQUIPMENT ISSUES, OTHER PATIENT CONCERNS?

ANTIBIOTIC PROPHYLAXIS GIVEN IN LAST 60 MINUTES

☐ YES ☐ NOT APPLICABLE

ESSENTIAL IMAGING DISPLAYED

☐ YES ☐ NOT APPLICABLE

OTHER CHECKS: _____

SIGN OUT - PRIOR TO THE PATIENT LEAVING THE OPERATING THEATRE:

NURSE VERBALLY CONFIRMS WITH THE TEAM:

☐ WHAT PROCEDURE WAS PERFORMED?

☐ ARE THE INSTRUMENT, SPONGE AND NEEDLE COUNTS CORRECT?

☐ HOW IS THE SPECIMEN LABELLED (INCLUDING PATIENT NAME)?

☐ ARE THERE ANY EQUIPMENT MALFUNCTIONS OR ISSUES TO BE ADDRESSED?

SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW:

☐ WHAT ARE THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT?

SIGNATURE (ON BEHALF OF ENTIRE TEAM)

DATE

Progress Report 2006 - 200725



Testing the Surgical Safety Checklist

As of October 2007, technical evaluation of the *Surgical Safety Checklist* in eight test sites across all six WHO regions has been taking place. A testing process is required for this project to become a WHO-recommended and supported guideline. Accurate data measurement and collection tools will need to be created in a methodical fashion.

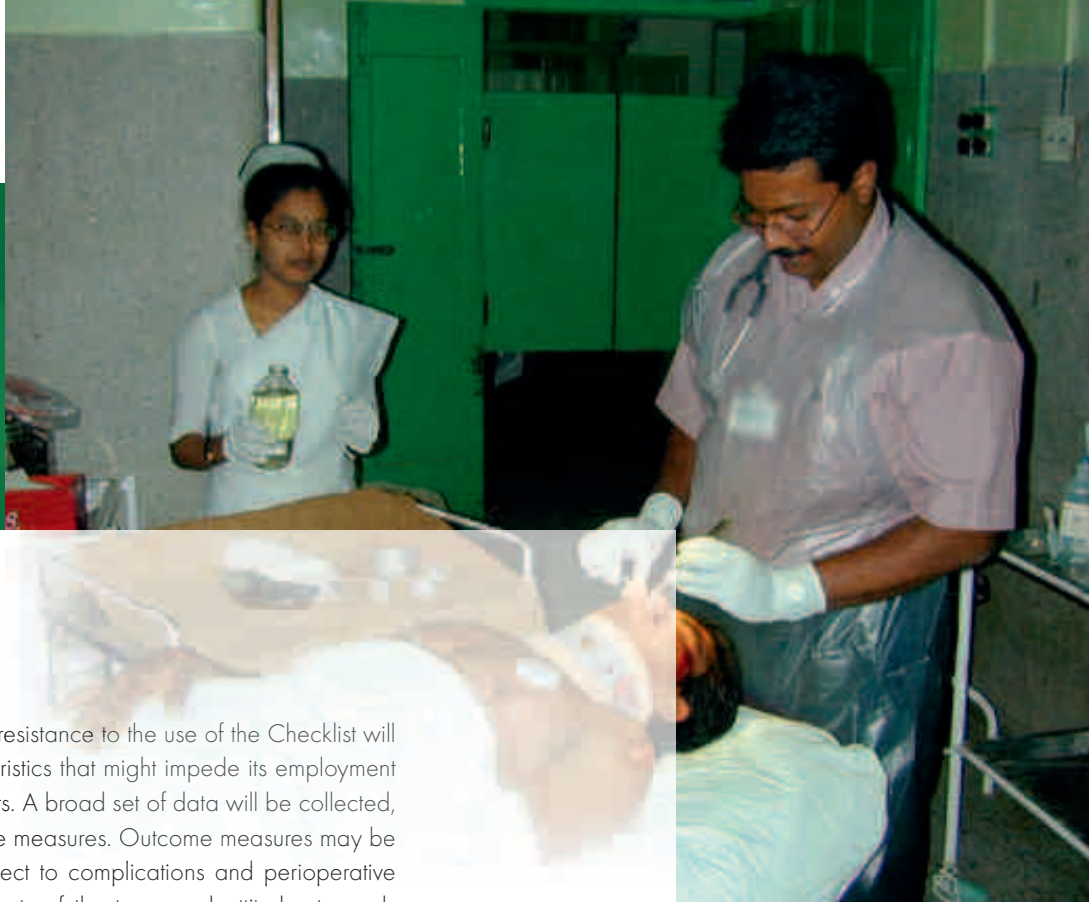
The initial purpose of the testing phase is to expose problems with implementation and acceptance of the Checklist in a selection of operating rooms in test sites in the six WHO regions. The proposed test sites have volunteered to participate (Fig. 7). All the sites are heavily involved in this work, usually through a member of the international working group.



Figure 7: Test sites for technical evaluation of the *Surgical Safety Checklist*

The *Surgical Safety Checklist* is available for implementation in operating rooms for all surgical cases during the test period as deemed clinically safe and appropriate by the operating teams. Multiple operating rooms may be used, representing a variety of clinical procedures.





During the test period, repercussions of or resistance to the use of the Checklist will be carefully examined to identify characteristics that might impede its employment or approval by providers and administrators. A broad set of data will be collected, including process and, if possible, outcome measures. Outcome measures may be related to surgical performance with respect to complications and perioperative deaths. Measurement of the cultural aspects of the team and attitudes towards safety and quality performance are being considered. Measurement techniques and strategies may also be refined during this period. Data gathered from tracking outcomes may not yield statistical results at the outset, but over time might provide compelling arguments for adoption of the *Surgical Safety Checklist* worldwide.

WEB SITES:

- » The second Global Patient Safety Challenge – Safe Surgery Saves Lives:
<http://www.who.int/patientsafety/challenge/safe.surgery/en/index.html>
- » Emergency and essential surgical care:
<http://www.who.int/surgery/en/index.html>



Patients at the core

Patients for Patient Safety

When the **Patients for Patient Safety Programme (PFPS)** was launched in 2005, recognizing the essential role and value of patient involvement in raising awareness of medical error and harm, it was hoped that a network of patient advocates for patient safety would be created and developed, to act as a real catalyst for change. The aim was to empower individual patients to work in partnership with their health care systems to galvanize change and ensure the patient perspective was at the core of all efforts to make health care safer. The perception of patients and families as an untapped resource and the patient experience as a learning tool, were considered crucial. Over the last two years, PFPS has evolved beyond everyone's expectations in breadth and depth, both within the work of the World Alliance for Patient Safety, as well as in the global health care community. Guided by the values of the London Declaration, 2005, PFPS unifies patients and other stakeholders in the importance of partnership and the value of patient engagement.

PROGRESS DURING 2006-2007

Outreach and advocacy

Patients for Patient Safety has conducted and participated in a series of regional and country-level workshops that have brought together more than 200 people from over 50 countries, including patients and family members who have experienced harm, health-care providers, hospital administrators, policy-makers and NGOs. In an environment of trust, collaboration and hope, participants have shared personal stories, worked in teams to identify priorities, challenges, partnerships and opportunities for patient engagement, and drafted regional and country-specific action plans.



*Programme Leader:
Susan Sheridan,
Co-Founder and President,
Consumers Advancing Patient
Safety, Chicago, USA*



"Patients for Patient Safety have learned over the last two years that unintended harm in health care is a powerful human phenomenon, for all involved, regardless of geographical location, economic status or cultural background. We have discovered more similarities than differences and we are passionate and determined to make a difference... together in partnership."

Susan Sheridan

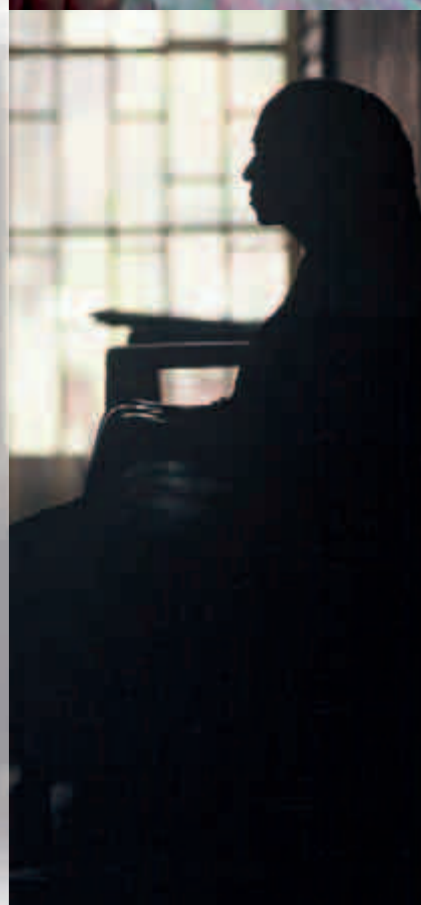


Patients for Patient Safety have developed a series of resources to support advocacy efforts. A toolkit has been developed, a DVD resource, *"Patient safety, patient voices"*, is now being disseminated worldwide, and the programme now produces a regular programme newsletter, *"Patients for patient safety news"*, which is distributed globally every two months.

Action and impact: Champion activities

The main activities have included:

- Country action plans in each of the 48 countries that have so far attended the regional Patients for Patient Safety workshops. These action plans have been developed by patients, family members, health professionals and policy-makers, and include: awareness-raising programmes; the establishment of patient safety committees involving patients; patient reporting of adverse events; and partnership with ministries of health, WHO, NGOs and other stakeholders to strengthen and build capacity and resources for patient safety.
- In-country PFPS events were organized to nominate national "patient champions" in Canada, Denmark and Ukraine.
- New organizations and volunteer groups dealing with patient safety and patient involvement have been set up in several countries including Egypt, Mexico, Peru, Poland and Zambia.
- National meetings have raised awareness of patient safety and the role that patients can play in Argentina, Canada, Denmark, Pakistan and Ukraine.
- Presentations have been given on the experiences of patients; these have been included in education programmes for medical schools, nursing organizations and the boards of provider organizations.
- Campaigns on hand hygiene have taken place, and courses held in hospitals and the community, including schools.
- Surveys have been carried out to enhance local knowledge and understanding of patient safety issues, infection control, hand hygiene and patient satisfaction, and to provide information on where to turn when things go wrong.



- A wide variety of local and national health committees were appointed, focusing on patient engagement and patient safety issues.
- New patient and community education programmes were introduced, as well as strategies within health-care organizations for patient engagement and disclosure.
- Help-line services, 24-hour support systems and web-based information sites were developed for patients affected by unintended harm in Poland, Ukraine and the United States of America.
- The media were involved in a number of activities including: sharing the vision of the London Declaration; working together in partnership through newspapers, radio discussions and interviews; publication of articles in journals, including the *Chinese Journal of Evidence-Based Medicine*, *The International Hospital Federation Journal*, *World Hospitals and Health Services* and *Patient Safety & Quality Healthcare*.

Activities within the Alliance

- *Clean Care is Safer Care* – participation in the patient-involvement task force, the patient survey, publications and presentations.
- Research – PFPS has developed a patient-oriented research agenda including the value of and the best approach to a patient reporting system, and the most effective way to communicate risk.
- Solutions – PFPS is represented on the international steering committee. Patients are involved in the field review of each solution and each solution has a patient engagement section.

Activities in WHO Regions

- PFPS is working with AMRO/PAHO to design and implement maternal/newborn patient safety programmes, including the prevention of newborn retinopathy, the safe management of newborn jaundice, and the prevention of maternal mortality caused by nosocomial infection.
- The SEARO–PFPS workshop drafted the Jakarta Declaration, calling for patients to be at the centre of all patient safety efforts. The Declaration was endorsed by WHO's Regional Committee for South-East Asia, and will play a crucial role in delivering patient safety improvements in each country within that region.
- EURO recently hosted a PFPS workshop and is collaborating with Ireland on an initiative called *When things go wrong* (see chapter on Special Projects), to explore what patients expect when harm occurs.
- The EMRO, PFPS workshop developed the patient engagement component of the EMRO Patient Safety Friendly Hospital Initiative.





Vision of the Patients for Patient Safety Champions

"My dream is to reach the point where health-care providers consider any patient as one of their own family and the hospital as the patient's home."

Dr Mahmoud El-Damaty, Hospital General Manager and Patients for Patient Safety champion, Egypt

"PFPS has just grown, with all the workshops and champions, and the work that they do is quite phenomenal. Knowing there is so much going on motivates me to continue and strive to do more."

Dr Ahmed Ashraf Ali, Patients for Patient Safety champion, Maldives

"Several years ago my life changed drastically because of a medical error in my family. The Patients for Patient Safety initiative has allowed me to build the necessary capacity to tackle patient safety issues in Ukraine."

Vasyl Kvarituk, Patients for Patient Safety champion, Ukraine

"The participants were courageous and passionate people determined to effect change in the health-care system. I felt honoured to be a part of this group."

Participant in the Patients for Patient Safety Workshop, Canada, October 2006

"The workshop united all efforts of patients from different regions of Ukraine. Now I can see that I am not alone in my desire to change the system. I am not alone in my grief also. There are some people that have passion to do something good in this area. The Kiev workshop gave me strength and a belief that we can do something."

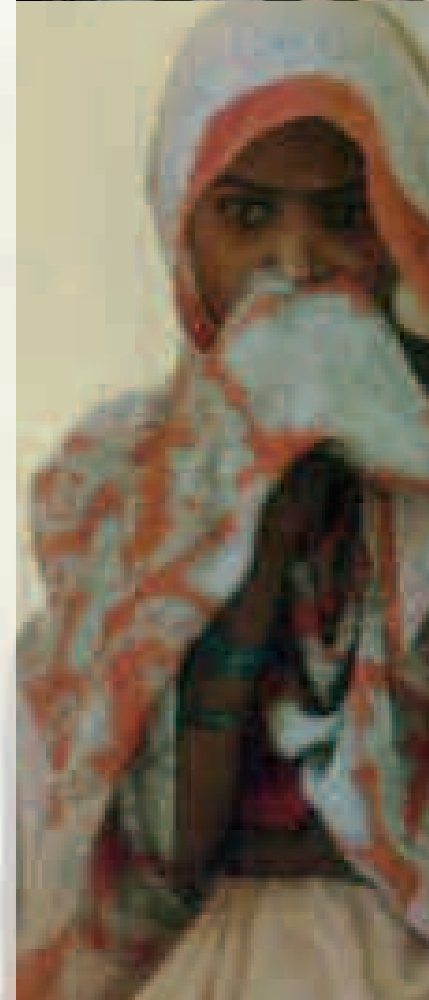
Fedir Petkanych, participant in the Patients for Patient Safety Workshop, Ukraine, June 2007

"The workshop created an agreement to work in partnership between patients and medical professionals, speaking frankly."

Participant in the South-East Asia Regional Workshop on Patients for Patient Safety, Indonesia, July 2007

"I realized I am on the right track trying to empower our patients to raise their voice and claim answers that they thought they were not entitled to."

Participant in the European Regional Patients for Patient Safety Workshop, Ireland, September 2007



WEB SITES:

» Patients for Patient Safety:
http://www.who.int/patientsafety/patients_for_patient/en/

Developing the evidence base

Research for Patient Safety

Research for Patient Safety is essential to understanding the extent and causes of patient harm and developing appropriate solutions. Unfortunately, to date, in most countries, systematic information is scarce on the extent of patient harm from health care. This is particularly so in developing and transitional countries. Even in the more developed ones, measurement efforts have been scant and have focused mainly on hospital care.

The World Alliance for Patient Safety, recognizing the importance of fostering research for patient safety worldwide and the development of national patient safety research agendas, established the research programme in order to facilitate the dissemination and use of research findings and inform safer health care in all WHO Member States. The programme focuses more particularly on:

- facilitating the expansion of research on the extent and nature of patient harm throughout health-care systems in developed and developing countries;
- contributing to the building of evidence necessary for the development of new solutions and for a more effective adoption of already-known solutions;
- facilitating the development of tools and methods of research, with special emphasis accorded to overcoming the difficulties related to data-poor environments;
- promoting international exchange and sharing between practitioners, researchers and specialists in patient safety across WHO regions;
- providing guidance in terms of priority-setting for research on patient safety;
- contributing to the sensitization of governments on the importance and relevance of patient safety;
- contributing to capacity-building for research on patient safety, with a special focus on developing and transitional countries.



*Programme Leader:
Professor David Bates,
Chief, Division of General Internal
Medicine, Brigham and Women's
Hospital, Boston, USA*



"It is becoming increasingly clear that patient safety is a major issue today in all nations, re-

gardless of level of development. Early findings of research from developing countries demonstrate that patient safety is at least as important a health concern as in developed countries. In the last year, we have developed priorities for research in patient safety, and while the specific issues vary by level of development, there are many similarities. Overall, it is especially clear that there is an urgent need for more research on the safety issues in developing and transitional countries, and on the impact of and resources needed for interventions to improve safety in these settings."

David Bates



PROGRESS DURING 2006-2007

Global research priorities by level of development

Research is needed in many areas but as resources are scarce, priorities need to be identified. An international multistakeholder working group of around 20 members was convened to identify topic areas and develop a set of global priorities for patient safety research. In defining research priorities, particular attention should be given to knowledge and implementation gaps, and local requirements should always be balanced with global needs.

A set of global research priorities has been established. Fifty topics relating to patient safety issues were identified and selected for prioritization. Research priorities have been drawn up separately for developing, transitional and developed countries. In addition to a set of global research priorities, a comprehensive report on current knowledge and gaps in patient safety research was produced. The report, prepared with the collaboration of over 20 leading global specialists, was the result of an extensive review of the literature that examined 23 patient safety issues. The report is currently in press and soon to be released. Two manuscripts articulating global priorities and the summary of the literature review are also being prepared for publication.

Methods and measurements

The accurate and timely identification of patient safety incidents is central to improving patient safety. However, measurement systems are often lacking or remain unsystematic. Thus, comparisons over time or between countries become difficult and progress cannot be assessed. Research on methods and measures should therefore be improved, with special emphasis on developing countries.



An international working group was convened to identify and discuss effective and appropriate methods and measurements for conducting patient safety research. As a result of this work, four complementary analyses on current methodologies for measuring the extent of harm in both acute and community care, as well as for assessing the effectiveness of interventions, have been undertaken. Further work aims to identify new methodologies to be used in environments where data are insufficient, with an emphasis on developing and transitional countries.

Strengthening capacity for research

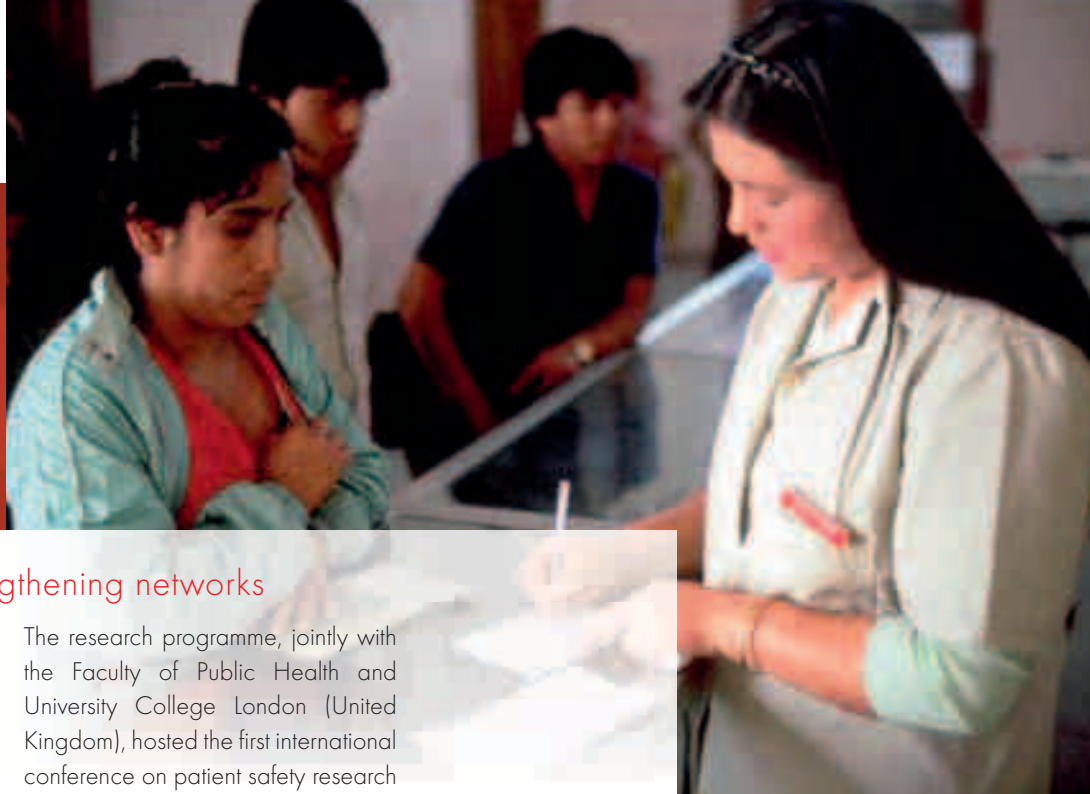
Research on patient safety requires the development of a suitable environment, with adequate policy and funding frameworks, supportive institutions and a highly skilled and multidisciplinary workforce. An expert consultation was convened in late 2006 to consider strategies and opportunities for increasing capacity for research on patient safety worldwide. As a result of this exercise, the research programme recommended new strategic directions to foster educational activities for research on patient safety, mobilize funding opportunities and facilitate networking and communication. These areas will be further developed in the Forward Programme for 2008–2009.

Supporting country research studies

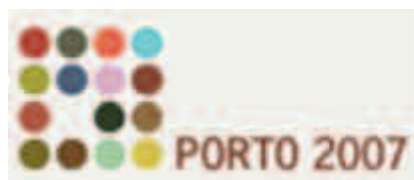
In some developed countries, the occurrence of adverse events has been estimated to be in the range of 10% of admitted patients. In the rest of the world, few epidemiological data exist. The World Alliance for Patient Safety has initiated projects to establish the nature and extent of patient harm attributable to health care in a number of developing and transitional countries. This initiative also aims to build local research capacity and policy initiatives in the participating countries.

The research programme has initiated two major regional projects. The first one, managed by EMRO in collaboration with AFRO, involves eight participating countries (Egypt, Jordan, Kenya, Morocco, South Africa, Sudan, Tunisia and Yemen). The project is providing valuable information to help understand the problem of patient safety in these regions. The second multinational study is taking place in collaboration with the Spanish Ministry of Health and Consumer Affairs, and is managed by AMRO/PAHO. The study involves five countries Argentina, Colombia, Costa Rica, Mexico and Peru and is designed to produce a point-prevalence estimate of the magnitude of patient harm in the participating hospitals. Results of these two projects will be released in 2008.





Raising awareness and strengthening networks



The research programme, jointly with the Faculty of Public Health and University College London (United Kingdom), hosted the first international conference on patient safety research in Porto, Portugal, from 24–26 September 2007. The conference

was an initiative of the European Commission's Directorate-General for Research, and was funded under the European VI research framework.

The conference was designed to promote a discussion between researchers, policy-makers and other constituencies and thus foster international collaboration. Almost 400 patient safety researchers and policy-makers from over 60 countries attended, including well-known researchers, junior researchers and high-level policy-makers from Europe and North America, as well as World Alliance for Patient Safety staff and stakeholders from transitional and developing countries. This landmark conference aimed to explore the current state of patient safety research and to develop a blueprint for future research in this important area.

The research programme also collaborates with the International Society for Quality in Health Care, a nongovernmental organization that has had close links with WHO since 2006. The joint collaboration has leveraged the dissemination of patient safety concepts and activities at their 2006 and 2007 conferences, as well as enabled the participation, free of conference registration charges, of almost 20 participants from 13 developing and transitional countries across all WHO regions.

An important focus of the Research programme is to bring the patients' voice into the research agenda. As such, a number of Patient Safety Champions are participating in key activities, to bring the patient perspective to the programme. An additional challenge being presently addressed is the development of tools and methodologies to enable lessons to be drawn from patients' stories.

WEB SITES:

- » Research for patient safety – Knowledge is the enemy of unsafe care:
<http://www.who.int/patientsafety/research/en/>



Understanding the words

The International Classification for Patient Safety (ICPS)

Global advances in patient safety have been hampered by the lack of a consistent and commonly accepted set of concepts, terms and definitions which describe the field of patient safety. Building a better system by which the global community can communicate and share knowledge about common risks, hazards and patient safety events requires an internationally accepted and acceptable approach to the classification of patient safety data. This is the basis for progress on patient safety in a number of key areas.

With this important goal in mind, in 2005, the World Alliance for Patient Safety assembled a drafting group of experts in the fields of patient safety, classification theory and development, health informatics, consumer advocacy, law and medicine to build a classification that could be used to compare patient safety information and data for application internationally. The Alliance has also worked closely with the Department of Measurement and Health Information Systems within WHO in taking forward this initiative and to promote strong links to broader WHO developments on classification.

Classifications provide underlying concepts and definitions and organize these concepts into a structure. Defining key concepts and classifying them using an internationally agreed conceptual framework is designed to allow information from disparate sources to be characterised, aggregated and analyzed to increase knowledge, promote learning and improve patient care.

While many patient safety classifications exist, no single classification was judged fit for global use without significant adaptations. As a result, the drafting group used the work of: the Joint Commission in the U.S.A (Patient Safety Event Taxonomy





endorsed by the National Quality Forum); the National Health Service National Patient Safety Agency in the United Kingdom (National Reporting and Learning System); the Australian Patient Safety Foundation (Advanced Incident Management System); the Eindhoven University of Technology and Leiden University Medical Centre in the Netherlands (Eindhoven/PRISMA–Medical Classification Model); classifications within WHO's Family of International Classifications, specifically the International Statistical Classification of Diseases and Related Health Problems (ICD); and the WHO's *drug dictionary*, as a basis to develop the **International Classification for Patient Safety (ICPS)**

The purpose of the ICPS is "to define, harmonize and group patient safety concepts into an internationally-agreed classification in a way that is conducive to learning and improving patient safety across systems". It is intended to:

- "translate" patient safety data and information into a common (standardized) set of classes, concepts and definitions;
- facilitate the systematic collection of information about patient safety incidents (adverse events and near misses) from a variety of sources;
- allow for statistical analysis, learning and information for priority setting for action.

PROGRESS DURING 2006-2007

As a first step in developing the ICPS, a conceptual framework has been developed. This conceptual framework is designed to:

- organize patient safety data and information into meaningful and useful categories;
- be culturally and linguistically sensitive; and
- strive for maximum comparability of patient safety information across disciplines, organizations and international time boundaries.



The conceptual framework, comprised of ten classes, is designed to group patient safety incidents into clinically meaningful, recognizable categories; capture pertinent descriptive information necessary for learning; allow for the prompt classification of new data and information; and enable easy retrieval of patient incident data. Concepts within each class are distinct and unambiguous. Forty-six key patient safety concepts were identified as preferred terms and were defined. The definitions for these concepts are consistent with the concepts contained in other classifications in WHO's Family of International Classifications. (Fig 6). It is intended that the model and the related concepts can be updated as knowledge in the field of patient safety grows.

In late 2006, the conceptual framework of the ICPS underwent a two-round, web-based, modified Delphi survey to test global relevance and acceptability through international consensus-building. Invitations were sent to over 300 health-care professionals, health-policy experts, developers/managers of patient reporting systems, public/private representatives, academics, representatives from professional associations, litigators, classification/taxonomy experts, risk managers and representatives from organizations responsible for monitoring patient safety.

An open invitation to participate was published in a commentary in the *International Journal for Quality in Health Care* and posted on the web sites of the World Alliance for Patient Safety, the Joint Commission, the National Patient Safety Agency and the Australian Patient Safety Foundation. The process yielded 253 responses to the round 1 survey, 75 responses to the round 2 survey (by invitation) and over 700 individual comments. The results were analyzed during the first half of 2007 using a multiphase, iterative review process by a subgroup of the drafting group, and appropriate modifications to the conceptual framework were made.

The results of the Delphi survey suggested that the conceptual framework of the ICPS was a logical representation of current knowledge in the domain of patient safety. Feedback also suggested that the ICPS would be valuable and useful for translating disparate information from a range of sources into a common format.

The results of the Delphi survey, along with a detailed description of the conceptual framework, have been posted on the World Alliance for Patient Safety website. Validity testing of the ICPS conceptual framework and the underlying 660 concepts will start in early 2008. This will include linguistic validation in French and Spanish. The methodology for field testing is consistent with the guidelines of WHO's Family of International Classification.



Conceptual Framework for the International Classification for Patient Safety

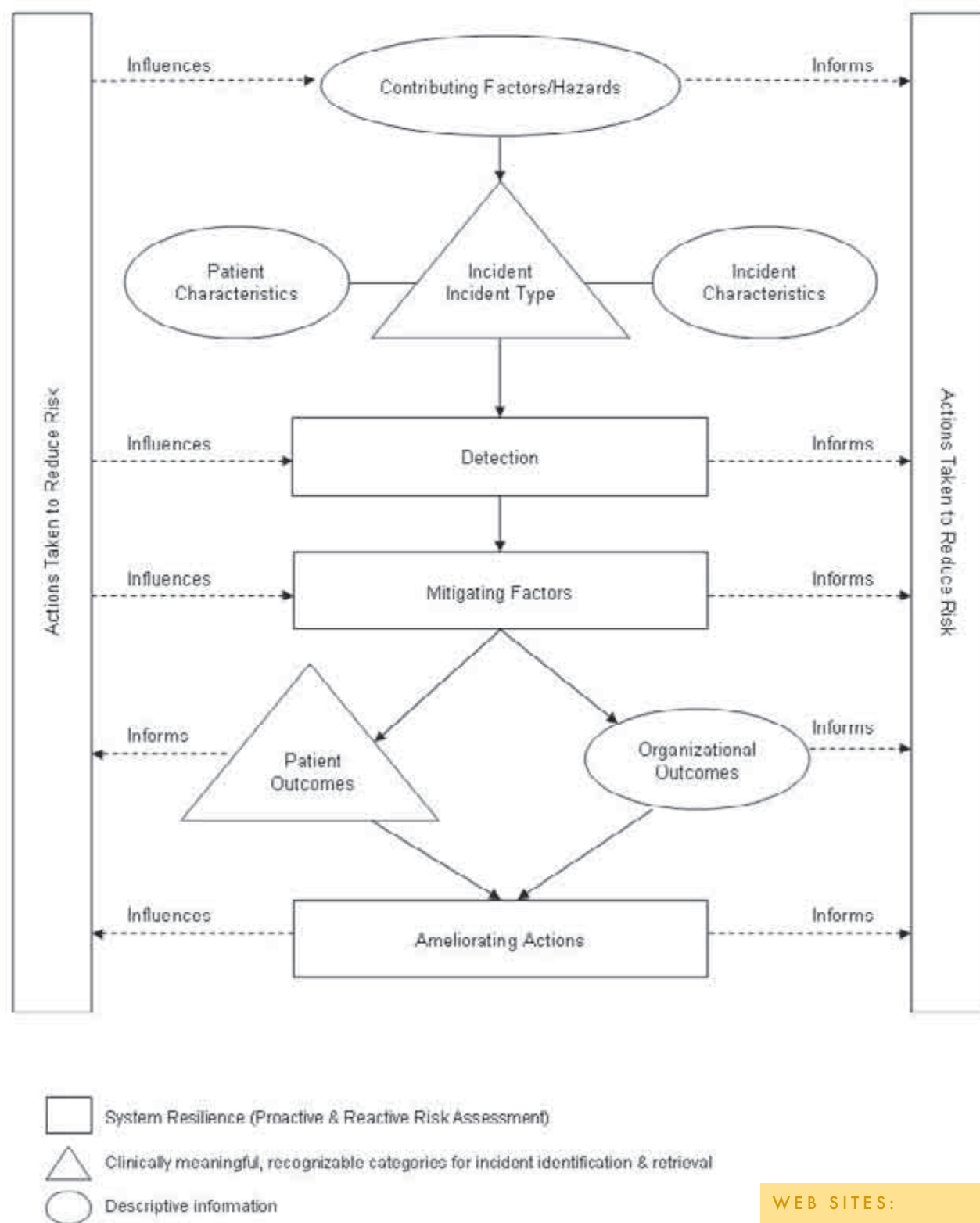


Figure 6: Conceptual framework for the International Classification for Patient Safety

WEB SITES:

- » The International Classification for Patient Safety: <http://www.who.int/patientsafety/taxonomy/en>
- » Questions or comments: comments@who-icps.org

Learning from errors

Reporting and Learning for Patient Safety

Central to well-targeted patient safety initiatives is a better understanding of the nature of safety problems and their contributing factors. The fundamental role of patient safety reporting systems is to enhance patient safety by learning from failures in the health-care system. There is evidence that most problems are not just a series of random, unconnected, one-off events. Health-care errors are known to be provoked by weak systems and often have common root causes that can be generalized and corrected. Although each event is unique, there are likely to be similarities and patterns in the sources of risk that may otherwise go unnoticed if incidents are not reported and analyzed.

The aim of the **Reporting and Learning** programme of the World Alliance for Patient Safety is to provide support to Member States interested in making improvements in this field. On behalf of the Alliance, Professor Lucian Leape and Dr Susan Abookire developed the *WHO Guidelines on reporting and Learning Systems* that were finalized in 2006. These guidelines introduced patient safety reporting with a view to supporting countries to develop or improve reporting and learning systems. They emphasize that reporting in itself does not improve patient safety. It is the response to reporting that may lead to change. The guidelines also suggest other sources of patient safety information that may be used, both by health services and nationally.

PROGRESS DURING 2006-2007

Few countries have national error-reporting systems in place, although there is great interest in developing such systems. Several WHO Member States have seen the value of the guidelines as they have examined them in relation to the reporting of



*Programme Initiator:
Professor Lucian Leape,
Physician and Adjunct Professor of
Health Policy, Harvard School of
Public Health, Boston, USA*



"One of the most frustrating aspects of patient safety is the apparent inability of

health-care systems to learn from their mistakes. Tragic errors recur in new places over and over again. The solution to this problem is to investigate our errors and share lessons learned through a reporting system. The *WHO's Guidelines on reporting and Learning Systems* provide the conceptual background information and practical advice for those who want to establish or improve a national reporting and learning system."

Professor Lucian Leape



specific adverse events in health care. In 2006 and 2007, the guidelines were disseminated worldwide to institutions, Alliance partners, WHO Regional and Country Offices and ministries of health, as well as through international meetings and conferences.

The programme has continued to make significant progress in working closely with national patient safety agencies. In close collaboration with the UK National Patient Safety Agency, the Alliance facilitated links with the Quality and Safety Research group of the Johns Hopkins University for the analysis of de-identified data from the United Kingdom on adverse events in health care. The UK National Reporting and Learning System is one of the largest databases of patient safety incidents in the world. The Alliance has a particular interest in investigating ways of learning from these data to better understand organizational risk resilience, for the benefit of improving analysis of such data globally.

The methods and learning from this analysis will be fed into an Alliance-led international meeting of patient safety reporting systems scheduled for mid-2008.

Learning from pharmacovigilance for medication safety

In partnership with WHO's International Programme of Drug Monitoring, the Alliance has been working on a pilot designed to support national pharmacovigilance centres in developing and transitional countries, and explore how these centres may play an expanded role in collecting and analysing medical safety data. An extensive analysis was undertaken in 2007 by the national Pharmacovigilance Centre in Morocco and the final report of the work will be published in 2008.



WEB SITES:

- » Reporting and learning: http://www.who.int/patientsafety/reporting_and_learning/en
- » Patient safety interview of the month – Professor Lucian Leape: http://www.who.int/patientsafety/information_centre/interviews/

Changing how we do things

Solutions for Patient Safety

The process of identifying, developing, adapting and disseminating **Solutions for Patient Safety** has been the primary focus of the WHO Collaborating Centre on Patient Safety Solutions since it was established in 2005. Thanks to a remarkable international collaborative network, the Centre has designed a process for developing new solutions and adapting existing ones that can be used worldwide. The Centre issued its first set of patient safety solutions in May 2007.

PROGRESS DURING 2006-2007

Building a collaborative network

The highest priority for the Centre has been the development of a collaborative network to enable the ongoing identification of widespread patient safety problems, available knowledge and experience with potential solutions. As a first step in building this collaborative network, an international steering committee, whose membership is drawn from every WHO region, was established. The international steering committee includes experts from leading patient safety organizations, ministries of health and significant stakeholder groups from around the world, and is the cornerstone of the collaborative network established by the Collaborating Centre. The international steering committee provides guidance and counsel throughout the patient safety solution development process and eventually approves the final solutions.

WHO Collaborating Centre
on Patient Safety, at
the Joint Commission,
Chicago, USA



"The Patient
Safety
Solutions
offer to
W H O
Member
States a

major new resource to assist their hospitals in avoiding preventable deaths and injuries. Countries around the world now face both the opportunity and the challenge to translate these solutions into tangible actions that actually save lives."

Dennis S. O'Leary,
M.D., former President,
The Joint Commission



"The Patient
Safety
Solutions are
designed
through a truly
international
collaborative

effort, and represent what has been learned internationally about where, how and why certain adverse events occur. A critical component of their development has involved inclusion of input from patients and their families who have experienced preventable harm."

Karen H. Timmons,
President and Chief Executive Officer,
Joint Commission International



LOOK-ALIKE, SOUND-ALIKE MEDICATION NAMES (LASA)

Reducing errors from confusing
drug names and packaging

SI LES MÉDICAMENTS SE RESSEMBLENT
OU ONT UN NOM À CONSONANCE SIMILAIRE...
...attention aux risques de confusion

In addition to the international steering committee, regional advisory councils of the Collaborating Centre in the Far-East, Middle-East and Europe provide input regarding the appropriateness and applicability of proposed patient safety solutions, in the context of the unique cultural and health-care delivery characteristics of a particular region, and serve as a vital source of input regarding emerging patient safety problems and potential solutions. Efforts are currently under way in collaboration with WHO's regional focal points in Africa and the Americas to establish similar regional advisory groups in Africa and South America.

The collaborative network has worked on the formal and informal gathering of inputs from national accrediting bodies, patient safety agencies, health ministries and international NGOs. In addition, solution-specific experts are being identified to assess and validate the evidence base of the individual solutions. Patient organizations and patients themselves will become more involved with the overall process of solutions development, in order to share their perspective and thereby contribute to the design of patient-focused solutions. These will also include a special section entitled *patient engagement*.

Once all of the inputs have been gathered for a given set of proposed solutions, they are widely disseminated through an extensive field-review process. The field-review process for the initial set of international patient safety solutions was conducted from November 2006 to February 2007 as a web-based survey. This field review yielded 846 responses from 98 countries.

WORLD ALLIANCE *for* PATIENT SAFETY
ALLIANCE MONDIALE POUR LA SÉCURITÉ DES PATIENTS



Launch of patient safety solutions

At its April 2007 meeting, the international steering committee approved nine patient safety solutions that had been refined on the basis of the field-review suggestions. The nine inaugural solutions, which were subsequently released at a press conference in Washington, D.C., are as follows:

1. Look-alike, sound-alike medication names
2. Patient identification
3. Communication during patient hand-overs
4. Performance of the correct procedure at the correct body site
5. Control of concentrated electrolyte solutions
6. Assuring medication accuracy at transitions in care
7. Avoiding catheter and tubing misconnections
8. Single use of injection devices
9. Improved hand hygiene to prevent health care-associated infections.

The primary vehicle for worldwide dissemination of the solutions has been the Internet. The solutions have been taken up in a number of countries, namely:

- South Africa: negotiations are under way between one of the provincial governments in South Africa and the medical association to conduct a joint programme to disseminate the solutions and establish a patient safety foundation.
- Denmark: the Danish Board of Health is considering a project to identify how hospitals in Denmark are performing with respect to the solutions and to share the results among the hospitals.
- Argentina: programmes relating to patient identification and hand hygiene are under development by the government of Argentina.
- Bahrain, Georgia, the Netherlands: the solutions are being used in these countries.

Since their launch, the solutions have been, or are in the process of being translated into Chinese, Georgian, German, Hebrew, Italian, Portuguese and Spanish. The solutions will also soon be translated into Arabic, French and Russian.





2007–2008 SOLUTIONS DEVELOPMENT

In parallel with the launch of the first nine patient safety solutions, the Centre initiated identification and development of the 2007–2008 solutions.

- Identification of topics by the international steering committee, regional advisory groups, field-review participants and patient safety experts.
- In 2007, the international steering committee considered 23 potential solution topics and selected the following topics for development in the 2007–2008 period:
 1. Preventing patient falls
 2. Preventing pressure ulcers
 3. Response to a patient whose condition is deteriorating
 4. Communicating critical test results
 5. Health care-associated infections: main lines.
- Experts from the international steering committee and technical experts guide the initial formulation of each solution.
- The draft solutions are reviewed by the regional advisory groups, followed by an international field review.
- The international steering committee reconvenes to consider input from the field review and to approve the final solutions.

WEB SITES:

- » Solutions for patient safety:
<http://www.who.int/patientsafety/solutions/patientsafety/en/index.html>
- » Launch of nine patient safety solutions:
http://www.who.int/patientsafety/events/07/02_05_2007/en/index.html
- » WHO Collaborating Centre on Patient Safety Solutions:
<http://www.jcipientpatientsafety.org/24725/>



Collaborating to make a difference

The High 5s initiative

BACKGROUND

The provision of safe care continues to present daunting challenges around the world. To address this problem, the **Action on Patient Safety – High 5s** initiative seeks to leverage the implementation of five standardized patient safety solutions that would have a broad impact in preventing catastrophic adverse events in health care. This initiative received initial funding from the Commonwealth Fund. The project is coordinated by the WHO Collaborating Centre for Patient Safety led by the Joint Commission and Joint Commission International. It builds on the established partnership of the Commonwealth Fund with Australia, Canada, Germany, the Netherlands, New Zealand, the United Kingdom and the United States of America (Box 8).

The objective of the *High 5s* initiative is to achieve a significant, sustained and measurable reduction in the occurrence of five patient safety problems, over five years, in at least seven countries, and to build an international collaborative learning network that fosters the sharing of knowledge and experience in implementing innovative standard operating protocols (SOPs). The project is best characterized as applying standardized patient care processes to improving patient safety and in evaluating the impact of these.



WHO Collaborating Centre on Patient Safety, at the Joint Commission, Chicago, USA



"The High 5s project is a truly collaborative effort, with all participants sharing what they've learned as they implement the standard operating protocols. This project could make a sustained contribution by taking patient safety solutions to the next level and eventually making them available around the world."

Dennis S. O'Leary,
M.D., former President,
The Joint Commission



PROGRESS DURING 2006-2007

Since its launch in late 2006, the *High 5s* initiative has made significant progress in the development of SOPs and of a multi-faceted evaluation model. The first year of the *High 5s* initiative has seen three major accomplishments:

1. A project structure and high-level work plan has been developed. The lead technical agencies and experts within each of the seven participating countries have been identified, and their roles and responsibilities, along with those of the Collaborating Centre, have been codified.
2. SOPs for five patient safety solutions have been created using a staged development process that engaged both content experts and leaders of patient safety initiatives in participating countries.
3. A comprehensive impact-evaluation strategy, drawing on international expertise in the areas of patient safety indicators, event analysis, culture assessment and economic evaluation has been developed.

Development of a project structure

When the *High 5s* initiative was launched, a *High 5s* steering group was established to determine the overall architecture of the initiative and to guide its implementation. This steering group is composed of senior leaders from the lead technical agencies within the participating countries, the World Alliance for Patient Safety, and the WHO Collaborating Centre. The steering committee has developed a work plan and set milestones to guide evaluation of the project.

B o x 8 :

LEAD TECHNICAL AGENCIES IN THE PARTICIPATING COUNTRIES

Lead Technical Agencies during the development phases:

1. Australia: Australian Commission in Safety and Quality in Healthcare
2. Canada: Canadian Patient Safety Institute
3. Germany: German Coalition for Patient Safety
4. The Netherlands: Dutch Institute for Healthcare Improvement –CBO
5. New Zealand: Population Health Directorate, Ministry of Health
6. United Kingdom: National Patient Safety Agency
7. United States of America: Agency for Healthcare Research and Quality

Creation of standard operating protocols

The SOPs that have been created for the five solutions selected, build on corresponding international solutions that were issued by the WHO Collaborating Centre for Patient Safety in the spring of 2007. The solutions are the following:

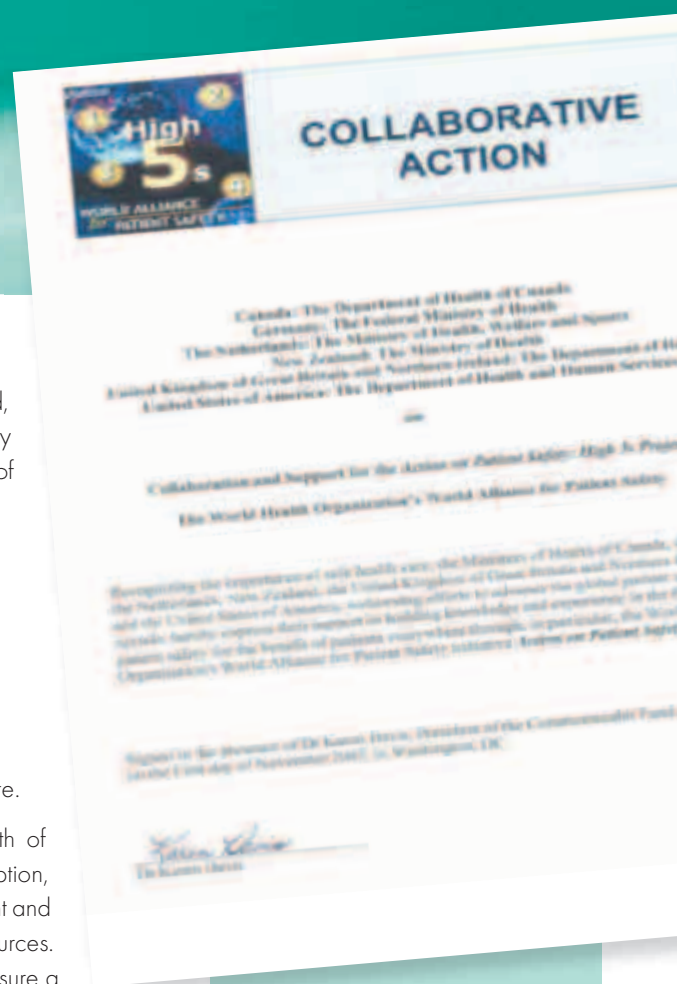
- Managing concentrated injectable medicines;
- Assuring medication accuracy at transitions in care;
- Communication during patient care handovers;
- Improved hand hygiene to prevent health care-associated infections;
- Performance of the correct procedure at the correct body site.

Each international solution summarizes the problem, the strength of evidence that supports the solution, potential barriers to adoption, potential unintended consequences created by the solution, patient and family roles in implementing the solution, and references and resources. The SOPs define the precise key steps that should be taken to ensure a uniform implementation of the solutions in participating hospitals, in the countries involved in the *High 5s* initiative.

During 2007, each of the initial draft SOPs for the five patient safety solutions selected for inclusion in the project was further developed and enhanced by a lead technical agency or expert reviewer. The WHO Collaborating Centre then coordinated a comprehensive review of the five SOPs by the lead technical agencies in participating countries. The final SOPs are currently in the process of being ratified by the *High 5s* steering group.

Impact evaluation design

In addition, an impact evaluation subgroup of the steering group has been created to address the design of the project's evaluation strategy. Several expert work teams have been established in the key areas of the evaluation strategy. The impact evaluation subgroup serves as the coordinating body for the work teams and strives to ensure that their evaluation design efforts are appropriately integrated with each other. The intent of the evaluation strategy is to identify the principal factors underlying patient safety indicator events and actual adverse



Box 9

SIX COUNTRIES TAKE FORMAL STEPS TOWARDS PREVENTING PATIENT SAFETY PROBLEMS

A group of six countries formally agreed to develop and implement standardized protocols related to patient safety solutions over the next five years, at the Commonwealth Fund's 2007 International Symposium on Health Care Policy. The High 5s signing ceremony was attended by patient safety leaders and advocates from around the world, including Sir Liam Donaldson, Chairman of the World Alliance for Patient Safety, World Health Organization, Dr. Carissa Etienne, former Assistant Director of the Pan American Health Organization, Dr. Dennis O'Leary, former President of the Joint Commission and other PAHO experts, Dr. Karen Davis, President of the Commonwealth Fund and Robin Osborn, Vice President and Director, International Program in Health Policy and Practice, also from the Commonwealth Fund, among many others.



events, match these factors against those that the SOPs are attempting to prevent, track changes in the safety culture within participating hospitals, and measure the economic impact of SOP implementation. The resulting data are to provide the basis for continuous refinement of the SOPs.

Six countries agree to implement the SOPs

As part of the Commonwealth Fund's 2007 International Symposium on Health Care Policy, which brought together ministers of health of the Commonwealth Countries, the top health leaders from Canada, Germany, the Netherlands, New Zealand, the United Kingdom and the United States of America, met in Washington, D.C, in November 2007 and agreed to undertake collaborative action to implement the *High 5s* standardized protocols, by signing a letter of intent (Box 9). The ministers of health formally recognized the critical and urgent need to act in cooperation and unison to solve and prevent major but avoidable patient safety problems.



World Alliance for Patient Safety
Alianza Mundial para la Seguridad del Paciente

Improved Hand Hygiene to Prevent Health Care-Associated Infection

The problem:

- The burden of health care-associated infections in terms of human suffering and cost, is huge and can be significantly reduced through improved hand hygiene

The solution:

- Determine the best systems to support hand hygiene in health care
- Educate care givers
- Provide the necessary materials and equipment hand hygiene
- Measure and provide feedback to care givers about their compliance
- Provide reminders to facilitate hand hygiene
- Facilitate a culture of safety and hygiene

New horizons

Technology for Patient Safety



*Professor Lord Ara Darzi,
Imperial College
London, UK*

Technology has the potential for being a powerful tool for improving patient safety. Historically, it has been used as an effective adjunct to clinical services for individual practitioners and organizations. It is both an aide to clinical diagnosis and a mechanism for increasing efficiency and protecting against error.

Complex technology such as linear accelerators for radiotherapy, ventilators and computerized tomography scanners have unforeseen risks. Inadequate training and lack of understanding around regularly updated operating systems and software can cause serious errors and harm to patients. Learning how to introduce new technology safely involves drawing lessons and best practices from a range of disciplines, including human factors research and technology assessment.

Even simple technology, however, can present risks to patients. Technologies as wide-ranging as central lines, ventilators and catheters can pose risks when they are not supported with adequate training and monitoring of associated adverse events. A key area of action for the Alliance is the development of learning systems that can allow health systems to improve the safe use of existing technologies.

Finally, the field of information technology has exploded in other fields in the past 15 years. In health care, the recent advances in the use of IT in both the hospital and physician office setting has meant that physician orders and patient records can be better managed and potentially dangerous situations avoided. However,



where there are many success stories in the area of IT applications for safety, there are many more stories of difficulties with IT systems that did not meet expectations. Learning across countries on the application of IT systems for safety is a major area of potential collaboration.

PROGRESS DURING 2006-2007

Technology was part of the Alliance's Forward Programme for 2006-2007. During 2007, the set of activities that were undertaken included:

- The development of an agenda for technology in partnership with the Japanese government.
- Development of a technology partnership between the Alliance and Imperial College London, UK.

Simulation techniques

The Alliance convened an international expert meeting on the use of simulation techniques to improve patient safety, in June 2006, in London, UK. The latest approaches in simulation techniques in both high and low technology settings were discussed and the use of simulation in other industries was reviewed in depth. It was broadly agreed that the use of technology to prevent adverse events and, in particular, simulation techniques, were at a rudimentary stage of development in health care. Yet, this appeared to be in the face of its proven ability to reduce error in a clinical setting. Information and ideas from this meeting have continued to form an integral part of the technology programme.



Pooling the knowledge

Knowledge Management for Patient Safety



“Knowledge is the enemy of unsafe care.”

Sir Liam Donaldson, Chief Medical Officer, England; Chair, World Alliance for Patient Safety.

BACKGROUND

To improve the safety of patient care, information and knowledge are needed on the causes of error and harm, on current research in health care and related areas, on how best to improve systems and safety, and how to share this knowledge globally.

Knowledge is defined in the Oxford English Dictionary....as: (1) expertise and skills acquired by a person through experience or education; (2) the theoretical or practical understanding of a subject; (3) what is known in a particular field or in total; (4) facts and information; (5) awareness or familiarity gained by experience of a fact or a situation.

A distinction can be made between two types of knowledge: “explicit” and “tacit knowledge.” Explicit knowledge is held consciously and may be communicated readily to others. What we have published or otherwise codified is explicit knowledge. “Tacit knowledge” is internalized and subconscious. An individual may not be aware of precisely what he knows, or how she accomplishes tasks.

Knowledge Management includes a range of practices and tools used by organisations to identify, create, represent, and distribute knowledge. It has been an established discipline since the 1990s. Knowledge management is intended to enable people to create knowledge, and to share, translate and apply what they know to improve the effectiveness of their work.

The Alliance is in a unique position to gather, share and report knowledge on patient safety. The Alliance has recognized the need for improved capabilities in knowledge management and networking for patient safety with colleagues located both within WHO and around the world.



Improving systems and tools for knowledge management would allow individual patients and practitioners, managers and organizations, researchers and policy-makers to be more effective in their efforts to improve patient safety. There are several capabilities that could be enhanced. An obvious first one is monitoring the vast and growing literature on patient safety, both in print and electronic form. Important knowledge includes key areas of increased risk, methods for research and evaluation, evidence for best practices, solutions for specific problems, innovations in health-care technology, teaching materials, improvements in organization and management, and model policies. A second is identifying specific people with expertise in safety-related knowledge, and related to this, knowing the location of completed and current ongoing projects to monitor and improve safety. A third is social networking, including the ability to match mentors to students and mentees, grantors to those seeking funding, and colleagues to one another.

PROGRESS DURING 2006-2007

In 2007, activities related to patient safety were undertaken in over 100 Member States, in close collaboration with other WHO programmes and the six WHO Regional Offices. Reports on the work of the Alliance are regularly disseminated through programme newsletters, the web site, news alerts and electronic communities.

Numerous national and international events, training initiatives and launches of new patient safety initiatives were attended, and presentations made. Awareness-raising activities, campaigns and events for each programme area have taken place, and many Member States have been supported in the development of national patient safety strategies. The Alliance Chair, expert leaders and senior staff have given presentations, run workshops and trained senior clinicians, policy-makers, health-care managers and leaders around the world.

Significant patient safety concerns have been highlighted and solutions for global implementation published. Information is being gathered from academics and from other areas on the causes of system failures and collaborating centres are being established to continue and extend this work. Work on classification systems is essential to enable knowledge about patient safety to be captured and shared across the globe, in different resource environments, cultures and languages.

Knowledge networks for patient safety are being developed, bringing together experts and technical advisers, international partners, professional organizations, staff associations and trade unions, student societies, patient organizations and the general public. Valuable information is obtained from patient safety reporting systems, partners, academic institutions and health-care workers. This information helps providers, policy-makers and national patient safety agencies to improve their knowledge of safety problems. The knowledge and learning gained from listening to patients is essential to the programme: seeing the health-care system through their eyes, hearing their stories, listening to their concerns and using their wisdom to improve patient safety.





Special projects

Vincristine Sulphate

Wayne Jowett, a young patient who died in the United Kingdom in 2001 after being administered vincristine via a spinal route (intrathecally) when the drugs should only ever be given intravenously, has been one of the most powerful patient stories used by the Alliance for advocacy purposes. The Toft Report in its analysis of this error, identified more than 40 weaknesses in the hospital system that led to the final accident trajectory being realized. Research is under way in many countries to investigate the separation of all delivery systems, aiming to ensure that drugs designed for one route of delivery can only be given by that route. One such group in Canada is close to finalizing a spinal injection safety system aimed at separating spinal and venous delivery systems.

The Alliance has articulated an international standard: Individual institutions, professional bodies, national and international policy-makers should seek to research, develop and promote the separation of intravenous and spinal delivery systems. The gold standard is to create a unique "lock and key" design of needles, syringes, catheters, tubing and bags so that medications intended for intravenous administration cannot be administered via the spinal route and vice versa.

The Alliance has been closely involved with a group of international experts studying the best way forward for the delivery of vincristine in the absence of a formal design solution as outlined above. This has involved working closely with colleagues from the Institute for Safe Medication Practices and other international groups. The Alliance promotes the use of a minibag for use with vincristine delivery. World Health Organization Drug Alert 115 was released by the Alliance in 2007 to reflect this important recommendation.

WEB SITES:

- » World Health Organization Drug Alert 115:
http://www.who.int/medicines/publications/drugalerts/Alert_115_vincristine.pdf



Radiotherapy

Internationally, multiple errors in the delivery of radiotherapy have occurred. Most striking is the repetition of these errors, causing multiple overdoses or underdoses before they are recognized. Several of these errors have been directly reported to the Alliance, and further interventions to reduce harm to patients in this area are being investigated in collaboration with Japan, in particular.

The process of care in radiotherapy is complex, yet linear. At multiple stages in the process, there is potential for error to occur. No internationally-agreed process of care or profile of risk at each stage of the process has yet been found. Such knowledge is a prerequisite for developing quality assurance frameworks. An expert consensus meeting in December 2007 drew together some of the key partners in radiotherapy internationally, including the International Atomic Energy Agency, in order to agree on the process of care and the risks inherent at each stage. It is anticipated that this tool will be of further use to WHO and other organizations in the development of specific risk-reduction strategies in individual radiotherapy centres, and set the standard for a series of risk profiles that the Alliance intends to develop in 2008 and beyond.

Education

The Safety Scholars project was launched in September 2007 at Johns Hopkins University (JHU), Baltimore (USA). A range of scholars commenced study at the Quality and Safety Research Group headquarters and at the JHU Bloomberg School of Public Health. They will complete their programmes of study in 2009 and will be the first group of international patient safety scholars. The students are expected to continue in clinical careers and patient safety with strong links to the Alliance and its future projects.

The first educational workshop of the Alliance was conducted in 2006 in Saudi Arabia. Around 80 health-care providers took part in an interactive session involving video recreations of adverse events and root-cause analysis of underlying system errors. The results of this workshop were formally published as a DVD educational tool for health-care workers in November 2007, representing the first output of the education project.



Rewarding excellence

In 2007, the Alliance held a meeting of patient safety experts with the United Kingdom's Health Foundation. This meeting considered the potential for developing a programme to identify excellence in patient safety. Concepts of organizational resilience developed in other sectors were considered for their application in health care, including the processes that build reliability in the care provided at local level, how patient safety problems are identified and acted upon, and the organization's capacity to spread learning and improvement.

When things go wrong

The World Alliance for Patient Safety has identified in its work that many health-care organizations are often defensive when dealing with patients and families, and that a culture of blame rather than of learning often follows a patient safety incident. The requirements of patients and their families in the aftermath of patient safety incidents should be better understood and, in parallel, clinicians should also be understood and supported. Blame, retribution and a lack of open partnership with patients are counterproductive to a culture of safety.

The Health Information and Quality Authority of Ireland, at the invitation of the World Alliance for Patient Safety, is leading a major collaborative project on patient safety. The project will involve patients, family members and clinicians, with representation from each of the WHO regions. Together they will develop international consensus guidance and a set of tools and resources that should identify best practice for communicating with and supporting patients, their families and clinicians in the aftermath of a patient safety incident, in order to foster more responsive, positive outcomes for all parties.

Margaret Murphy, a patient advocate and a member of WHO's Patients for Patient Safety programme, stated that "Patients and families recognize that health care is not risk-free, and while we cannot give permission for any level of error, we do accept that sometimes things go wrong. When this happens, we deserve an acknowledgement of error, open and transparent communication, evidence that learning has occurred and improvements implemented to prevent reoccurrence. I am convinced that this project has the potential to facilitate healing for patients, their families and clinicians, while also advancing learning within the system".

The Chief Executive of the Health Information and Quality Authority stated that: "We're delighted to be working with patients, their families and clinicians in what is



Sir Liam Donaldson, Chair of the World Alliance for Patient Safety said; "Every time I meet a patient or a family who has suffered because of a health-care mistake, I know we are not working fast enough to make the far-reaching changes needed to improve patient safety. We need to act quickly, we need to set clear goals and we need to be accountable to patients everywhere. Despite the comprehensive programme of the World Alliance for Patient Safety and the growing commitment to action on patient safety, much remains to be done. We are very pleased to be working with the Health Information and Quality Authority in Ireland to improve patient safety."



such a fundamental aspect of high quality care - supporting people when patient safety events occur. For Ireland to be taking the lead in developing such guidance is an exciting and important opportunity for our public, our staff and our health system. We're very pleased to be working with the World Alliance for Patient Safety in heralding this work and developing a relationship with them that can only benefit health systems".

The first technical meeting for the project took place in Dublin, in September 2007. The World Alliance for Patient Safety and the Health Information and Quality Authority, recognizing that patient safety is a priority shared by all stakeholders and that any guidance should be developed with the involvement, engagement and consultation of patients, clinicians, providers, members of the public and other stakeholders, have invited individuals and organizations to become project partners.

Intern projects

In 2007, several interns from around the world contributed to the work of various Alliance programmes.

In a project related to preliminary work on the containment of **antimicrobial resistance (AMR)**, an intern from the University of Michigan Medical School conducted, over a two-month period, an analysis of the current status of AMR containment and research activities. Institutional literature was searched, gaps identified, expert opinion leaders consulted, and a global AMR stakeholder database developed. This project is the basis for future work to identify potential action areas and key opinion-leaders in the field of AMR. After having been involved in this project, the intern founded a student-led organization (Antibiotic Defence) to exchange information on AMR and develop strategies to educate medical students in the prudent use and prescription of anti-infective therapy. The organization now has branches in several other medical schools in the United States of America.

As part of work on the first Global Patient Safety Challenge, '*Clean Care is Safer Care*', an intern from Johns Hopkins University has become involved in the development of **an economic evaluation tool**. The hand hygiene multimodal approach has been proposed as a cost-effective strategy for reducing health care-associated infections (HAI). Its main advantage is its low cost of implementation. Given the high costs of HAI, it seems reasonable that such a programme would be cost-effective. The economic evaluation tool will enable individual health-care facilities to estimate the local costs of implementing the hand hygiene intervention programme. It will also help calculate economic benefits to the facility as a result of preventing HAI, by estimating the savings resulting from avoided secondary HAI-resulted costs.



Collaboration and partnerships

The World Alliance for Patient Safety consults and works closely with a wide variety of patient safety agencies, health care associations and NGOs which have an interest in patient safety. Below is a list of some international and national organizations that the Alliance collaborates with.



The Agency for Health Care Research and Quality (AHRQ) is the lead agency within the US

Department of Health and Human Services working to prevent errors and improve patient safety. As such, its goal is to reduce potential patient harm by promoting and supporting research in this area and engaging patients and providers to use evidence-based information to make informed, safer treatment choices and decisions.

The agency has long been committed to systematically studying patient safety in medical practice, funding more than 100 studies and projects since 2001. These have ranged from system wide event-reporting methods to specific measures to minimize known medical errors in particular situations. Many of these studies have produced new findings, tools and products that may be used by the health-care system, health-care providers and researchers to improve patient safety. In 2006–2007, AHRQ was put at the centre of new work in the United States as the implementing agency for the Patient Safety and Quality Improvement Act. This Act, signed into law on 29 June 2005, creates a legal and structural framework for health-care organizations to share adverse event and error data in order to learn and improve care. The Act also provides for the creation of a national network of patient safety databases that will be a resource nationally and internationally. During 2006–2007, AHRQ continued to work closely with the Alliance to support patient safety research. AHRQ staff also provided leadership on the Alliance's *High 5s* initiative, in particular in the area of evaluation and measurement for this safety implementation project.

For more details please see <http://www.ahrq.gov/>



The Commonwealth Fund is a private foundation that aims to promote a high-performing health-care system. With that goal in mind, in the past year the Fund has supported a number of projects focusing on improving patient safety. At the international level, the Fund provided a grant to WHO and the Joint Commission to help launch the *High 5s* initiative, which aims to achieve a significant, sustained and measurable reduction in the occurrence of five patient safety problems over five years in hospitals in seven countries. In 2006, the Fund published findings from its international health policy survey, comparing the ability of primary care doctors to address medical errors in their practice across seven countries. The Fund's tenth annual International Symposium on Health Care Policy, held in November 2007, focused the attention of policy-makers on the impact of various policies and initiatives to improve patient safety in seven countries.

The Fund also supported a variety of national projects in 2007. For hospitals, these included a grant to develop measures of patient safety in two areas, intensive care and emergency departments, as well as the Patient Safety Education project, which adapted work done in Australia to develop and implement a national patient safety curriculum for hospital workers. For physicians, projects included the development of the Physician Practice Patient Safety Assessment tool, designed to help physicians prevent medical errors and improve overall safety. At the state level (In the United States of America), the Fund supported the National Academy for State Health Policy's assessment of adverse event reporting systems across states.

For more details please see: <http://www.commonwealthfund.org>



Consumers Advancing Patient Safety (CAPS) is a values-based non-profit-making organization, established in 2003, with the mission of achieving health care that is safe, compassionate and just. CAPS champions the experience and collective voice of consumers that have experienced system failure, and embraces as partners those dedicated professionals and organizations who share the same vision, mission and goals. The organization's hope for the future is embedded in appreciative collaboration among courageous people and organizations committed to making a difference. CAPS serves as a conduit for the consumer perspective to partners, including health-care professionals, researchers, hospitals and other health-care organizations, government agencies, accreditors, educators and others in the global community of people and organizations deeply committed to patient safety.

The CAPS web site (www.patientsafety.org) includes community discussion boards to facilitate networking and provides a space for members to discuss shaping regulatory



and governmental policy by bringing the perspective of consumers to health-care safety issues. The site also includes success stories showing how individuals have brought about positive change in health care through partnership with providers.

CAPS leaders are active in developing the Patients for Patient Safety (PFPS) programme of the World Alliance for Patient Safety. Based on experience in conducting PFPS workshops around the world, in 2007 CAPS developed a toolkit for developing partner-oriented networks that engage consumers entitled *Building the future for patient safety. Developing consumer champions – A workshop and resource guide*.

For more details please see: <http://www.patientsafety.org>



The International Alliance of Patients' Organizations

(IAPO) is a unique global alliance representing patients of all nationalities across all disease areas which promotes patient-centred health care around the world. Through its

200 members, IAPO represents an estimated 365 million patients worldwide. IAPO fully supports the work of the World Alliance for Patient Safety, and has been working in partnership with the World Health Organization to advocate on patient safety issues and to bring a strong patient voice to patient safety initiatives.

Through promoting and enabling patient involvement on patient safety issues, IAPO aims to make a significant contribution to the international efforts to address patient safety. One initiative is a toolkit to support patients' organizations in their advocacy and educational work to improve patient safety which will be launched at IAPO's Global Patients Congress in February 2008.

For more details please see : <http://www.patientsorganizations.org>



The International Council of Nurses (ICN).

The International Council of Nurses Leadership for Change™ (LFC™) programme is an action-learning programme for leadership and management development, thanks to which nurses in more than 60 countries have gained the knowledge, skills and strategies they need to take leadership roles in nursing and health systems, build partnerships, and improve health care.

Through the LFC™ programme and its country team projects, nurses have successfully worked with partners to improve nursing care and reduce maternal mortality and hospital infections in 12 countries. More particularly in Panama and Yemen, nurses have developed new models of nursing care to decrease surgical infections. In Barbados, nursing interventions were developed in one of the largest health-care delivery hospitals to decrease patient falls.



In China, nurses are working to improve patient safety by reducing occupational accidents caused by sharp objects in cancer-care facilities. In Jordan, nurses are working in collaboration with the WHO Office in Jordan, to implement the patient safety challenge in infection control (improved hand washing, and disposal and waste interventions) in Ministry of Health hospitals and clinics. In Yemen, nurses are working to improve post-operative wound care to decrease infection rates and hospital readmissions.

These are just a few examples of how participants in the ICN LFC™ programme are working with partners to address health policies at local and national levels to improve patient safety and strengthen health-care services that best meet their country and local needs.

For more details please see: <http://www.icn.ch/>



The International Federation of Infection Control (IFIC) is a worldwide umbrella organization of societies and associations of

health-care professionals in infection control and related fields. Currently, IFIC has 70 members from 58 countries and its primary goal is to minimize the risk of infection within health-care settings through the development of a network of infection control organizations for communication, consensus-building, education and expertise sharing.

IFIC welcomes the opportunity to work with international organizations such as WHO, to achieve its goals and is happy to participate in infection prevention and control efforts, particularly the first Global Patient Safety Challenge (GPSC). IFIC member societies have been asked to endorse the GPSC and to write to the government agency responsible for health care in their country and encourage them to join the GPSC, if they have not already done so.

The GPSC website is linked to the IFIC web site (www.theifc.org). Educational aids from the GPSC have been included in the newly published *IFIC Basic concepts in infection control*. This manual, prepared by experts on infection control, provides a scientific foundation for basic infection-control principles and is distributed free to infection control professionals in countries with limited resources. A basic infection control training course was held in Malta in March 2007. This course fills a void for a basic level training module and complements the manual by means of a series of lectures and interactive sessions using the material in Basic concepts. Patient safety and hand hygiene are particularly emphasized.

For more details please see: <http://www.theifc.org/>





The International Federation for Medical and Biological Engineering (IFMBE) is a federation of national and transnational organizations in the field of medical and biological engineering and sciences. The IFMBE is a non-profit organization fostering the creation, dissemination and application of medical and biological engineering knowledge and the management of technology to improve health care and quality of life. Its activities include participation in the formulation of public policy and the dissemination of information through publications and forums. Within the field of medical, clinical, and biological engineering and science, IFMBE's aims are to encourage research and the application of knowledge, as well as to disseminate information and promote collaboration. The objectives of the IFMBE are scientific, technological, professional and educational.

For more than 40 years, IFMBE, has been cooperating closely with WHO in the areas of health technologies, specifically policy and planning, quality and patient safety, norms and standards, technology assessment and management, education and capacity-building. IFMBE represents more than 120 000 professionals involved in the various issues of health and health-care delivery through 58 national and international member societies.

For more details please see <http://www.ifmbe.org>



The International Hospital Federation (IHF) has been an active stakeholder in the patient safety field during 2006/07. The organization has ensured that patient safety issues and concerns have been high on the agenda at events such as Hospital World (May 2007, Germany), Hospital Management Asia (Aug 2007, Thailand) and its own 35th World Hospital Congress (Nov 2007, Korea), and has incorporated patient safety in the new IHF Vision, Mission & Business Plan. This Plan makes clear that IHF's primary goal is to improve patient safety and health in underserved communities.

For more details please see: <http://www.ihf-fih.org/jsp/index.jsp>



The International Pharmaceutical Federation (FIP) is the global federation of national associations of pharmacists and pharmaceutical scientists. Its mission is to improve global health by advancing pharmacy practice and science to improve access to and value of appropriate medicine use worldwide. The area of patient safety, particularly medication safety is a key area for the FIP.



Over the past year, FIP has developed recommendations on approaches to patient safety where pharmacists may contribute to improving medication safety and the appropriate use of medicines at every point in the continuum of care, particularly through team approaches and information-sharing. Information is scarce on systems that may improve medication safety through learning and responding to medication errors, and on how such systems may be developed to improve the safety culture in health-care settings. In response to this, FIP conducted a study on medication error reporting and learning systems worldwide. Recognizing the health professional/patient interface as an important element of patient safety, FIP has over a number of years developed pictograms and recently completed a global review of these to give health professionals a means of communicating medication instructions to people whose language they may not know or who may be illiterate.

To facilitate the implementation of pharmaceutical care and care standards at country level, FIP provided assistance to two country-level projects through its Good Pharmacy Practice initiative. FIP, together with WHO, also established a pharmacy education task force, a global collective action-oriented initiative to improve the education of pharmacists, particularly in developing countries in order to enhance the competency of the workforce and thus patient safety within the health-care system.

Over 3000 participants attended the World Pharmacy and Pharmaceutical Congress in Beijing in September 2007 which had a significant programme focus on patient safety including workshops on strategies for improving medication safety, on risk communication and pictograms, and the use of informatics to improve patient safety.

For more details please see: <http://www.fip.org/www2/>



The International Society for Quality in Health Care Inc.

offers a unique opportunity for individuals and institutions with a common interest to share expertise via an international multidisciplinary forum. Supported by members, including leading quality health-care providers and agencies in 70 countries, and with additional funds from the Australian and Victorian Governments, the ISQua Secretariat has been located in Melbourne, Australia, but will relocate to Ireland in March 2008. ISQua is formally recognized as being in "Official Relations" with WHO. ISQua is assisting with technical and policy advice based on evidence and best practices and contributing to knowledge sharing as part of WHO initiatives.

For more details please see: <http://www.isqua.org>



Agencia de Calidad del SNS, Spanish Ministry of Health and Consumer Affairs.

The Spanish Strategy on Patient Safety was launched by the Spanish Ministry of Health and Consumer Affairs in 2005, based on the World Alliance for Patient Safety and in consensus with the country's health regions and national experts. Since then, there have been a number of achievements in several key areas.

In the areas of awareness-building and professional culture, the Ministry of Health issued a statement supporting the Alliance, and a Declaration on Patient Safety was signed by 140 scientific professional associations. A variety of courses on patient safety were held (basic education, risk management, prevention of medical errors), and the Ministry of Health has promoted a Masters course in patient safety. Professional culture in hospitals and primary care centres has also been assessed.

Of the 18 health regions, over 90% have agreed to work on hand hygiene, risk management, safety practices and patient identification. The medication system in hospitals was also evaluated. Patients were involved in a qualitative study on patient perception, and 22 patients participated in a workshop together with consumer associations.

In the areas of information and notification, basic indicators to assess patient safety were reviewed, and a study was launched to set up a Spanish Adverse Events Notification System. A variety of research activities were also undertaken, including: a study on adverse events in hospitals (also in Latin America); systematic reviews on patient safety with the Cochrane Collaboration; prevention of nosocomial infection in intensive care units; and cost of adequate clinical practices.

For more details please see:

<http://www.msc.es/organizacion/sns/planCalidadSNS/pncalidad.htm>



The National Patient Safety Agency (NPSA)

in the UK, collects, analyses and prioritizes data on patient safety incidents in the National Health Service in England and Wales and works in partnership to develop innovative patient safety interventions. NPSA campaigns to improve patient safety across all aspects of health care in the NHS organizations include the "cleanyourhands" campaign. This is a highly successful campaign to help raise awareness of the importance of hand hygiene in infection control in health care.

For more details please see <http://www.npsa.nhs.uk/patientsafety/>



The National Patient Safety Foundation (NPSF) is an independent non-profit organization founded in 1997 to improve the safety of patients in the United States of America. Instrumental in raising awareness of the issue and defining the national agenda that drives the work, NPSF remains the sole organization in the USA with this singular focus. The NPSF takes an inclusive, multi-stakeholder approach to patient safety and works to foster collaboration on this issue nationally.

For more details please see <http://www.npsf.org/>



The World Medical Association (WMA). The ambition of the WMA is to increase awareness of a safety culture and promote error management tools that have already been used for many years in other high-risk areas, such as the aircraft and nuclear power industries.

The general aim of error and quality management courses is to promote error-awareness and a culture of safety where there are no taboos, and objective discussion and communication in a team are encouraged. The next step is to describe how errors happen, to introduce error theory and safety concepts, and to practise how to deal with patients and the public after an event. Finally, incident reporting systems, instruments of error analysis such as root-cause analysis and instruments for error avoidance should be explained. Several practical exercises and case studies should facilitate the transition from theory to practice.

The German Medical Association has developed a basic framework for an error management curriculum which will be reviewed and transformed into an international and inter-professional training curriculum. Within the World Health Professions Alliance, WMA cooperates with the International Council of Nurses (ICN) and the Foundation of International Dentists (FID). The course will be divided into three parts. The first part should be implemented in the professional training of students, and the second and third parts are a component of further training.

For more details please see: <http://www.wma.net/e/>.





Regional initiatives on patient safety

The World Alliance for Patient Safety builds capacity, plans and implements actions to address patient safety, primarily through the WHO Regional Offices. During 2007, Regional Offices greatly increased their commitment to patient safety.

WHO REGIONAL OFFICE FOR AFRICA (AFRO)

Member States of the African Region are taking an active interest in better understanding the issues of patient safety within the context of their health systems. As a basis for commitment and action, a regional network for patient safety has been established and the first regional workshop on patient safety was held in Kigali, Rwanda, in December 2007 with a focus on the first Global Patient Safety Challenge '*Clean Care is Safer Care*'. This programme is concerned with galvanizing commitment and action towards a reduction of health care-associated infection (HAI).

During 2007, the Alliance, in collaboration with the Regional Office for Africa, has been implementing activities in the areas of:

1. First Global Patient Safety Challenge '*Clean Care is Safe Care*':
 - Pilot test site in Mali: the site is testing the implementation of WHO's multimodal improvement strategy and surveillance of health care-associated infections
 - Research study on the effectiveness of the WHO recommended alcohol-based handrub in Kenya.
 - Four African countries have pledged their commitment to address health care-associated infection. These are: Kenya, Mali, Rwanda, and Uganda.
2. Second Global Patient Safety Challenge "*Save Surgery Saves Lives*":
 - Supporting AFRO technical evaluation site in Tanzania
3. Patients for Patient Safety (PFPS):
 - Support a PFPS workshop in AFRO in 2008
 - Support the establishment of a network of PFPS champions for patient engagement in African countries.



4. Research for Patient Safety:

- Completion of studies on the prevalence of adverse events in South Africa and Kenya
- Support research capacity development in AFRO and the small grants programme focusing on building capacity for research on patient safety in resource-poor countries.

During 2007, AFRO together with several organizations and patient champions from Member States have been collaborating with the World Alliance for Patient Safety. In-country patient safety activity planning includes:

- Establishment of national/hospital steering committees for patient safety in several Member States. These committees are being linked by a regional network for patient safety.
- National Day for Patient Safety celebrated in Mali in January 2007.
- Involvement of civil society, including participation in the Patients for Patient Safety programme of the World Alliance for Patient Safety.
- Technical support to train health-care workers, including the dissemination of training material/guidelines on patient safety.
- Use of IT tools for continuing education (Internet connection for health-care settings).
- Advocacy for the introduction of a patient safety topic in medical academies' training programmes.
- Coordinated efforts to increase injection safety.
- Development of an AFRO paper on patient safety that will be presented to the 58th AFRO Regional Committee in Yaoundé, Cameroon.





WHO REGIONAL OFFICE FOR THE AMERICAS/PAN AMERICAN HEALTH ORGANIZATION (AMRO/PAHO)

During 2007, AMRO/PAHO made significant initial progress towards placing quality on the patient safety agenda of its Member States. Beside advances made with regards to its main areas of work (First Global Patient Safety Challenge 'Clean Care is Safer Care'; Patients for Patient Safety; and Research), AMRO/PAHO has also helped move forward two critical areas for the sustainability of its patient safety programme: team consolidation and political support.

The current need for Member States to engage in international cooperation on patient safety has already resulted in an increase in programme staff. PAHO's quality of health care framework was further underlined at the 27th Pan-American Sanitary Conference with the adoption of Resolution CSP27/16, *Regional policy and strategy for ensuring quality in health care, including patient safety*. The Resolution requests preparation of an evidence-based regional quality strategy and aims to create a regional observatory for patient safety and quality of care.

Global Patient Safety Challenge

In the past few months, progress has been made with the first Challenge, both with high-level political commitments and technical interventions. Early in 2007, just three countries of the Americas (Canada, Costa Rica and the United States) had formally pledged to work towards the control and prevention of health care-associated infections. Canada launched a national hand hygiene campaign in 2007 and Costa Rica is currently designing a similar campaign.

By September 2007, 22 additional countries had pledged to reduce health care-associated infections. Of those, 14 Member States are part of the Caribbean Community (CARICOM) while the remaining 8 are in the Central America-Mexico sub-region. At a ceremony in late November, most South American Member States were added to the list of signatory countries. As a result, by the end of 2007, practically all the countries of the Region had pledged to reduce health-care-associated infections, giving vital political support to this project in the Americas.

AMRO/PAHO has also been working with a pilot site at the Children's Hospital in San José (Costa Rica) on the implementation of the WHO hand hygiene multimodal strategy. The project was officially launched in November 2007. The project requires all staff training and necessary infrastructure (alcohol solution, dispensers, etc.) in hospitals to comply with the WHO hand hygiene guidelines. The Regional Office is currently negotiating with national authorities for the expansion of this project in to two additional countries.

Patients for Patient Safety

It is widely recognized that patients can contribute to the improvement of health systems. AMRO/PAHO has coordinated two regional patient workshops (San Francisco in May 2006 and Chicago in June 2007). The second regional workshop, Patients for Patient Safety – Patient Safety Solutions, brought patient champions together with representatives of leading patient safety institutions.



As a result of the commitments expressed at the workshop, the Regional Office is currently cooperating with patient champions on projects involving maternal and child health, particularly in the areas of retinopathy in premature infants and jaundice management. This major project resulting from the second workshop saw the launch of the first Pan-American Patient Network, which will help strengthen national patient platforms and collaborate on patient-centred projects. The Network adopted the name of a Chilean patient champion, Sylvia Ceballos, who died shortly after the first regional workshop in San Francisco. National nodes of this network are currently being established in various countries, including Argentina, Costa Rica, Mexico and Peru.

Research for patient safety

In 2007, AMRO coordinated three studies that will make an important contribution to a regional situation analysis. The first of these studies, the Ibero-American Study of Adverse Events, is a joint initiative of the Alliance, AMRO/PAHO and the Ministry of Health and Consumer Affairs of Spain. The study estimates the magnitude, importance and impact of adverse events in hospitals across the region. It also describes the characteristics of patients and care associated with adverse events. Its final report is scheduled to be available in the first half of 2008, and will be a major input in the preparation of evidence-based patient safety strategies in participating countries.

The Regional Review on Quality and Patient Safety Initiatives, initiated in October 2006, was implemented in collaboration with two health service accreditation bodies in Argentina. The review identified key institutions and programmes committed to quality improvement in Member States.

In support of the Sylvia Ceballos Network, the review included a specific component on patient organizations. The research was done by two external investigators who identified patient organizations active in Member States of the Americas, having built a database with over 300 entries. The patient organizations were categorized based on the principles laid out by the International Classification of Primary Care of the World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians.

During 2007, AMRO/PAHO also performed a systematic review of the scientific literature on quality improvement published in Latin America.





WHO REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN (EMRO)

At its Fifty-second meeting, the WHO Regional Committee for the Eastern Mediterranean adopted a resolution to enhance patient safety (EM/RC52/R.4). Member States were urged to: develop national standards for patient safety, making use of WHO guidelines; formulate national patient safety programmes in collaboration with EMRO and the World Alliance for Patient Safety; and establish mechanisms to promote partnerships between regional patient safety institutions and national health-care delivery systems.

The Patient Safety Friendly Hospital Initiative

In 2006, EMRO established an initiative to improve patient safety in hospitals. The Patient Safety Friendly Hospital Initiative involves the implementation of a set of standards developed by experts and approved by the Alliance. Conforming to such standards should ensure that patient safety is of the utmost priority and is observed in facilities and by staff. The Regional Office is developing patient safety standards and guidelines for the Patient Safety Friendly Hospital Initiative. Hospital surveillance will be performed by trained personnel.

First Global Patient Safety Challenge – Clean Care is Safer Care

The first Challenge has been endorsed by several countries in the region. Countries that have already pledged to address health-care-associated infections are: Bahrain, the Islamic Republic of Iran, Jordan, Kuwait, Oman, Pakistan, Qatar, Kingdom of Saudi Arabia, Sudan and the United Arab Emirates. Egypt has proposed to launch the Challenge in 2008. Furthermore, two pilot sites for testing the hand hygiene guidelines have been established in Pakistan and Saudi Arabia. Complementary test sites have also been established in Bahrain, Egypt, the Islamic Republic of Iran, Oman, Pakistan, Kingdom of Saudi Arabia and Tunisia.

Second Global Patient Safety Challenge – Safe Surgery Save Lives

Following development of the WHO Surgical Safety Checklist at the working group meeting in London (April 2007), a pilot site for testing the checklist was selected in Amman, Jordan (Al-Ameer Hamza Hospital). An implementation coordinator and a data collector were selected. Furthermore, EMRO is in the process of identifying significant pertinent bodies in the area of surgery, anaesthesia and nursing to become involved in the initiative, to ensure its regional expansion and sustainability.

Patients for Patient Safety

One of the most outstanding achievements during 2007 was the promulgation of the concept of patient engagement in shaping health-care policies through the Patients for Patient Safety workshop held at EMRO (March, 2007). The workshop was attended by representatives from eight countries: Egypt, the Islamic Republic of Iran, Jordan, Lebanon, Morocco, Tunisia, Sudan and Yemen. Building on action plans developed at the workshop, several proposals were further developed to implement the



programme in selected cities in Egypt and Jordan, and to introduce patient safety in medical school curricula in one of two major medical schools in Cairo, among several other awareness-raising country activities proposed by individuals identified as patient safety champions by the Alliance (in Egypt, Pakistan and Sudan).

Patient safety research

The development of baseline research studies pertaining to patient safety and adverse event measurement in developing countries was performed in 27 hospitals from six countries (Egypt, Jordan, Morocco, Sudan, Tunisia and Yemen).

In order to implement patient safety measurement tools and provide training on methods of hospital medical record review, using the guidelines set by WHO and the Alliance, two workshops were held in Cairo in December 2005 and May 2006. The workshops involved a comprehensive analytical review of the current literature, description of the magnitude of the problem of patient safety and on-site training on the method of record acquisition and analysis.

Interim findings and methods for interpreting and presenting final data were discussed at a third workshop held in Luxor (February 2007). The third regional workshop on patient safety research also set guidelines for reporting national data at different hierarchical levels. Furthermore, alternative tools (to replace or complement medical record review in areas where records are of poor quality) were introduced for pilot-testing.

The results of these studies will soon become available. To date, 11 000 medical records have been reviewed in the region and entered for analysis by a web-based data entry system at the Northern Centre for Health Care Improvement (Sydney, Australia). This phase of the study will be finalized in early 2008 at a meeting in Egypt, where policies for effective and appropriate result dissemination will be discussed.





WHO REGIONAL OFFICE FOR EUROPE (EURO)

Quality and safety have been recognized as key issues in establishing and delivering accessible, effective and responsive health systems. National interventions worldwide have often been based upon different perceptions of quality. Coupled with the existing variability of health systems development and sophistication, the end result is uneven quality requirements and health care performance across the region.

A balanced integration of health system functions is critical to efficiently addressing the evolving issue of quality and safety at national level. Historical moments on this pathway have been recorded by several dedicated documents and initiatives in EURO, building on the developing and evolving health systems framework. The forthcoming WHO EURO conference in 2008, "Health Systems, Health and Wealth" is expected to be another milestone towards improving health-care performance.

Consultation on a proposed strategic framework and tools for quality and safety

Building on existing EURO experience, work was initiated for the development of a framework document, adapted to promote the quality and safety agenda. Successive drafts have been developed since 2005 (focussed on accreditation in 2005, and research in 2006), with the resulting comprehensive perspective used in the draft framework (2007). A meeting was held at EURO in November 2007, attended by 25 international experts in the field of quality and safety in health care, to review the draft and propose revisions to the framework.

Patients for Patient Safety

In September 2007, EURO and the World Alliance held a Patients for Patient Safety workshop in Dublin, Ireland. The aim of the workshop was to explore the vision and mission of the Patients for Patient Safety initiative, and to expand the network of consumer champions in Europe who are actively engaged in contributing their experience, wisdom and knowledge to improving patient safety. Building on the success of the first global "Patients for Patient Safety" Workshop held in London, UK, in November 2005, this regional event focused on the specific challenges that are faced by patients, health professionals and policy-makers in the European region. This work advances an agenda developed by the group of global champions formed in November 2005.

First Global Patient Safety Challenge – Clean Care is Safer Care

The first Challenge has been endorsed by numerous countries in the region. Activities in 2007 included launches in several European countries. As part of the one-day Patient Safety Conference organized by the Danish Society for Patient Safety in the capital city of Denmark, in April 2007, the Director of the Danish National Board of Health, pledged to take action on health care-associated infection. The First Global Patient Safety Challenge was also inaugurated in Iceland, in February 2007, during a national seminar on patient safety. At the Norwegian National Quality Conference "Og bedre skal det bli" in October 2007, the Director-General of the Norwegian Directorate for Health and Social Affairs, signed a statement pledging to address health care-associated infection.



Second Global Patient Safety Challenge – Safe Surgery Save Lives

Following development of the '*WHO Surgical Safety Checklist*' at a working group meeting in London in April 2007, eight facilities around the world have been engaged to formally test the draft version of the Checklist. One of these test sites is at St. Mary's Hospital, Imperial College London. The second Global Patient Safety Challenge has a wide range of collaborators from the European region taking part in the development process of the draft Surgical Checklist and many technical experts and facilities have been invited to participate in "feasibility testing" of the Checklist.

Action on Patient Safety: High 5s

Three of the seven countries taking part in the High 5s initiative are from the European region: Germany, the Netherlands and the United Kingdom of Great Britain and Northern Ireland. These countries have agreed to collaborate with the Alliance, the WHO Collaborating Centre on Patient Safety (Solutions) and the four other countries –Australia, Canada, New Zealand, and the United States of America– to implement five standardized protocols related to patient safety solutions, over the next five years.





WHO REGIONAL OFFICE FOR SOUTH-EAST ASIA (SEARO)

Progress on implementation of Resolution SEA/RC59/R3 on "Promoting Patient Safety in Health Care" was discussed with Member States at the joint meeting of Health Secretaries and Consultative Committee for Programme Development and Management (HS/CCPDM) in July 2007, and at the 60th Session of the WHO Regional Committee for South East Asia in September 2007.

Advocacy

One of the main issues for governments is to galvanize commitment and action among key stakeholders to improve the quality and safety of health care. SEARO has been engaging governments and stakeholders to participate in the 'Clean Care is Safer Care' initiative and to focus on the reduction of health care-associated infection (HAI) in SEAR Member States. To date, India, Bangladesh, Bhutan, Thailand and Indonesia have signed a statement pledging to address HAI.

Country visits and Capacity building

SEARO has conducted visits to the Maldives, Sri Lanka, Thailand and Indonesia, to review existing efforts, respond to specific country needs and highlight successful interventions and actions that can be built on and shared with other countries in the Region.

A series of four regional patient safety workshops have been organized, to date. These were planned based on recommendations of the first regional workshop on patient safety which took place from 12-14 July 2006 in Delhi, India, in fulfilment of Resolution SEA/RC59/R3 on Promoting Patient Safety in Health Care. Each workshop, with different themes, objectives, and target audiences, has helped develop regional capacity in a key aspect of patient safety, and was part of an inclusive consultative process – each providing clear directives to identify priority areas of work, action points for Member States and how WHO can best support these. Thus, each workshop represented a building block in the development of a regional strategy and a package of interventions and tools to promote quality and safety in health care.

The second workshop on 'Clean Care is Safer Care' was hosted by Thailand from 20-22 June 2007 and provided an opportunity to review the status of health care-associated infection (HAI) in the Region, as well as to exchange information on the strategies and tools available to reduce HAI, including the new WHO Guidelines on Hand Hygiene in Health Care. The key output of the workshop was a priority list of action points for countries and for WHO to include in their 2008-2009 work plans. These action points were built into the priority areas of work delineated at the first regional workshop in Delhi, in July 2006. Meanwhile, the WHO guidelines and associated tools are being field-tested at the Chittagong Medical College in Bangladesh, using a locally manufactured alcohol hand-rub.

The third, Patients for Patient Safety workshop hosted by Indonesia from 17-19 July 2007, was the first of its kind for the Region and brought together patients, family members, health-care professionals, lawyers, media and policy-makers to discuss safer health care in the Region. Several NGOs, medical associations, medical and nursing councils were also represented by the participants. A key output of the meeting was the "Jakarta Declaration on Patients for Patient Safety in the South East Asia Region" which was endorsed by the Regional Committee at their 60th Session in September 2007 in Bhutan, as an addendum to Resolution SEA/RC59/R3. The Declaration calls for open and honest communication between patients and health-care



professionals who must work in partnership to build a health-care system in which "no patient should suffer preventable harm".

The fourth workshop focused on safe emergency and surgical care at the first level of care. It was hosted by Sri Lanka from 15-17 January 2008 and brought together senior policy-makers, head surgeons, anaesthesiologists and operating room nurses, to discuss policies, standard processes and procedures, and medical device planning and management. The workshop represented a collaboration between different units at WHO in the areas of safe blood transfusions, integrated management of emergency and essential surgical care, and integrated health technologies. It will serve as an entry point for the second Global Patient Safety Challenge 'Safe Surgery Saves Lives' which will be launched in mid-2008.

Networking and building partnerships

The regional workshops described above have fostered collaboration and an exchange of information and best practices between countries and established the foundations for a regional network of individuals and institutions committed to moving the patient safety agenda forward.

SEARO has partnered with the Regional Network of Medical Councils to improve patient safety in the Region. Patient safety was identified as a priority area of work at the founding meeting of the Network from 15-16 February 2007. Representatives of this Network participated in the Patients for Patient Safety regional workshop in Jakarta in July 2007 and were party to the Jakarta Declaration. Representatives convened after the workshop to draft a statement on the roles and responsibilities of medical councils in patient safety. A working paper was developed based on the recommendations and was endorsed by the Network at their second meeting held from 19-21 December 2007 in Colombo, Sri Lanka.

SEARO will partner with health-care accreditation bodies as a way of institutionalizing patient safety goals and solutions in the Region. SEARO organized an Expert Group Meeting on "Accreditation and other External Quality Assessment Systems" held on 7 and 8 February 2008 in Bangkok, Thailand. Experts from India, Indonesia, Sri Lanka and Thailand shared and compared country experiences with hospital accreditation, made recommendations on external quality assessment as a mechanism for promoting quality and safety in health care in the Region, and proposed a future course of action for SEARO in this area of work.





WHO REGIONAL OFFICE FOR THE WESTERN PACIFIC (WPRO)

During 2007, WPRO made progress engaging China and Mongolia to join the first Global Patient Safety Challenge initiative, committing to address health care-associated infection.

Global Patient Safety Challenge

In the past few months, progress has been made on the first Challenge, both with high-level political commitments and technical interventions, to address this problem in two countries of the Region. In Mongolia, as part of the national programme to improve quality of care, patient safety and infection control, a national workshop was held in Ulaanbaatar, in May 2007. Under the leadership of the Ministry of Health, a work plan was developed to advance the quality and safety of health-care service delivery by building on the WHO Guidelines on Hand Hygiene in Health Care, including the use and local production of WHO's formulation of the alcohol-based handrub solution. The implementation of the guidelines are being tested in three selected hospitals in the capital, before scaling up nationwide.

To demonstrate commitment to the initiative '*Clean Care is Safer Care*', the Mongolian Minister of Health signed a statement pledging support to address health care-associated infection in her country, thus making Mongolia the sixth country in the Western Pacific Region to have pledged support to this initiative. The other five countries to have pledged support are Australia, China, Malaysia, The Philippines and Singapore

In November 2007, China held an international seminar on infection control and launched the '*Clean Care is Safer Care*' initiative in the presence of about 150 participants, composed of senior Ministry of Health and Chinese Hospital Association representatives. The seminar focused on China's efforts to reduce the burden of health care-associated infection and how to link national planning with the WHO Guidelines on Hand Hygiene in Health Care.



FIRST GLOBAL PATIENT SAFETY CHALLENGE

Clean Care is Safer Care

National launch events around the world 2006-2007



EVENTS AND CONFERENCES IN 2006-2007

International Conference on Patient Safety: "Patients for Patient Safety"

13-14 December 2007, Madrid, Spain

The conference held a special session on the experiences of patient champions of the World Alliance for Patient Safety.

WHO Radiotherapy Safety Review Meeting: "Risk Profiles"

10th – 12th of December 2007, WHO HQ, Geneva, Switzerland

The aim of the meeting was to: map the process of care in radiotherapy, identify the risks in the process of care systematically, suggest action to reduce risk at each stage. This initial meeting will be followed in 2008-2009 by the publishing of a risk profile in radiotherapy and associated publications to promote risk reduction strategies as part of quality assurance mechanisms within radiotherapy departments worldwide.

Patient Safety and 'Clean Care is Safer Care': First Awareness-raising workshop on Patient Safety issues in the African Region

10-12 December 2007, Kigali, Rwanda

The patient safety workshop focused on the First Global Patient Safety Challenge 'Clean Care is Safer Care', in particular the importance of health care-associated infections and their prevention by promoting and improving hand hygiene among health care providers.

Rwanda commits to the First Global Patient Safety Challenge 'Clean Care is Safer Care'

11 December 2007 - Kigali, Rwanda

The signing ceremony of the First Global Patient Challenge by the Minister of Health Dr Jean Damascene Ntavukuriyayo, was part of the three-day Patient Safety workshop.

Columbia launches the First Global Patient Safety Challenge 'Clean Care is Safer Care'

4 December 2007 - Bogota, Columbia

The National Quality Forum in Bogota saw the launch of the First Global Patient Safety Challenge in Columbia. The Statement for Columbia was signed by the Minister of Social Protection.

MERCOSUR countries - Committed to address health care-associated infection

30 November 2007 - Montevideo, Uruguay

The launch of the First Global Patient Safety Challenge took place as part of the Meeting of Ministers of the MERCOSUR and associated Latin American countries including Argentina, Brazil, Bolivia, Chile, Ecuador and Paraguay. Dra. Maria Julia Muñoz, Minister of Public Health of Uruguay, hosted the signing ceremony and together with the eight other Ministers of Health committed to sign a statement pledging to take action on health care-associated infection in their countries.



China launches the First Global Patient Safety Challenge 'Clean Care is Safer Care'

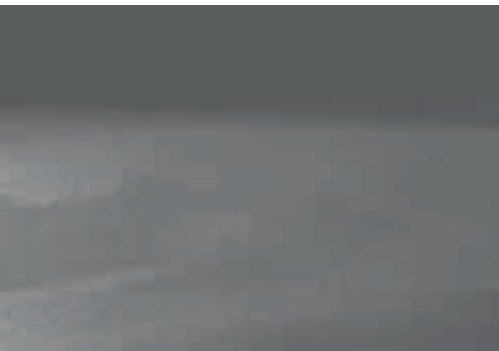
27 November 2007 - Beijing, China

The launch event saw the signing of a statement pledging support to address health care-associated infection in China by the Minister of Health.

The International Classification for Patient Safety: Meeting of Technical Experts from the South East Asian and Western Pacific Regions of the WHO

26 November 2007 - Tokyo, Japan

The purpose of this meeting was to discuss the development of the ICPS and provide an opportunity for consultation on the work thus far, as well as to explore the value of the ICPS from a variety of perspectives including, research, reporting, system improvement, accountability and knowledge building.



2007 International Symposium on Health Care Policy - Commonwealth Fund Action on Patient Safety: High 5s

1 November 2007, Washington, DC, USA

As part of the Commonwealth Fund's 2007 International Symposium on Health Care Policy, which brings together Ministers of Health of the Commonwealth Countries, six Ministers of Health and representatives from Canada, Germany, the Netherlands, New Zealand, the United Kingdom and the United States of America agreed to undertake collaborative action to implement five standardized protocols related to patient safety solutions over the next five years. The signing ceremony of a statement of intent was attended by patient safety leaders and advocates from around the world.

Norway committed to address health care-associated infection

31 October 2007 - Oslo, Norway

At the National Health Care Quality Conference, the Director-General of the Norwegian Directorate for Health and Social Affairs, Bjorn-Inge Larsen, signed a Statement pledging to address health care-associated infection in Norway. The conference saw discussion in a range of areas such as patient engagement and quality in primary health care.



Pakistan launches the First Global Patient Safety Challenge 'Clean Care is Safer Care'

29 October 2007 - Islamabad, Pakistan

The launch event was part of a two-day workshop on the First Global Patient Safety Challenge that took place at the Pakistan Institute of Medical Sciences (PIMS). The workshop was officially closed by Muhammad Nasir Khan, Minister of Health of Pakistan.

World Alliance for Patient Safety - High 5s Steering Group Meeting

22-23 October 2007, WHO HQ, Geneva, Switzerland

The High 5s steering group, responsible for prioritizing solutions based on their potential impact and strength of evidence, met at WHO headquarters in Geneva, to discuss the five Standard Operating Protocols (SOPs), approve the methodologies for Impact Evaluation, and discuss implementation issues of the SOPs.

Annual Congress of the International Federation of Infection Control (IFIC)

18-22 October 2007 - Budapest, Hungary

The First Global Patient Safety Challenge participated with a presentation and presented publications and tools at its exhibition stand.

24th International Conference of ISQua, The International Society for Quality in Health Care

30 September - 3 October 2007 - Boston, USA

The conference held special sessions on the Taxonomy, Research and Solutions programmes of the World Alliance for Patient Safety, as well as a session on the project "When things go wrong", implemented together with the Irish Health Information and Quality Authority.



Caribbean Community (CARICOM) countries launch of the First Global Patient Safety Challenge 'Clean Care is Safer Care'

29 September 2007 - Washington, D.C. USA

Ministers of Health from the Caribbean Community (CARICOM) were in Washington D.C. for a meeting immediately prior to the 27th Pan American Sanitary Conference, pledged to take action on health care-associated infection in their countries. Fourteen Ministers of Health or senior delegates from Antigua and Barbuda, Barbados, Belize, the British Virgin Islands, Cayman Islands, Dominica, Guyana, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago signed a Statement pledging their support to the 'Clean Care is Safer Care' initiative. Anguilla, a British territory, also signed.



Patient Safety Research - Shaping the European Agenda

24-26 September 2007 - Porto, Portugal

A major international conference to set the future agenda for patient safety research in Europe, was organized by the WHO World Alliance for Patient Safety, the UK Faculty of Public Health and University College London, and funded by the European Commission. The conference helped promote discussion between researchers and policy-makers.



Central American Country Group Launch of the First Global Patient Safety Challenge 'Clean Care is Safer Care'

21 September 2007 - Mexico City, Mexico

A country group launch of the First Global Patient Safety Challenge 'Clean Care is Safer Care' took place at the National Anthropology Museum in Mexico City. The Mexican Minister of Health Dr José Ángel Córdova, hosted a ceremony together with seven other Ministers of Health or the representatives from Cuba,

the Dominican Republic, El Salvador, Honduras, Guatemala, Nicaragua and Panama. The eight Ministers of Health or their representatives signed a statement pledging to take action on health care-associated infection in their countries.

European Regional "Patients for Patient Safety" Workshop

3-6 September 2007 - Dublin, Ireland

Fifty-eight patients, health professionals and policymakers from 21 countries across Western, Central and Eastern Europe met in Dublin. The aim was to build a network, partnership and strategies for the future of patient engagement in patient safety work at a national and regional level.

First Global Patient Safety Challenge 'Clean Care is Safer Care': Signing ceremony by Qatar

2 September 2007 - Abu Dhabi, UAE

As part of the three-day Conference on Patient Safety: Infection Control in Abu Dhabi, 2-4 September 2007, Dr. Fouzia Al-Naimi, Nursing Affaires Consultant from the National Health Authority of Qatar, signed a statement to take action on health care-associated infection in Qatar.

First Global Patient Safety Challenge 'Clean Care is Safer Care'

Core Group Meeting

30-31 August 2007 - Geneva, Switzerland

Members of the GPSC core group met at WHO HQ in Geneva to discuss the finalization of WHO's Guidelines on Hand Hygiene in Health Care.



First Global Patient Safety Challenge 'Clean Care is Safer Care'

Country Campaigning Meeting

29-30 August 2007 - Geneva, Switzerland

Twenty-one representatives from sixteen of these countries attended the first global gathering of campaigning nations in Geneva. One of the key objectives of the meeting was to explore the opportunities for strengthening the global response to health care associated infections through the solidarity of a formal partnership of nations, each with a common aim - to address HAI through a focus on better hand hygiene compliance by health-care workers.

First Global Patient Safety Challenge: Testing the implementation of the WHO Multimodal Hand Hygiene Improvement Strategy

27-28 August 2007 - Geneva, Switzerland

Pilot site representatives attended a training workshop at the University of Geneva Hospitals.



Launch of the First Global Patient Safety Challenge 'Clean Care is Safer Care' in Jordan

16 August 2007 - Amman, Jordan

The First Global Patient Safety Challenge was inaugurated in Amman, on 16 August 2007 and the Honourable Minister of Health, Dr Mohammad Thnaibat, committed Jordan's support to implement actions to reduce health care-associated infection.

Launch of the First Global Patient Safety Challenge 'Clean Care is Safer Care' in Indonesia

17 July 2007 - Jakarta, Indonesia

As part of the two-day Regional Patient Safety Workshop on "Patients for Patient Safety" in South East Asia, Dr Siti Fadilah Supari, Sp. JP(K) the Minister of Health, launched the First Global Patient Safety Challenge and pledged to take action on health care-associated infection in Indonesia.



Regional Patient Safety Workshop on "Patients for Patient Safety" in South East Asia

17-19 July 2007 - Jakarta, Indonesia

The regional workshop brought together patients, consumers, family members, health professionals and policy-makers from Bangladesh, Bhutan, India, Indonesia, Maldives, Sri-Lanka, Nepal, Myanmar, Thailand and Timor Leste. Patients, had the opportunity to share their experiences, build partnerships with other stakeholders, share learning and challenges and work in partnership with health care professionals and policy-makers.

Second Technical Working Group Meeting - "Safe Surgery Saves Lives"

9-11 July 2007 - Geneva, Switzerland

The four working groups on "Safe Surgical Teams", "Safe Anaesthesia", "Prevention of Surgical Infections" and "Measurement": reviewed the "Surgical checklist"; discussed the content of the Technical Report Papers; finalized the technical papers of each working group and agreed to initiate the pilot testing process.



Regional Patient Safety Workshop on 'Clean Care is Safer Care'

20-22 June 2007 - Bangkok, Thailand

The first patient safety workshop on 'Clean Care is Safer Care' brought together more than fifty participants from Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, Timor-Leste. The aim of the workshop was to provide a platform for sharing technical knowledge and information relating to the prevention of health care-associated infection and develop an advocacy framework to strengthen country capacity in promoting Clean Care is Safer Care and engaging key stakeholders.



Launch of the First Global Patient Safety Challenge 'Clean Care is Safer Care'

20 June 2007 - Bangkok, Thailand

As part of the three-day regional patient safety workshop on 'Clean Care is Safer Care' organized by the Ministry of Public Health of Thailand and the WHO Regional Office for South East Asia in the capital city of Bangkok, 20 June 2007, Dr. Mongkol Na Songkhla, Minister of Public Health, pledged to take action on health care-associated infection in Thailand.

Patient for Patient Safety Workshop - Patients meet to promote mother and child health in the Americas

11 June 2007 - Oakbrook, Illinois, USA

Health care and patient advocates from North and South America gathered for an intensive three-day workshop focused on efforts to improve patient safety in mother and child health care. The regional workshop offered participants training in the design, implementation and evaluation of patient safety solutions that they can use to influence health policies and programmes in their own countries and regions.

Meeting of the Drafting Group for the International Classification for Patient Safety

8 June 2007 - Geneva, Switzerland

The meeting of the Drafting Group continued to work on the development of the International Classification for Patient Safety (ICPS) and the feedback report on the Delphi consultation.



National workshop on patient safety and infection control

10 May 2007 - Ulaanbaatar, Mongolia

As part of the national programme to improve quality of care, patient safety and infection control, a national workshop was held in Ulaanbaatar, Mongolia. Under the leadership of the Ministry of Health a work plan has been developed to advance the quality and safety of health care service delivery by building on the WHO Guidelines on Hand Hygiene in Health Care. The Mongolian Minister of Health, Dr Danzndarjaa Tuya, signed a statement pledging support to address health care-associated infection in her country.

2nd International Congress of Infection Control in Tehran and launch of the First Global Patient Safety Challenge

6-11 May 2007 - Tehran, Iran

The Global Patient Safety Challenge 'Clean Care is Safer Care' was inaugurated in the Islamic Republic of Iran and the Ministry of Health and Medical Education formally pledged Iran's support to implement actions to reduce health care-associated infection. Deputy Minister of Health Dr Alavian, spoke about the national infection control strategies and signed the statement committing to address health care-associated infection.

9th Annual NPSF Congress: Learning from the past, Creating the future

3-5 May 2007 - Washington DC, USA

The congress held a special session on the work of the World Alliance for Patient Safety.



Launch of nine Patient Safety Solutions

2 May 2007 - Washington, DC, USA

Nine patient safety solutions to reduce the toll of health care-related harm affecting millions of patients daily, worldwide, were launched by the World Health Organization (WHO). The solutions, developed by the WHO Collaborating Centre on Patient Safety (Solutions), are being made available to WHO Member States

Research for Patient Safety: Annual Meeting of the Advisory Council

1 May 2007 - Rockville, MD, USA

The second Advisory Council for Research meeting was hosted at the Headquarters of the Agency for Health Care Research and Quality (AHRQ) to discuss the Research programme of the World Alliance for Patient Safety.

First Technical Working Group Meeting: "Safe Surgery Saves Lives"

18-20 April 2007 - London, UK

The first Technical Working Group Meeting aimed to establish the working relationships of the technical groups based on the themes of: clean surgery, safe anaesthesia, safe surgical teams, and measurement. It also discussed the minimum standards that might be included in the Surgical Countdown.



Patient Safety Conference and Launch of the First Global Patient Safety Challenge

16 April 2007 - Copenhagen, Denmark

As part of the one-day Patient Safety Conference organized by the Danish Society for Patient Safety in the capital city of Denmark, 16 April 2007, the Director of the Danish National Board of Health, Mr Jesper Fisker, pledged to take action on health care-associated infection in Denmark.



Launch of a Research for Patient Safety project in Central and South America

27-31 March 2007 - Buenos Aires, Argentina

The meeting, inaugurated by the Minister of Health, Argentina, Dr G. González García, was hosted by Argentina for national coordinators for research on patient safety and health professionals from Mexico, Costa Rica, Peru, Colombia and Argentina. The meeting reviewed the methodology and tools to be used in the "Prevalence of Adverse Events in Hospitals from Latin America Study (IBEAS).

Patients for Patient Safety Regional Workshop

26-28 March 2007 - Cairo, Egypt

This event brought together 30 participants from 8 countries within the Eastern Mediterranean region. The event created a network of consumer champions in the Eastern Mediterranean who are actively engaged in contributing their experience.

Regional Global Patient Safety Challenge Workshop - PAHO

5- 7 March 2007 - San Jose, Costa Rica

The workshop discussed a regional strategy for reducing health care-associated infection in Latin America and the Caribbean through better hand hygiene and other improvements in infection control practices, clinical procedures, surveillance and advocacy. Participants included experts on infection prevention and control and policy-makers from 21 countries of Latin America and the Caribbean.



Seminar on Patient Safety and Inauguration of the Global Patient Safety Challenge 'Clean Care is Safer Care'

February 8th 2007 - Reykjavik, Iceland

The First Global Patient Safety Challenge was inaugurated in Iceland during a national seminar on patient safety and Minister of Health and Social Security, Siv Friðleifsdóttir, signed a statement committing to implement actions to reduce the spread of health care-associated infections.

Priority setting for research on patient safety

1-2 February - Geneva, Switzerland

The meeting discussed issues pertinent to priority setting for research on patient safety.

Inauguration of the Global Patient Safety Challenge 'Clean Care is Safer Care'

18 January 2007 - Bamako, Mali

The Global Patient Safety Challenge 2005-2006 was inaugurated in Mali and the Minister for Sport and Youth formally committed Mali's support to implement actions to reduce health care-associated infection.



First International Consultation on Improving the Safety of Surgical Care

11-12 January 2007 - Geneva, Switzerland

Fifty participants from across the six WHO regions discussed the current environment of surgical care across the globe and debated potential criteria that might be adopted to improve the safety of surgery.

Advancing methods and measures for patient safety research

18-19 December 2006 - Geneva, Switzerland

The World Alliance for Patient Safety convened an expert working group to identify and recommend directions leading to the advancement of research methodologies and measures and to the adoption of the most appropriate ones for specific contexts.

Third Meeting Of The Drafting Group for the International Patient Safety Event Taxonomy

13-14 December 2006 - Geneva, Switzerland

The drafting group responsible for the development of an International Patient Safety Event Classification (IPSEC) met to discuss the continued development of the IPSEC through field testing in a variety of health care settings.

Principles for building capacity for patient safety research

10-11 December 2006 - Bangkok, Thailand

The meeting highlighted the value of integrating patient safety research within health systems, developing future leaders for research and building on existing resource capacity and initiatives.



Inauguration of the Global Patient Safety Challenge 'Clean Care is Safer Care'

4 December 2006 - Muscat, Sultanate of Oman

As part of the three-day International Congress on Infectious & Tropical Diseases and the GCC Conference on Infectious Diseases & Infection Control in the capital of Oman, 4-7 December 2006, the Minister of Health, Dr Ali bin Mohammed bin Moosa, signed a statement to take action on health care-associated infection in Oman.



Launch of the Global Patient Safety Challenge "Clean Care is Safer Care" as part of the 6th Malta Medical School Conference

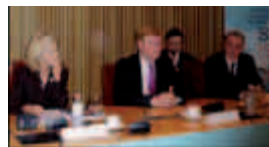
30th November 2006 - Valletta, Malta

The Director General & Chief Government Medical Officer, Dr. Ray Busuttil, signed a statement committing to take action on health care-associated infection in Malta, as part of the national three-day meeting of the VI Malta Medical School Conference.

ESCMID-SHEA Training Course in Hospital Epidemiology 2006

25-28 November 2006 - Baden/Vienna, Austria

Staff from the First Global Patient Safety Challenge participated as speakers at the training course.



International conference on patients safety: Challenges and Realities in the Spanish National Health Service and Launch of the Global Patient Safety Challenge in Spain

15-16 November 2006 - Madrid, Spain

Over 800 participants including policy-makers, health care providers and managers from Spain witnessed the signing of a statement by Minister of Health Elena Salgado, pledging to address health care-associated infection.



A Year of Cleaner and Safer Care

10 November 2006 - Geneva, Switzerland

A one-year-on meeting to announce progress made worldwide since the launch of the First Global Patient Safety Challenge and encourage more Member States to commit to addressing this problem.

29th Annual Health Care Quality & Patient Safety Conference - Quality: The Pathway to Success

28 October 2006 - Chicago, United States of America



Halifax 6: The Canadian Healthcare Safety Symposium, Canada signs statement pledging to address health care-associated infection

19-21 October 2006 - Vancouver, Canada

The First Patient Safety Challenge was inaugurated in Canada on Friday 20 October 2006, as part of the Halifax 6: Canadian Healthcare Safety Symposium. The Symposium continued the tradition as Canada's premiere meeting of organizations with a desire to improve patient safety and enhance the overall quality of health care systems.

Action on Patient Safety

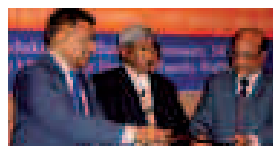
29-30 September 2006 - WHO Headquarters, Geneva, Switzerland



Technical workshop on Patient Safety and Care of Acutely Ill Patients: changing the paradigm

22 September 2006 - Barcelona, Spain

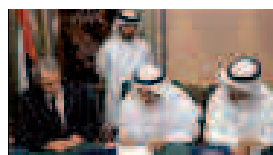
The workshop helped to characterize the scale and nature of the problem of unsafe care of the acutely ill patient in different health care systems and identify opportunities to improve the safety of these patients with particular focus on promoting best practices through implementing strategies to change behaviour within health care organizations.



Inauguration of the Global Patient Safety Challenge 2005-2006 'Clean Care is Safer Care'

17 September 2006 - Dhaka, Bangladesh

Dr Khandakar Mosharraf Hossain, Honourable Minister for Health and Family Welfare formally committed Bangladesh's support to implement actions to reduce health care-associated infection.



Launch of the Global Patient Safety Challenge 2005-2006

17 September 2006 - Dubai, UAE

Mr Hamad bin Mohamed Alqutami, the UAE Health Minister, reaffirmed commitment to improve the safety of patients by signing up to the First Global Patient Safety Challenge.



International Patient Safety Summit (IPPS)

16-18 September 2006 - Riyadh, Saudi Arabia

At the Summit, a set of recommendations was agreed focusing on the establishment of a national centre for patient safety, the establishment of national reporting and adverse event notification systems, strategies to increase awareness of patient safety among frontline staff and national plan for continuing professional education focusing on patient safety.

Patient Safety in Undergraduate and Postgraduate Education: Have we got it Right?

ASME Annual Scientific Meeting 2006

6-8 September 2006 - The University of Aberdeen, Scotland, UK



VHA - A World of Excellence

29-31 August 2006, Las Vegas, NV, USA

Lecture by Sir Liam Donaldson at the Senior Leadership Conference
The Department of Veterans Affairs, Veterans Health Administration

Five challenges for patient safety

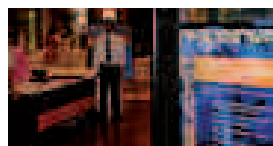
28 August 2006 - San Francisco, USA

Lecture by Sir Liam Donaldson at the University of California

First Meeting of the Expert Working Group to Establish Priority Areas for Research on Patient Safety

13-14 July 2006 - Geneva, Switzerland

The working-group on priority-setting for patient safety research met for the first time to agree on the methodology of the priority-setting process and establish a calendar and milestones for the delivery of the project.



Meeting on the Affirmation of India's commitment to 'Clean Care is Safer Care'

14 July 2006 - New Delhi, India

At the inauguration event, Mrs. Panabaka Lakshmi, Minister of State for Health, Government of India and Dr R K Srivastava, Director General of Health Services, Mr Prasanna Hota, Secretary, Ministry of Health & Family Welfare signed a statement pledging to address health care-associated infection in India.

WHO/SEAR Workshop on Patient Safety in Healthcare

12-14 July 2006 - New Delhi, India

The Regional Workshop on Patient Safety brought together about 50 participants from SEAR Members States to share experiences on patient safety. The workshop was the first step towards the development of a regional strategic framework on Patient Safety in Health Care Institutions.



Country group inauguration of the Global Patient Safety Challenge 2005-2006: Clean Care is Safer Care

3 July 2006 - Moscow, Russia

Ministers of Health or their representatives from Belarus, Georgia, Moldova, Kazakhstan, Kyrgyzstan, Russia and Tajikistan signed a statement committing to address health care-associated infection in their country. The group event was hosted by Russia and organized by the Federal Public Health Research Institute in Moscow

GHTF 2006 Conference: Design for Patient Safety in a Global Regulatory Model

Global Harmonization Task Force

28-30 June 2006 - Lübeck, Germany



Patient Safety Conference

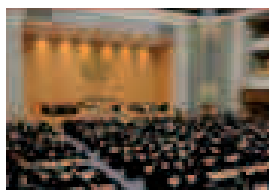
6 June 2006 - Ljubljana, Slovenia

One-day meeting on patient safety organised by the Ministry of Health of Slovenia, the Institute of Public Health of Slovenia, the British Embassy Ljubljana, the Medical Chamber, WHO, Nurses and Midwives Association of Slovenia and the Council of Europe

Invest in Error Prevention

Risk management for personnel and patient safety

1-2 June 2006 - Stockholm, Sweden



Fifty-ninth World Health Assembly

World Alliance for Patient Safety: Actions and achievements

27 May 2006 - Geneva, Switzerland

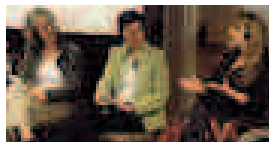
The Secretariat of the World Alliance for Patient Safety was requested to report back to the Assembly Members on progress achieved to date in the implementation of the 2002 WHA Resolution, WHA55.18, which urges WHO to develop norms and standards for patient safety and support Member States to frame policies that will improve the safety of care.



Meeting on the Affirmation of Malaysia's Commitment to the WHO Global Patient Safety Challenge 2006

15 May 2006 - Kuala Lumpur, Malaysia

The Minister of Health, Hon. Dato' Dr Chua Soi Lek, affirmed Malaysia's commitment to leading improvements in the prevention of health care-associated infection.



8TH Annual NPSF Patient Safety Congress

10-12 May 2006 - San Francisco, California, USA

The first regional workshop for Patients for Patient Safety brought together 40 patients from across the Pan-American region, including Canada, USA, Argentina, Mexico, Peru, Chile and Costa Rica. Participants worked on several initiatives, including a statement of values to guide future work and a statement of priorities.



Workshop on Methodologies for Medical Records Review

8-11 May 2006 - EMRO, Cairo, Egypt

The workshop, was the second round of a training programme on the principal methodologies and organizational aspects to conduct retrospective studies on the prevalence of adverse events in hospital care. Participating teams were from Egypt, Jordan, Morocco, Sudan, Tunisia and Yemen from EMRO, and Kenya and South Africa, from AFRO.

3rd Annual Excellence in Nursing Conference

Patient Safety...Let's Put It Into Practice!

5 May 2006 - Jacksonville, FL, USA

Second meeting of the Drafting Group for the Development of the International Patient Safety Event Classification

4 May 2006 – WHO Headquarters, Geneva, Switzerland

The meeting reviewed the overall conceptual framework and identified the concepts to make up the classification.

11th European Forum on Quality Improvement in Health Care

26-28 April 2006 - Prague, Czech Republic

Aviation Safety and Patient Safety Expert Meeting

5 April 2006 - London, UK

The purpose of this intersectoral meeting was to explore the scope for translating the latest thinking on approaches to safety within aviation, with a view to improving patient safety. The meeting focused on identifying and scoping practical areas for developing further links between the aviation industry and the work of the World Alliance for Patient Safety.

16th European Congress of Clinical Microbiology and Infectious Diseases

1-4 April 2006 - Nice, France

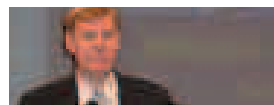
Healthcare Associated Infection 2006

30-31 March 2006 - London, UK

Meeting of Conceptual Framework Working Group

Taxonomy Drafting Group

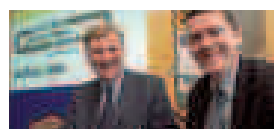
30 March 2006 - WHO, Geneva, Switzerland



World Health Care Congress-Europe

29-31 March 2006 - Château Les Fontaines in Chantilly, France

Lecture on Patient Safety by Sir Liam Donaldson



Global Patient Safety Challenge special event at the "Changing the culture" conference

13 March 2006 - Belfast, Ireland

Northern Ireland signs statement to address health care-associated infection

Second Intercountry Consultation on Patient Safety

11-13 March 2006 - Muscat, Oman

The consultation reviewed and developed the regional strategic plan on patient safety, endorsed by Regional Committee in EMRO, in 2005.

Core group meeting of experts

Global Patient Safety Challenge 2005-2006: 'Clean Care is Safer Care'

9-10 March 2006

Following two international consultations on the development of the WHO Guidelines on Hand Hygiene in Health Care, in December 2004 and April 2005, a Core Working Group was established to offer detailed technical input on the development and ratification of the final advanced draft of the WHO Guidelines and the implementation of the Global Patient Safety Challenge.

Culture of Safety: A System Strategy to Reduce Medical Errors and Improve Patient Safety

Chicago Patient Safety Forum

3 March 2006 - Loyola University Chicago, Stritch School of Medicine, Maywood, IL

2nd Global Patients Congress

22-24 February 2006 - Barcelona, Spain

Seize the moment: reaching excellence in patient safety

Risk Management Foundation of the Harvard Medical Institutions (RMF) and the Kaiser Permanente

6-7 February 2006 - Boston, USA

Patient Safety 2006

National Patient Safety Agency

1-2 February 2006 - London, UK



The World Alliance for Patient Safety: addressing health care-associated infection

WHO Lyon Office for National Epidemic Preparedness and Response

26 January 2006 - Lyon, France

Speech on Patient Safety by Sir Liam Donaldson



Japanese Society for Quality and Safety in Health Care Symposium

9 January 2006 - Tokyo, Japan

Sir Liam Donaldson presented a keynote address on "Patient Safety: the International Challenge" and the World Alliance for Patient Safety. The Symposium was organized by JSQSH with 120 participants including hospital directors, clinical leaders and researchers. Presentations on patient safety in Japan covered the themes of adverse event studies and experiences with reporting and adverse drug reactions.



WEBSITES

- World Alliance for Patient Safety Home Page:
www.who.int/patientsafety/en
- First Global Patient Safety Challenge 'Clean Care is Safer Care' Home Page:
www.who.int/gpsc/en
- Second Global Patient Safety Challenge 'Safe Surgery Saves Lives':
www.who.int/patientsafety/challenge/safe.surgery/en
- Patients for Patient Safety:
www.who.int/patientsafety/patients_for_patient/en
- International Classification for Patient Safety:
www.who.int/patientsafety/taxonomy/en
- Patient Safety Research:
www.who.int/patientsafety/research/en
- Patient Safety Solutions:
www.who.int/patientsafety/solutions/patientsafety/en
- High 5s:
www.who.int/patientsafety/solutions/high5s/en
- Reporting and Learning:
www.who.int/patientsafety/reporting_and_learning



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1. Pittet D. , Donaldson L. 'Clean Care is Safer Care': the first global challenge of the WHO World Alliance for Patient Safety. *Infect Control Hosp Epidemiol* 2005;26:891-4
2. Pittet D. , Donaldson L. 'Clean Care is Safer Care': the first global challenge of the WHO World Alliance for Patient Safety. *Am J Infect Control* 2005;33:476-9
3. Pittet D. Clean hands reduce the burden of disease. *Lancet* 2005;366:185-7
4. Pittet D, Donaldson L. Clean Care is Safer Care: a worldwide priority. *Lancet* 2005;366:1246-7
5. Rotter M, Sattar SA, Dharan S, Webber P, Voss A, Pittet D. Comparative efficacy of hand hygiene agents in the reduction of bacteria and viruses. *Am J Infect Control* 2005;33:558-60
6. Pittet D, Allegranzi B, Donaldson L. 'Clean Care is Safer Care': the Global Patient Safety Challenge 2005-2006. *Public Health Manager* 2005;12:31-41 [in Russian]
7. Pittet D, Donaldson L. Challenging the world: patient safety and health care-associated infection. *Int J Qual Health Care* 2006;18:4-8
8. Ahmed QA, Memish ZA, Allegranzi B, Pittet D. Muslim health-care workers and alcohol-based handrubs. *Lancet* 2006;367:1025-7
9. Pittet D, Allegranzi B, Storr J, Donaldson L. 'Clean Care is Safer Care': the Global Patient Safety Challenge. *Int J Infect Dis* 2006;10:419-24
10. Pittet D, Storr J, Allegranzi B. Hand hygiene: still not sufficiently recognized in European hospitals. *Hospital Health Care* 2006;7. Epub available at www.hospitalhealthcare.comPittet
11. Pittet D, D, Allegranzi B, Storr J. 'Clean Care is Safer Care'. *Public Service Review: European Union* 2006;12:74-5
12. Pittet D, Allegranzi B, Sax H, Dharan S, Pessoa da Silva C, Donaldson L, Boyce J. Evidence-based model for hand transmission during patient care and the role of improved practices. *Lancet Infect Dis* 2006;6:641-52
13. Larson E, Girard R, Pessoa-Silva CL, Boyce J, Donaldson L, Pittet D. Skin reactions related to hand hygiene and selection of hand hygiene products. *Am J Infect Control* 2006;34:627-35
14. Whitby M, Pessoa da Silva CL, McLaws M-L, Allegranzi B, Sax H, Larson E, Seto WH, Donaldson L, Pittet D. Behavioural considerations for hand hygiene practices: the basic building blocks. *J Hosp Infect* 2007;65:1-8



15. Allegranzi B, Storr J, Dziekan G, Leotsakos A, Donaldson L, Pittet D. The first Global Patient Safety Challenge 'Clean Care is Safer Care': from launch to current progress and achievements. *J Hosp Infect* 2007;65 Suppl2:115-23
16. Pittet D, Allegranzi B, Dharan S and Sax H. Hand hygiene and health-care- associated infections - Authors' reply. *Lancet Infect Dis* 2007;7;305-06
17. Storr J, Allegranzi B, Leotsakos A, Pittet D. Information and Announcement on the First Global Patient Safety Challenge: 'Clean Care is Safer Care'. *Int J Infect Control* 2007, vol 3, no 2
18. Ashish K. Jha, Nittita Prasopa-Plaizier, Itziar Larizgoitia, Patient Safety Research: An Overview of the Global Evidence, David W. Bates, 2007 (submitted for publication)
19. David W. Bates, Itziar Larizgoitia, Nittita Prasopa-Plaizier, Ashish K. Jha, Global Priorities for Patient Safety Research, 2007 (submitted for publication)
20. Allegranzi B, Dziekan G, Leotsakos A, Storr J, Sax H, Pittet D. 'Clean Care is Safer Car': linking healthcare behaviour to health policy. *Hospital Healthcare Europe* 2007-08; C10-12. Available at <http://www.hospitalhealthcare.com>
21. Allegranzi B and Pittet D. Healthcare-associated infection in developing countries: simple solutions to meet complex challenges. *Infect Control Hosp Epidemiol* 2007;28:1323-7.
22. Sax H, Allegranzi B, Uçkay I, Larson E, Boyce J, Pittet D. "My five moments for hand hygiene" – a user-centred design approach to understand, train, monitor and report hand hygiene. *J Hosp Infect* 2007;67:9-21
23. Pittet D, Allegranzi B, Sax H, Chraiti M-N, Griffiths W, Richet H. Double-blind, randomized, crossover trial of 3 hand rub formulations: fast-track evaluation of tolerability and acceptability. *Infect Control Hosp Epidemiol* 2007;28:1344-51.
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27. Longtin Y, Sax H, Leape LL, Sheridan SE, Donaldson L, Pittet D. Patient participation: current knowledge and applicability to patient safety. (submitted for publication)

SELECTED ABSTRACTS

1. Pittet D. Hand hygiene: global and local actions to improve compliance, engaging patients, measuring compliance. Joint Commission Resources/APIC International Infection Control Conference; San Francisco, CA, USA, September 8-9, 2005. (Oral presentation)
2. Pittet D. Global patient safety challenge: a WHO initiative to improve patient safety worldwide. 1st Eastern Mediterranean Regional Infection Control Congress and 14th Annual meeting of the Egyptian Society of Infection Control; Cairo, Egypt, 14-17 November 2005. (Oral presentation)
3. Allegranzi B, Memish ZA, Philip P, Arpin J, Pittet D. Religious and cultural aspects influencing hand hygiene promotion worldwide. 45th Interscience Conference on Antimicrobial Agents and Chemotherapy; Washington DC, USA, 16-19 December 2005. (Oral presentation)
4. Ahmed QA, Memish ZA, Allegranzi B, Pittet D. A novel nexus: alcohol-based hand rub and the Muslim health-care worker. 45th Interscience Conference on Antimicrobial Agents and Chemotherapy; Washington DC, USA, 16-19 December 2005. (Oral presentation)
5. Pittet D. Global patient safety challenge: the WHO programme for the world. Asia Pacific Society for Healthcare Quality 1st International Conference "Current trends in healthcare quality"; Kowloon, Hong Kong, SAR, China, 5-7 January 2006. (Oral presentation)
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7. Allegranzi B, Dziekan G, Larson E, Pessoa da Silva C, Philip P, Donaldson L, Pittet D. Considerations on optimal glove use within the World Health Organization "Guidelines on Hand Hygiene in Health Care". 16th European Congress of Clinical Microbiology and Infectious Diseases; Nice, France, 1-4 April 2006. (Poster)
8. Allegranzi B, Philip P, Storr J, Fletcher M, Lazzari S, Donaldson L, Pittet D. Worldwide implementation strategy of the World Health Organization "Guidelines on Hand Hygiene in Health Care". 16th European Congress of Clinical Microbiology and Infectious Diseases; Nice, France, 1-4 April 2006. (Poster)
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12. Allegranzi B. Hand Hygiene: WHO tools for promotion. 2nd International Congress on Infectious and Tropical Diseases, 2nd GCC Conference on Infectious Diseases and Infection Control; Muscat, Oman, 4-7 December 2006. (Oral presentation)
13. B. Allegranzi, PM Nthumba, P Bird, A Muchiri, A Osoi, N Mugambi, D Poenaru, G Dziekan, S Harbarth, D Pittet. Prevention of surgical site infection using an alcohol-based handrub for surgical hand preparation: a pilot study in Kenya. Swiss Academy Medical Science Workshop; Bale, Switzerland, 18-19 January 2007. (Oral presentation)
14. Allegranzi B, Leotsakos A, Storr J, Dziekan G, Donaldson L, Pittet D. WHO first Global Patient Safety Challenge: current achievement. 17th European Congress of Clinical Microbiology and Infectious Diseases; Munich, Germany, 31 March-3 April 2007. (Poster)
15. SM Makki, H Balkhy, AM Makki, N Lubbad, B Allegranzi, D Pittet. A successful hand hygiene campaign at the Riyadh Medical Complex (Saudi Arabia). 17th Annual Scientific Meeting of the Society for Healthcare Epidemiology of America, Baltimore, USA, 14-17 April 2007. (Oral presentation)
16. B Allegranzi, J Storr, G Dziekan, A Leotsakos, H Sax, D Pittet, on behalf of the WHO Hand Hygiene National Campaigns Task Force. The 1st Global Patient Safety Challenge (GPSC) catalyzing hand hygiene (HH) national campaigns worldwide. 47th Interscience Conference on Antimicrobial Agents and Chemotherapy; Chicago, USA, 13-20 September 2007. (Oral presentation)

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