

# In SafeHandS

Newsletter of the SafeHandS network

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## INDEX

Editorial	2
What is SafeHandS?	3
Indonesia HIV/AIDS Prevention & Care Project Phase II (2002-2007)	4
A Survey of Indonesian Health Care Workers Infection Control Knowledge and Practice when Caring for People Living with HIV (PLH)	5
Identifying Health Care Worker (HCW) Safety Issues Amongst Indonesian Nurses Caring for People Living with HIV (PLH) who also Inject Drugs	6
Improving Quality and Safety of Health Care in Indonesia in the Treatment and Management of Patients Living with HIV (PLH) and Other Blood Borne Viruses	6
WHO - Medicines, Money and Motivated Health Workers	8
Member Profiles	10
Current Resources	11
Calendar of Events	20

## ? Contributions

We encourage members to contribute to *In SafeHandS* by:

- Participating in the 'Member Profile' by providing a brief profile about yourself and a brief example about your experience in improving health care worker safety in your workplace
- Providing information about recent articles, resources or upcoming events related to health care worker safety
- Submitting a question or concern or comment you have about health care worker safety



Photos courtesy of Mahosot, Lao PDR & Chiang Mai University Hospital, Thailand

The focus of this issue is Indonesia  
The next issue will be published in December  
*Deadline for contributions for the next issue is 17th November, 2006*

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## Editorial



*Philip Melling is an Infection Control Clinical Nurse Consultant at the Albion Street Centre, Sydney, Australia. Philip has worked on many international projects in the Asia-Pacific region and is currently involved in two concurrent projects in Indonesia.*

*The opinions expressed in this article are from his own personal observations and experiences and do not necessarily reflect the opinions of the organizations he is employed with.*

### **Personal Protective Equipment (PPE): Getting the Balance Right**

To the outsider from another country understanding the complex Indonesian health system initially presents a challenge. Simply put, Indonesia's population of 231 million is serviced by a combination of public and private hospitals and puskesmas [community health centres]. The standard of hospitals ranges enormously from the most opulent private hospitals that are more like 5-star hotels with their highly polished marble entrance halls and valet parking, to the most humble, run-down, overcrowded, resource-poor public hospitals.

Within each facility, public or private, standards also vary as the Indonesian health system is a user-pay system. Therefore wards even in the public hospitals are divided into VIP, 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> class depending on what the patient can afford. Hence, the most important and accurately maintained document in the patient's file is often the cost sheet. If you have great wealth you can be treated with the best care and treatment by staff with an abundance of resources and equipment. Unfortunately the majority of the 231 million Indonesians do not have great wealth and are treated in the 3<sup>rd</sup> class, resource-poor wards. It is therefore vitally important that what personal protective equipment (PPE) is available to these wards is used appropriately and not wasted unnecessarily.

Currently this is a message that is not getting across to health care workers in many Indonesian hospitals. In many facilities staff can be seen performing their tasks wearing unnecessary PPE, such as the nurses who

insist on wearing gloves to take patients' vital signs (but not attending to their hand hygiene between patients); doctors who insist on wearing *STERILE* gloves to perform physical examinations on patients' with HIV; nurses who wear gloves, masks and gowns to change unsoiled bed linen; and medical and nursing staff who sit at the nurses' station attending to paperwork but wearing masks even though they do not have a cold or other respiratory infection. Therefore precious resources and money are being wasted.

So why are health care workers over-protecting themselves in these facilities? Is it lack of knowledge, education and understanding of how diseases can be transmitted? Is it because of peer pressure? Is it the fear that infections can be taken home? Or is it that the policies, known as Standard Operating Procedures (SOPs), are incorrect? These are the questions that Indonesian infection control professionals are asking and the answers are proving to be not easy.

Yes, the health care workers say they understand how the diseases are transmitted; yes, the infection control team provides in-service education and tries to lead by example; yes, the policies and SOPs are in line with international best practice; yes, everyone states they understand the supply of PPE is limited – and yet they fail to comply. Why?

When health care workers state "they feel more comfortable" when wearing PPE it begs the question why do they feel less comfortable not wearing it, when they say they know the transmission process of diseases. Why do health care workers 'do the right thing' when the infection control professional is around, only to revert to their own incorrect practices when their back is turned? Perhaps they do not believe the infection control professional. Or perhaps it is just fear of the unknown. One manager dismissed the over-protection as a result of the human cases of avian influenza seen in Indonesia. Except none of the patients on the wards of the hospitals where I have observed over-protection had or were suspected of having avian influenza. (And these practices have been seen before the advent of avian influenza.)

Ironically there is another side to the Indonesia experience, often sighted in the same facilities but in other departments or wards. This is the

practice of under-protection when health care workers don't wear PPE when it is warranted (such as when they come into contact with a person's blood or other body substances), are blasé for their own safety and the safety of others when handling contaminated sharps, and wear PPE incorrectly (such as masks over the mouth but under the nose, one glove on one hand only, or with a finger cut out of a glove).

Frustrated infectious disease personnel are considering many strategies to improve correct PPE compliance. These include ensuring:

- SOPs are correct and in-line with international best practice
- SOPs are endorsed and supported by senior hospital management
- Ward and department managers understand the importance of the SOPs
- Ward 'champions' are identified, used to monitor incorrect practices and change behaviours
- Regular in-service education is provided
- Observational studies and feedback are conducted
- Competencies are used
- Accountability for incorrect practice
- Initiation of discussion to correct myths, misunderstandings and misconceptions of disease transmission

In a health system servicing 231 million people I am sure there are many facilities and health care workers in the middle ground between these extreme behaviours using PPE at the appropriate times and correctly. Nevertheless the problem of over and under protection of PPE is believed to be widespread and warrants further serious investigation to get the balance right.

## What is SafeHandS?

SafeHandS is a 'virtual' network designed to link and support health care workers across the Asia-Pacific region who are caring for people with HIV/AIDS and other communicable diseases.

We know that health care workers are essential in responding to HIV/AIDS and other communicable diseases. Without health care workers, there is no health system. We want this network to provide information, support

and practical solutions to help health care workers in resource limited settings to feel safe and encouraged to provide optimal care.



SafeHandS is a forum where health care workers can share issues and ideas. We can encourage and learn from each other to find practical solutions to improve health care worker safety in resource limited settings.

SafeHandS is being funded by the Australian Agency for International Development (AusAID) and coordinated by the Albion Street Centre (ASC). ASC is a public health care facility based in Australia for the treatment, care and support of people living with or affected by HIV/AIDS. The team includes infection control specialists with international experience in health care worker safety.

## Become a member

Benefits of membership include:

- Receiving a newsletter (In SafeHandS) every 3 months
- Participating in a moderated group email discussion e-list for posting questions, comments and issues
- Access to a clearinghouse of new resources & publications produced by different organisations about health care worker safety (links are posted on the website)
- Access to resources developed by SafeHandS
- Joining a database of expertise

Membership is free. To join, you can either:

- Go to our website: <http://www.uow.edu.au/health/safehands/index.html> and click on the 'membership' page, or,
- Send an email to: [safehands@sesiahs.health.nsw.gov.au](mailto:safehands@sesiahs.health.nsw.gov.au)

You can elect to receive a hard copy of the newsletter by post. However, this will be a shorter version than the electronic version.

## Update on SafehandS membership

We are pleased to report that we now have 64 members of SafeHandS. Members are from: Australia, Cambodia, China, Cook Islands, Fiji, Hong Kong, India, Indonesia, Kenya, Lao PDR, Malaysia, Nigeria, Pakistan, Papua New Guinea, Samoa, Solomon Islands, Taiwan, Turkey and Vietnam.

Feedback on membership forms indicates that the priority services to members are:

- Access to current publications on health care worker safety
- Training resources
- Sample policies and protocols
- Email discussion forum between members
- Tools (e.g. surveillance forms, checklists for health care worker safety)
- Advice and information

In 2006 we are focusing on expanding the “useful links and resources” page of the website to give members access to more resources on improving HCW safety in resource limited settings.

SafeHandS will also be developing our own resources such as training materials, sample policies and protocols and tools (e.g. surveillance forms).

## Indonesia HIV/AIDS Prevention and Care Project - Phase II (2002 – 2007) Extension : “Capacity Building of Key Referral Centres to Provide Quality HIV-Related Care, Support and Treatment”

By Rachel Musson  
Albion Street Centre

Indonesia HIV/AIDS Prevention and Care Project – Phase II (IHPCP). This project is a major initiative between the Government of Australia and the Government of Indonesia. GRM International Pty Ltd in association with the Burnet Institute for Medical Research and Public Health, is the managing contractor who coordinates a consortium of partners including the Albion Street Centre (ASC), Family Health International (Asia Regional Office) and the

University of New South Wales National Centre in HIV Epidemiology. The project purpose is to facilitate an expanded multi-sectoral response to HIV/AIDS in selected provinces and districts in Indonesia.

In Indonesia there are an increasing number of people living with HIV (PLH) requiring care, support and treatment, and anti-retroviral therapy (ART) is becoming increasingly available. Recently 75 hospitals throughout Indonesia have been designated by the Indonesian Ministry of Health (DepKes) as referral ART hospitals. The aim of the extension project is specifically to build the capacity of two key referral centres to both provide a continuum of care for PLH and to become key reference centres for training and support of satellite sites, other health facilities and community based organisations providing care for PLH in Indonesia.

The ASC in Sydney, Australia is collaborating with IHPCP and local counterparts to conduct project activities in the two key referral centres: Jakarta Infectious Diseases Hospital – RS Penyakit Infeksi Dr Sulianti Saroso and the RS Dr Wahidin Sudirohusodo (Makassar, South Sulawesi). ASC is providing inputs to support the primary aspects of comprehensive care (as these sometimes become neglected as a result of a focus on antiretroviral scale up). The project extension seeks to strengthen the quality of service delivery of key components in the comprehensive care model, in particular: medical, nursing, nutrition, infection control, counselling, and pharmacy. The activities and priorities vary according to the specific needs of each site and address current, as well as emerging, needs of the health care facilities and PLH e.g. intravenous drug use, issues of treatment and adherence, hepatitis B co-infection, and hepatitis C co-infection.

Technical advisors are building capacity of existing human resources through workforce development (skills building) and enhancing systems and operations management through organisational development. Training is one element of technical inputs. However, formal training has many limitations. ASC is therefore working to ensure that counterparts receive significant “bedside teaching” and are supported to put into practice what they are learning and to evaluate any changes to practice to ensure they are meeting identified

needs. In addition the project is encouraging continuity of care through reviewing referral pathways and building partnerships between key referral centres and other health facilities (puskesmas and satellite sites) and community based and/or non government organisations.

ASC also strongly believes in the benefits of facilitating counterparts to observe first hand how other similar organisations provide services to PLH. Study tours, both domestic and international, are planned to provide counterparts with opportunities to see how other organisations function, to ask questions and learn from the experiences of others. Study tours can provide participants with inspiration to try new and innovative ideas in their own workplace. More importantly they also encourage the development of linkages, partnerships, collaborations and mentoring.

This capacity building project is expected to be of two years duration. It has been running for nearly 8 months and completion is scheduled for September 2007.

### **A Survey of Indonesian Health Care Workers Infection Control Knowledge and Practice when Caring for People Living with HIV (PLH)**

Melling P<sup>1</sup>, Gold J<sup>1</sup>, Sarangapany J<sup>1</sup>, Musson R<sup>1</sup>, Ibrahim H<sup>2</sup>, Firmansyah H<sup>3</sup>, Barapadang E<sup>3</sup>, Maunah N<sup>3</sup>

<sup>1</sup> Albion Street Centre, Sydney, Australia

<sup>2</sup> RS Dr. Wahidin Sudirohusodo, Makassar, Indonesia

<sup>3</sup> Prof. Dr. Sulianti Saroso Infectious Disease Hospital, Jakarta, Indonesia

Infection control practices vary from country to country based on availability of resources, finance and knowledge. In facilities providing care, support and treatment (CST) services for PLH, health care worker (HCW) knowledge of HIV/AIDS and attitudes towards PLH can also impact on infection control practices. As part of the Indonesia-Australia HIV/AIDS Prevention and Care Project – Phase II (IHPCP), a survey of HIV infection control knowledge and practices of health care workers (clinical and non-clinical staff) was conducted at two hospitals in Indonesia (one based in Jakarta and the other in Makassar) in March 2006. The

study was a questionnaire based survey, consisting of true or false and multiple choice questions.

A total of 82 forms were returned from clinical and non-clinical staff in both hospitals. The majority (96%) responded that Standard Precautions should be used for all patients, while 53 (65%) said they would use “more” Standard Precautions if a patient had HIV; 27 (60%) of clinical staff stated they would wear gloves when having direct contact with patients with HIV; 48 (59%) of all staff surveyed stated that bed linen used by a patient with HIV had to be washed separately and specially treated before it could be used again, while 11 (13%) said the linen should be discarded and destroyed; 53 (65%) stated that blood spills from patients with HIV had to be cleaned up differently than blood spills from other patients; and 22 (60%) of non-clinical staff said eating utensils used by patients with HIV had to be washed separately and differently from those used by other patients.

On the practice of hand washing, 33 (73%) of clinical staff stated they would wash their hands immediately before any direct patient contact, while 38 (84%) would wash hands after any direct patient contact. Over a quarter (27%) of all staff surveyed believed that if they wore gloves they did not have to wash their hands and only 44 (54%) would wash their hands whenever they got blood or other body substance on them.

In this survey HCWs of the participating hospitals demonstrated a broad understanding of the principles of infection control, however many reported using unnecessary precautionary measures when they are aware of a patient’s HIV status. These practices are costly, promote stigmatisation of patients with HIV and are inconsistent with Standard Precautions. The results of this survey highlight the need for further education and training of HCWs providing CST services for PLH in Indonesia.

## Identifying Health Care Worker (HCW) Safety Issues Amongst Indonesian Nurses Caring for People Living with HIV (PLH) who also Inject Drugs

Ewing M<sup>1</sup>, Musson R<sup>1</sup>, Bara'padang E<sup>2</sup>, Untuk T<sup>3</sup>, Asia M<sup>4</sup>, Hadarati, M<sup>5</sup>

<sup>1</sup> Albion Street Centre, Sydney, Australia

<sup>2</sup> RS Penyakit Infeksi Prof. Dr.Sulianti Saroso, Jakarta, Indonesia

<sup>3</sup> RS Dr Wahidin Sudirohusodo, Makassar, Indonesia

<sup>4</sup> Kepala Pukesmas Kassi-Kassi, Makassar, Indonesia

<sup>5</sup> Kepala Pukesmas Jumpandang Barau, Makassar, Indonesia

As part of the Indonesian HIV/AIDS Prevention and Care Project, a survey assessing HCW knowledge, attitude and practice towards PLH who were current or past injecting drug users (IDU) was implemented with nurses from two designated HIV/AIDS treatment hospitals and two community health centres. Forty-eight of fifty surveys disseminated were returned. Results showed that the majority of HCWs surveyed felt they had an 'average' knowledge about HIV/AIDS (69%) and harm reduction (65%).

Only 25% of respondents were able to identify the three main blood borne viruses that people who inject drugs are most at risk of exposure to (HIV, hepatitis B and hepatitis C). However the majority of respondents (86%) understood that not all people who use drugs have HIV infection. Over 65% of respondents felt that patients who used illicit drugs had a tendency to be aggressive and violent. This belief may contribute to HCW safety concerns in caring for PLH who use illicit drugs. Interestingly, however, more respondents felt comfortable in caring for patients who were known IDU than caring for PLH (69% vs 40%). The majority (85%) were not comfortable caring for people who refused to have a HIV test.

Most respondents (86%) were aware that using gloves when giving injections to PLH who used illicit drugs reduced the risk of transmission of HIV if a needle stick injury occurred. When asked under what conditions HCWs should use gloves when giving injections respondents ranked "when the

patient is known to be HIV positive" and "used on all patients" as equally important. The second most common response was "when giving injections to patients who were known injecting drug users". Most concerning though was the fact that nearly 30% of HCWs believed that HIV could be transmitted by touching the skin or saliva of PLH. This has huge implications for the provision of quality nursing care to these patients.

HCWs were also confused about who was responsible for drug and alcohol assessment of patients, whether their health facility had policies relating to illicit drug use by patients in the facility and their legal responsibilities when they become aware that a patient is using drugs.

Results of the survey highlighted some of the HCW safety concerns of nurses who care for PLH who are current or past injecting drug users. These issues may be creating barriers to the provision of comprehensive and non judgemental health care for PLH who use drugs. HCW knowledge of transmission of HIV and other blood borne viruses from PLH who use illicit drugs needs to be improved. Improving HCW knowledge and understanding of health facility policies and individual responsibilities towards PLH/IDU triage, assessment and care may also encourage greater engagement of HCWs in the care of PLH who are past or current IDU.

## Improving Quality and Safety of Health Care in Indonesia in the Treatment and Management of Patients Living with HIV (PLH) and other Blood Borne Viruses

By Rachel Musson  
Albion Street Centre

**Project Background:** As anti-retroviral therapies become more widely available in resource limited settings to treat people living with HIV (PLH), it is becoming apparent that health care workers (HCWs) will need to take a more direct and active role in patient management in hospitals, health care facilities and the community. HCW engagement in patient care plays an important role in the quality of treatment and care for PLH, and the response to other infectious diseases like tuberculosis

(TB), severe acute respiratory syndrome (SARS) and emerging infectious diseases.

Probable reasons for lack of health care staff engagement in care include:

- Fear among HCWs for their own safety,
- Misunderstanding or non-compliance with, or perceived lack of resources for, infection control procedures, and
- Lack of adequate resources and training in quality improvement practices in health care.

**Project Aim:** The Indonesian HCW safety project aims to promote HCW safety in Indonesia and to address aspects of quality improvement within the health care setting. The project is funded by the World Bank and is being implemented in collaboration with the Faculty of Health and Behavioural Sciences at the University of Wollongong, Australia. Other in-country project counterparts include: Indonesian Nurses Association and Infection Control Association, as well as Ministry of Health, Directorate General of Communicable Disease Control and Environmental Health.

This study will address some of the key issues for HCWs experienced at different phases of the patient care continuum from community to hospital. These will be identified and addressed through:

- *Situational analysis (Jakarta):*
  - ◊ In a number of selected health care locations in Jakarta factors will be determined that are barriers to HCW involvement in caring for patients with infectious diseases, especially HIV/AIDS, TB and other HIV associated opportunistic infections. Currently, there is little appreciation for HCWs having real concerns in managing patients with HIV/AIDS.
  - ◊ Factors will be determined that practicing HCWs consider necessary for enhancement of their personal safety, well-being and self-confidence. These factors will go beyond development of generic policies and consider issues of training, support and equipment that are feasible for resource limited settings.
  - ◊ Findings and recommendations for improving involvement of HCWs in the

care and management of patients with HIV/AIDS will be reported and thereby contribute to reducing stigma and discrimination in the health care setting.

- *Advocacy for HCW safety:*
  - ◊ Senior level health and public policy planners will be engaged to ensure they understand and support HCWs, appropriate linkages will be established to facilitate advocacy, communication and quality of care.
  - ◊ Results of the study will be presented to stakeholders at workshops and meetings, particularly at a national workshop, and through publication of the findings.

**Project Activities:** The objectives of the project are to:

1. Design study instruments that collect appropriate qualitative and quantitative data for Indonesia on the knowledge, attitudes and practices of HCWs in relation to their current and potential responsibilities in managing patients with HIV/AIDS and other communicable diseases.
2. Pilot test the instruments in selected health care settings.
3. Implement the study instruments utilizing the resources of collaborating associations and personnel.
4. Conduct an in-depth analysis of the data, with appropriate quality controls and checking of data reliability and validity.
5. Prepare a report, including recommendations for improvement of engagement of HCWs in HIV/AIDS patient care services.
6. Organize and conduct a national workshop to present the findings of the study, in collaboration with the study partners.
7. Prepare a publication of the findings of the study and the workshop discussions.

**Project Duration:** The project commenced in May 2006 and is due for completion towards the beginning of 2007.

## **WHO - Medicines, money and motivated health workers are key to universal access to HIV/AIDS prevention, treatment care and support**

(WHO press release 18th August 2006)

Dr Anders Nordström, Acting Director-General of the World Health Organization told delegates at the XVIth International AIDS Conference that "drastic measures" were required to ensure there are enough health workers available to deliver universal access to HIV/AIDS prevention, treatment, care and support by 2010. He also welcomed the broad consensus at the conference that a comprehensive response to HIV/AIDS was essential.

In a speech at Friday's closing session, Dr Nordström stressed that "money, medicines and a motivated, skilled workforce" were key to delivering universal access.

### ***Money – urgent gaps, and long-term support***

He underscored that the funds available for HIV/AIDS globally were growing, but, so were the needs. "Worldwide, resources for HIV/AIDS have increased to over US\$ 8 billion a year. But, that is still not enough. The estimated need in low- and middle-income countries is US\$ 15 billion this year, and that will grow to US\$ 22 billion in 2008.

"That widening gap must be filled, and commitment sustained. It calls for more than traditional international development assistance."

Dr Nordström praised recent initiatives aimed at providing sustainable financing mechanisms, such as the UNITAID initiative of France, Brazil, Chile, Norway and the United Kingdom, which uses a levy on airline taxes to channel new money to HIV work. He also noted that new potential mechanisms - such as advance market commitments - could provide incentives for research and development into new medicines and vaccines. He stressed that developed countries, including the G8, must live up to their financial and political HIV/AIDS commitments, and that national governments must also spend more

on health domestically, and make HIV/AIDS a funding priority.

### ***Medicines - access to drugs remains critical***

Dr Nordström noted that "3 by 5" – the WHO and UNAIDS initiative to expand access to antiretroviral treatment to 3 million people in low- and middle-income countries by the end of 2005 - had influenced the HIV/AIDS landscape. He paid tribute to Dr Lee Jong-wook, WHO's former Director-General, and his role in forcing a shift in approach and attitude to access to treatment.

"This is demonstrated through a ten-fold increase in people on treatment in sub-Saharan Africa," he said. "But the challenges in that region also illustrate what still needs to be done. Seventy per cent of the global unmet need for treatment is in Africa."

He stressed that drug pricing was still an issue - to ensure that both first-line and second-line treatments were affordable. "There is growing momentum for innovation, research and addressing intellectual property issues to ensure maximum access to new products that save lives. We need ideas to turn into new drugs and diagnostics that strengthen our ability to safely treat infants and children as well as adults. We also need a vaccine and a microbicide."

"Universal access must include access to a skilled and motivated health worker," said Dr Nordström "No improvement in financing or medical products can make a lasting difference in people's lives until the crisis in the health workforce is solved."

### ***Without health workers, universal access not possible \****

He called for "drastic measures" to urgently strengthen the workforce. WHO's new 'Treat, Train, Retain' plan, launched this week at the conference, also demonstrates how ensuring prevention and treatment for health workers in a supportive work environment can help improve working conditions, and critically, keep staff healthy and motivated. A health system also depends on stronger information and surveillance systems, logistics and distribution systems - all areas that WHO is helping national governments to address, he said.

Dr Nordström asked delegates to make universal access possible through "a borderless society for health. One that embraces all who can make a difference, from political leaders, scientists, health workers to young people, persons living with HIV, the poor, sex workers, injection drug users, people in prisons."

### ***A borderless society for health***

Dr Nordström also stressed the need for a strong gender perspective to ensure that both women and men have equal opportunities.

Finally, Dr Nordström told delegates that, along with treatment, care and support, renewed attention must be paid to the prevention of HIV.

### ***Strengthening prevention***

"Too many resources - time, energy and money - have been wasted on the debate over whether prevention or treatment should be the priority. At this conference we have come to a clearer understanding that it is not a case of doing one or the other. Millions have died through lack of both."

WHO's contribution to achieving universal access to HIV prevention, treatment, care and support focuses on five strategic directions: scaling up HIV testing and counselling; maximizing the health sector's role in prevention; scaling up treatment, care and support; strengthening health systems and investing in strategic information.

<http://www.who.int/mediacentre/news/releases/2006/pr43/en/index.html>

### **\* Extract from Address by Anders Nordström, Acting-Director-General**

Finally, perhaps the most important area to ensure success in achieving universal access, is a skilled and motivated workforce. No improvement in financing or medical products can make a lasting difference to people's lives until the crisis in the health workforce is solved.

The situation calls for drastic measures.

There are too few people with the right skills.

More people registered to attend this conference than there are doctors in the whole of Eastern and central Africa.

The numbers of health workers are being diminished day-by-day by disease and lack of incentives. Countries with HIV prevalence of 15% can expect to lose 30% of their health care workforce over a 10 year period.

It is crucial that we protect and support health workers. WHO's "**Treat, Train, Retain**" plan, launched this week, directly addresses the need for a healthy, skilled and motivated workforce. The plan shows how we can take immediate steps to strengthen the health system.

The solutions have to directly and bravely tackle the underlying causes for the shortages. Health workers are being driven away by low salaries and poor working conditions. Some are forced away to other jobs, either nationally or elsewhere in the world.

Of course health workers are only one, although the most important factor, in a functional and efficient health system. There is also need for good information and surveillance systems, logistics and distributions systems and so on.

<http://www.who.int/dg/nordstrom/speeches/2006/toronto2006/en/index.html>

## Member Profiles

*To help link and support members, we provide two profiles of SafeHandS members.*

**Name:** Dr Sultan Buraena



**Title:** Chief of Occupational Health and Safety (K3) / Head of Prevention and Control of Infection Committee

**Facility:** RS Dr Wahidin Sudirohusodo Hospital, Makassar, Indonesia

### Describe your current job:

To assist the director in forming the policies, guidelines & Standard Operating Procedures in regards to Occupational Health and Safety. Head of Kepala Kesehatan dan Keselamatan (K3) [Occupational Health and Safety Department].

### What was your career path that brought you to your current job?

I trained as a GP and used to work for the Department of Health. I was lent to an oil company and went to school to learn Occupational Medicine. I am now a specialist in Occupational Medicine.

### What do you like most about your job?

I am happy. I really like making the programs to prevent and control hazards, to control the safety of the work environment.

### What do you like least about your job?

The lack of money! Also the lack of facilities.

### What does health care worker safety mean to you?

For me the meaning is to maintain and increase the health of manpower and increase productivity.

### What are you reading at the moment?

"Infection Control Guidance Book" by JHPIEGO.

### What are you currently listening to?

Jazz.

### What is your favourite saying?

There is one I really like but I can't remember it. I'll have to ask my wife.

**Name:** Nadiatul Maunah



**Title:** Infection Control Nurse

**Facility:** Infectious Disease Hospital RS Dr Prof. Dr Sulianti Saroso, Jakarta, Indonesia

### Describe your current job:

I am part of the hospital's infection control team. The team is made up of our chief, a doctor, and three infection control nurses. I do nosocomial infection surveillance. Also research, training and giving knowledge to medical staff – actually everyone who is involved with nosocomial infection – everyone.

### What was your career path that brought you to your current job?

I am a Diploma Nurse. I used to be a ward nurse. I am going to go to school to get my undergraduate degree.

### What do you like most about your job?

I like the communication aspect of my job.

### What do you like least about your job?

Nothing. I just like everything as long as it's positive and no one gets angry.

### What does health care worker safety mean to you?

Safety is something you have to ensure for yourself and the patient and our families.

### What are you reading at the moment?

I like romantic novels.

### What are you currently listening to?

I really love dangdut. Dangdut is a kind of country music with a strong beat. It is good to move to and dance to.

### What is your favourite saying?

I like quotations – but I can't think of any!

## Current Resources

*In this section, we list the abstracts of recent relevant articles about health care worker safety in the Asia Pacific. We will also list any new resources which might be helpful such as policies, protocols and training materials. In some instances we may include references from other regions if they can potentially be adapted to the region.*



SafeHandS invites members to contribute by sending an e-mail to: [safehands@sesiahs.health.nsw.gov.au](mailto:safehands@sesiahs.health.nsw.gov.au)

**Title:** Occupational HIV infection among health care workers exposed to blood and body fluids in Brazil

**Authors:** Rapparini C

**Date:** May 2006

**Source:** American Journal of Infection Control 34(4): 237-40

**Country:** Brazil

**Abstract:** *Background:* Exposure to blood-borne pathogens poses a serious risk to health care workers (HCWs). Surveillance systems of occupationally acquired human immunodeficiency virus (HIV) infection have been developed in several countries, mainly in the developed world. The purpose of this study was to identify cases of occupationally acquired HIV infection among HCWs in Brazil. *Methods:* A systematic literature review was conducted. The databases searched were MEDLINE and LILACS (1981 to 2004), academic dissertations and theses (1987 to 2004), abstracts from national and international meetings during the last 10 years, and local and national bulletins. Reference lists to identify other relevant articles were checked. *Results:* The database searches generated a total of 60,770 titles. Two hundred and nineteen references were finally analyzed. Four documented cases of occupational HIV infection were identified. All of the cases involved nursing staff and were percutaneous exposures. Seventy-five percent occurred after a procedure involving a needle placed directly into a vein or artery. Most (75%) had source patients with probable high viral load and low CD4 count. Two cases represented HIV seroconversion despite initia-

tion of postexposure prophylaxis. Only one case (1/4; 25%) presented acute retroviral illness. *Conclusion:* After an extensive literature search, 4 documented occupational HIV infection cases were identified, only 1 of which had been published in a scientific journal. Our findings were consistent with the majority of documented infections worldwide. Surveillance systems are indispensable to establish and formulate rational policies for minimizing the risk of occupational infection, not only from HIV but also from hepatitis B and C viruses and other blood-borne pathogens.

**Title:** Prevalence of percutaneous exposure incidents amongst dentists in Queensland

**Authors:** Leggat P & Smith D

**Date:** June 2006

**Source:** Aust Dent J. 51(2):158-61

**Country:** Australia

**Abstract:** *Background:* Percutaneous exposure incidents (PEI) represent an important occupational health issue in dentistry, and one that can incur severe consequences from blood-borne infections. Given the importance of this topic, we considered it necessary to investigate the distribution and cause of PEI among Queensland dentists. *Methods:* In 2004, a self-reporting questionnaire was mailed to a random sample of 400 dentists on the register of the Queensland Branch of the Australian Dental Association. *Results:* A total of 285 questionnaires (73.1 per cent) were completed and returned. Of the respondents, 73.3 per cent were male and 26.7 per cent female, with a mean age of 45.2 years (SD = 11.9 years). Most were general dentists (89.1 per cent) with the remainder being specialists (10.9 per cent). More than three-quarters (78.5 per cent) reported damaging their gloves at least once during a clinical procedure in the previous 12-month period. Roughly one-quarter (27.7 per cent) had experienced at least one 'sharps' or needle-stick injury in the previous 12 months, 16.1 per cent of which involved a contaminated instrument that had been previously used on a patient. The most common devices to cause 'sharps' injury in the previous 12 months were needles (14.4 per cent) and burs (10.2 per cent). *Conclusions:* Although PEI clearly remains a major occupational health problem for Queensland dentists, the prevalence of needle-stick injuries appears

to be lower than other studies from developed countries. The identification of needle-stick injuries as a common cause of PEI again stresses the importance of preventive strategies with respect to potential blood-borne infections. Further research is now needed to more carefully identify effective measures for reducing PEI among dental personnel.

**Title:** HTLV-II transmission to a health care worker

**Authors:** Menna-Barreto M

**Date:** April 2006

**Source:** American Journal of Infection Control 34(3): 158 – 60

**Country:** Brazil

**Abstract:** Health care workers, mainly in emergency and forensic services, are at risk of exposure to bloodborne pathogens. Human T-cell lymphotropic virus type I and type II (HTLV-I and HTLV-II) are cosmopolitan human delta retroviruses causing endemic infection in Japan, the Caribbean basin, South America, and sub-Saharan Africa, and in clusters among intravenous drug users in Europe and the United States. The seroprevalence of HTLV-I and HTLV-II among Brazilian blood donors ranges from 0.08% to 1.35%. HTLV-I transmission to a Japanese researcher has already been reported. We describe the transmission of HTLV-II infection to a Brazilian laboratory worker caused by a needle-stick injury when she was recapping a syringe after collecting material for arterial blood gas analysis. To our knowledge, this is the first report of an occupational transmission of HTLV-II to a health care worker.

**Title:** Toronto hospital reduces sharps injuries by 80%, eliminates blood collection injuries. A case study: Toronto East General Hospital pioneers healthcare worker safety

**Authors:** Visser L

**Date:** 2006

**Source:** Healthc Q 9(1)

**Country:** Canada

**Abstract:** Needle-stick and other sharps

injuries are a key Canadian public health issue, affecting 70,000 people per year and costing some \$140 million. A safety program at Toronto East General Hospital focusing on blood collection and patient injection achieved an 80% reduction in injuries within one year (from 41 in 2003 to eight in 2004), with blood collection injuries eliminated entirely.

**Title:** Investigation of the influencing factors on severe acute respiratory syndrome among health care workers

**Authors:** Pei L, Gao Z, Yang Z, Wei D, Wang S, Ji J, Jiang B

**Date:** June 2006

**Source:** Beijing Da Xue Xue Bao 18;38 (3):271-5

**Country:** China

**Abstract:** *Objective:* To investigate the protective factors and risk factors of nosocomial infection of severe acute respiratory syndrome (SARS) among health care workers (HCWs), and thus provide the scientific basis for prevention and control of nosocomial infection. *Methods:* With the case-control study, a standardized questionnaire was used for data collection in three general hospitals where nosocomial infection had occurred. Univariate analysis was done at first. All concerned factors about SARS infection were scanned by using Chi-square test and Fisher's exact test one by one, and determined as to whether they were risk factors or protective factors according to odd ratio (OR) score. Then, multivariate unconditional logistic regression analysis was used to re-analyze the picked-out factors for finding out which factors played independent roles. *Results:* Twenty-two factors (nineteen protective factors and three risk factors), among the total fifty-six factors, were significantly associated with SARS infection. Multivariate unconditional logistic regression revealed that factors such as double exposure suits (OR=0.053), education (OR=0.072), gloves (OR=0.102), hands sterilized by iodine (OR=0.231), room air ventilation (OR=0.32), were significantly protective; conversely, tracheal intubation (OR=30.793) was a significant risk factor. *Conclusion:* Strict defense and antisepsis measures were pivotal

in preventing SARS infection among high-risk medical personnel. Education about associated knowledge and effective air ventilation were also important factors.

**Title:** Risk of needle-stick injuries by injection pens

**Authors:** Pellissier G, Miguères B, Tarantola A, Abiteboul D, Lolom I, Bouvet E and the GERES Group

**Date:** May 2006

**Source:** The Journal of Hospital Infection 63(1): 60-64

**Country:** France

**Summary:** Injection pens are used by patients when auto-administering medication (insulin, interferon, apokinon etc.) by the subcutaneous route. The objective of this study was to evaluate the rate of injection pen use by healthcare workers (HCWs) and the associated risk of needle-stick injuries to document and compare injury rates between injection pens and subcutaneous syringes. A one-year retrospective study was conducted in 24 sentinel French public hospitals. All needle-stick injuries linked to subcutaneous injection procedures, which were voluntarily reported to occupational medicine departments by HCWs between October 1999 and September 2000, were documented using a standardized questionnaire. Additional data (total number of needle-stick injuries reported, number of subcutaneous injection devices purchased) were collected over the same period. A total of 144 needle-stick injuries associated with subcutaneous injection were reported. The needle-stick injury rate for injection pens was six times the rate for disposable syringes. Needle-stick injuries with injection pens accounted for 39% of needle-stick injuries linked with subcutaneous injection. In all, 60% of needle-stick injuries with injection pens were related to disassembly. Injection pens are associated with needle-stick injuries six times more often than syringes. Nevertheless, injection pens have been shown to improve the quality of treatment for patients and may improve treatment observance. This study points to the need for safety-engineered injection pens.

**Title:** Variation in blood and body fluids exposure when small-gauge needles or peripheral venous catheters were implicated: results of a 4-year surveillance in France

**Authors:** L'Heriteau F, Tarantola A, Olivier M, Grandbastien B, Maugat S, Bouvet E, Astagneau P, CCLIN Paris Nord Abe Surveillance Network.

**Date:** May 2006

**Source:** American Journal of Infection Control 34(4): 215 -7

**Country:** France

**Abstract:** The blood and body fluids exposure (BBFE) risk for health care workers varies according to numerous factors. Based on a needle-stick surveillance in 13 French hospitals from 1997 to 2000, we evaluated incidence and temporal trends of BBFE according to medical devices causing needle-stick injuries. We observed that the BBFE incidence per 100,000 peripheral venous catheters purchased decreased from 12.9 to 4.9, whereas incidence per 100,000 subcutaneous needles purchased increased from 8.7 to 14.3.

**Title:** Transmission of SARS to health-care workers. The experience of a Hong Kong ICU

**Authors:** Gomersall CD, Joynt GM, Ho OM, Ip M, Yap F, Derrick JL, Leung P.

**Date:** April 2006

**Source:** Intensive Care Med 32(4):564-9

**Country:** Hong Kong

**Abstract:** *Objective:* To describe the extent and temporal pattern of transmission of severe acute respiratory syndrome (SARS) to intensive care unit staff. *DESIGN:* Retrospective observational cohort study. *Setting:* University hospital intensive care unit, caring solely for patients with SARS or suspected to have SARS. *Participants:* Thirty-five doctors and 152 nurses and healthcare assistants who worked in the ICU during the SARS epidemic. *Interventions:* Infection control measures designed to prevent transmission of disease to staff were implemented.

**Measurements and Results:** Sixty-seven patients with SARS were admitted to the intensive care unit. Four nurses and one healthcare assistant contracted SARS, with three of these developing symptoms within 10 days of admission of the first patient with SARS. Doctors were exposed to patients with SARS for a median (IQR) of 284 (97-376), while nurses and healthcare assistants were exposed for a median (IQR) of 119 (57-166). The ICU did not meet international standards for physical space or ventilation. **Conclusions:** In an ICU in which infection control procedures are rigorously applied, the risk to staff of contracting SARS from patients is low, despite long staff exposure times and a sub-standard physical environment.

**Title:** **Occupational exposure to sharps and splash: risk among health care providers in three tertiary care hospitals in South India**

**Authors:** Tetali S, Choudhury P

**Date:** 2006

**Source:** Indian J Occup Environ Med10:35-40

**Country:** India

**Abstract:** Occupational exposure to blood and body fluids places Health care providers at risk of infection with blood borne viruses including HIV. To understand Health Care Providers' (HCP\*) perception of risk of occupational exposure to needles, blood and body fluids, to find out the correlates of exposure and to identify groups of HCP at high risk of sustaining maximum number of such exposures. A cross sectional survey was conducted on HCP in three tertiary care hospitals in Kerala, between August 20th and October 30th, 2004. Chi square test, independent-sample T test and one-way ANOVA was used for analysis. Overall, 74.5% (95% CI 71.3 to 78.2) of the respondents were exposed at least once in the last 12 months. Surgeons were exposed most frequently, with a mean of 3.8 injuries per person per year. Injection needles were responsible for 68% of the injuries. Those who underwent the in-service training program on needle safety were less injured ( P =0.001). Only 4% of surgeons had undergone needle safety training. Almost half the surgeons, anesthetists and medical students did not

know the reporting procedure and only 10% of anesthetists knew about the provision of Post Exposure Prophylaxis (PEP). A considerable proportion of respondents (85%) (95% CI-81.2 to 88.5) were concerned about acquiring blood borne infections and 90% were immunized against Hepatitis B. Training of Health care providers is absolutely essential for injury reduction and should take into account the varying incidence of exposure across different occupation groups.

**Title:** **Needle stick injury-consequences & prevention**

**Authors:** Gupta P

**Date:** June 2006

**Source:** Express Health Care Management

**Country:** India

<http://www.expresshealthcaremgmt.com/200606/insight01.shtml>

**Title:** **Epidemiology of needle-stick and sharps injuries among nurses in a Japanese teaching hospital**

**Authors:** Smith D, Mihashi M, Adachi Y, Nakashima Y, Ishitake T

**Date:** December 2006

**Source:** J Hosp Infect 64 (1): 44-9

**Country:** Japan

**Abstract:** The epidemiology of needle-stick and sharps injuries (NSIs) was investigated among a complete cross-section of 1162 nurses from a large hospital in southern Japan (response rate 74.0%). Forty-six percent had experienced an NSI in the previous year. Most were caused by ampoules or vials, which injured 32.3% of all nurses and accounted for 42.9% of all NSI events. Twenty-two percent of all NSIs involved a device that had been used on a patient prior to the NSI (contaminated device), while the usage status of a further 2.8% of devices was unknown. Logistic regression indicated that nurses younger than 25 years of age were 2.18 times more likely to have sustained at least one NSI in the past 12 months [odds ratio (OR) 2.18, 95% confidence intervals (CI) 1.15-4.17] and 2.39 times more likely to have sustained multiple NSIs (OR 2.39, 95% CI 1.08-5.34). Working mixed shifts (rotating day and night, as opposed to day shifts alone) was

associated with a 1.67-fold increased risk of sustaining any NSI (OR 1.67, 95% CI 1.01-2.85) and a 2.72 times greater risk of sustaining an NSI from a contaminated device (OR 2.72, 95% CI 1.71-4.44). Nurses who reported significant fatigue after work were 1.87 times more likely to sustain multiple NSIs (OR 1.87, 95% CI 1.13-3.13) and 1.94 times more likely not to report their NSIs (OR 1.94, 95% CI 1.03-3.71). Perceived high mental pressure was associated with a 1.75-fold increased risk of sustaining an NSI from a contaminated device (OR 1.75, 95% CI 1.07-2.88). Nurses who reported suboptimal staffing levels in their wards were 2.21 times more likely not to report any NSIs they sustained in the previous year (OR 2.21, 95% CI 1.06-4.89). Overall, this study suggests that NSIs represent a complex and multi-faceted problem for Japanese nurses. Intervention strategies should consider the emerging complicity of psychosocial factors on NSI among hospital staff in Japan, as elsewhere.

**Title:** Effect of a hospital campaign for influenza vaccination of health-care workers

**Authors:** Joon Y, Cheong W, Hye W, Hee J, Woo J, Sung R

**Date:** June 2006

**Source:** Infection Control and Hospital Epidemiology 27(6): 612-7

**Country:** Korea

**Abstract:** *Objective:* To identify the factors that inhibit or motivate influenza vaccination among healthcare workers (HCWs). *Methods:* In March 2000, we prepared 34-item questionnaire for both vaccine recipients and non-recipients regarding demographic characteristics, factors motivating and inhibiting vaccination, and knowledge and attitudes about influenza vaccination. On the basis of the results of our survey, an aggressive hospital vaccination campaign was undertaken. In April 2004, after the 4-year campaign, the same questionnaire was again administered to HCWs. *Results:* In both 2000 and 2004, the main motives for undergoing influenza vaccination were "hospital campaign" and "recommendation by colleagues"; the percentage of respondents who were motivated by the hospital campaign had remarkably increased from 27% in 2000

to 52% in 2004 ( $P < .001$ ), whereas the percentage who were motivated by recommendation by colleagues had not changed significantly (21% vs 14%). Overall, the 4 reasons most frequently cited by HCWs for noncompliance with vaccination were insufficient available time, confidence in their health, doubt about vaccine efficacy, and fear of injection. In 2000, vaccination rates were below 30%, irrespective of occupation. After an aggressive vaccination campaign, the increase in the vaccination rate was highest among the nursing staff, increasing from 21% in 2000 to 92% in 2004, whereas the vaccination rate among the physicians was still below 60%. *Conclusion:* We conclude that a hospital campaign can markedly improve influenza vaccination rates among HCWs. Both a mobile cart system and free vaccine supply contributed to improving the vaccination rates in our study. In addition, a specifically tailored intervention strategy was required.

**Title:** Seroprevalence of hepatitis B virus among health care workers in Korea

**Authors:** Shin BM, Yoo HM, Lee AS, Park SK.

**Date:** February 2006

**Source:** J Korean Med Sci 21(1):58-62

**Country:** Korea

**Abstract:** We studied the seroprevalence of HBsAg, anti-HBs and anti-HBc and the vaccination histories among health care workers (HCWs) at a large suburban referral hospital in Korea. The purpose of this study was to determine the immune status of HCWs against hepatitis B virus and we also wanted to prepare a practical guideline to protect HCWs from occupational exposure. During December, 2003, 571 HCWs (56 physicians, 289 nurses, 113 technicians and 113 aid-nurses) aged between 21 and 74 yr were included in the surveillance. The positive rates of HBsAg and anti-HBs were 2.4% (14/571) and 76.9% (439/571), respectively. The positive rate of anti-HBs was lower in the physician group, and this was associated with the male gender and older age. Of the 439 anti-HBs positive cases, 320 cases (73.1%) were anti-HBc negative and this was significantly associated with a past history of HBV

vaccination. The distribution of the anti-HBs levels was not associated with age (except for HCWs in their sixties), gender or occupation. Our study revealed that the seroprevalence rates of HBsAg and anti-HBs in HCWs in Korea were not different from those of the general population. Based on this surveillance, we can make reasonable decisions in case of occupational exposure to hepatitis B virus.

**Title:** Study of hepatitis B among different categories of health care workers

**Authors:** Shrestha S, Bhattarai M

**Date:** February 2006

**Source:** J Coll Physicians Surg Pak 16 (2):108-11

**Country:** Nepal

**Abstract:** *Objective:* To estimate the frequency of hepatitis B virus (HBV) infection among different categories of health care workers (HCWs) so as to identify groups and areas requiring special attention for the prevention of occupational transmission of blood-borne infections. *Design:* A cross-sectional study. *Place and Duration of Study:* The study was conducted in Bir Hospital, the central referral hospital of Nepal from December 2001 to February 2002. *Patients and Methods:* A total of 145 HCWs were selected by random allocation and blood samples were tested for HBV surface antigen (HBsAg), surface antibody (anti-HBs) and core antibody (anti-HBc). Multivariate analysis was done, including calculation of odd ratios for HBV infection by each variable of interest, like age, sex, HCW category, history of blood transfusion and vaccination status. *Results:* Anti-HBc was positive in 14.5% and HBsAg in 1.4% of HCWs. 20.9% of non-professional staff, 19.2% of nurses, 5.6% of laboratory workers and 3.1% of doctors had evidence of past or present HBV infection. 48.9% of HCWs, with only 16.7% of laboratory workers and 27.9% of non-professional staff, had received a full course of HBV vaccination. The significant risk factors associated with past or present HBV infection were lack of hepatitis B vaccination ( $p < 0.05$ ) and two HCW categories, nurses ( $p < 0.05$ ) and non-professional staff, who clean the used instruments ( $p < 0.05$ ). *Conclusion:* Apart from lack of hepatitis B vaccination, nurses and

non-professional staff on their own were found to be significantly more susceptible to HBV infection than others. This highlights the need to implement the internationally recommended measures to protect HCWs from blood-borne infections.

**Title:** Potential for reported needle-stick injury prevention among healthcare workers through safety device usage and improvement of guideline adherence: expert panel assessment

**Authors:** Cullen BL, Genasi F, Symington I, Bagg J, McCreaddie M, Taylor A, Henry M, Hutchinson S, Goldberg D

**Date:** August 2006

**Source:** J Hosp Infect 63(4):445-51

**Country:** Scotland

**Abstract:** A prospective survey was conducted over six months in order to estimate the proportion of reported occupational needle-stick injuries sustained by National Health Service (NHS) Scotland staff that could have been prevented through either safety device introduction, improved guideline adherence, guideline revision or a combination of these. This survey involved the administration of a standard proforma to healthcare workers followed by an expert panel assessment. All acute and primary care NHS Scotland trusts, the Scottish Ambulance Service and the Scottish National Blood Transfusion Service were included. Proforma and expert panel assessment data were available for 64% of injuries (952/1497) reported by healthcare staff. These injuries were all percutaneous. The expert panel concluded that: 56% of all injuries and 80% of venepuncture/injection administration injuries would probably/definitely have been prevented through safety device usage, 52% of all injuries and 56% of venepuncture/injection administration injuries would probably/definitely have been prevented through guideline adherence and 72% of all injuries and 88% of venepuncture/injection administration injuries would probably/definitely have been prevented through either intervention. Multi-factorial analysis indicated that injuries sustained through venepuncture/injection administration were

significantly more likely to be prevented through safety device usage [adjusted odds ratio (OR) 5.09, 95% confidence intervals (CI) 3.11-8.31 and adjusted OR 2.70, 95% CI 1.64-4.45, respectively], and significantly less likely to be prevented through guideline adherence (adjusted OR 0.26, 95% CI 0.11-0.60 and adjusted OR 0.31, 95% CI 0.12-0.78, respectively). Injuries sustained after completing procedures were significantly more likely to be prevented through safety device usage and guideline adherence. The study's findings support the need for improvements to staff's adherence to needle-stick injury guidelines and appropriate implementation of safety devices for venepuncture and injection administration.

**Title:** Headaches and the N95 face-mask amongst healthcare providers

**Authors:** Lim E, Seet R, Lee K, Wilder-Smith E, Chuah B, Ong B

**Date:** March 2006

**Source:** Acta Neurologica Scandinavica 113:199

**Country:** Singapore

**Abstract:** *Background:* During the 2003 severe acute respiratory distress syndrome epidemic, healthcare workers mandatorily wore the protective N95 face-mask. *Methods:* We administered a survey to healthcare workers to determine risk factors associated with development of headaches (frequency, headache subtypes and duration of face-mask wear) and the impact of headaches (sick days, headache frequency and use of abortive/preventive headache medications). *Results:* In the survey, 212 (47 male, 165 female) healthcare workers of mean age 31 years (range, 21–58) participated. Of the 79 (37.3%) respondents who reported face-mask-associated headaches, 26 (32.9%) reported headache frequency exceeding six times per month. Six (7.6%) had taken sick leave from March 2003 to June 2004 (mean 2 days; range 1–4 days) and 47 (59.5%) required use of abortive analgesics because of headache. Four (2.1%) took preventive medications for headaches during this period. Multivariate logistic regression showed that pre-existing headaches [P = 0.041, OR = 1.97 (95% CI 1.03–3.77)] and continuous use of the N95

face-mask exceeding 4 h [P=0.053, OR=1.85 (95% CI 0.99–3.43)] were associated with development of headaches. *Conclusions:* Healthcare providers may develop headaches following the use of the N95 face-mask. Shorter duration of face-mask wear may reduce the frequency and severity of these headaches.

**Title:** Using an integrated infection control strategy during outbreak control to minimize nosocomial infection of severe acute respiratory syndrome among healthcare workers

**Authors:** Yen M, Lin Y, Su I, Huang F, Huang F, Ho M, Chang S, Tan K, Chen K, Chang H, Liu Y, Loh C, Wang L, Lee C

**Date:** February 2006

**Source:** J Hosp Infect 62(2):195-9

**Country:** Taiwan

**Abstract:** Healthcare workers (HCWs) are at risk of acquiring severe acute respiratory syndrome (SARS) while caring for SARS patients. Personal protective equipment and negative pressure isolation rooms (NPIRs) have not been completely successful in protecting HCWs. We introduced an innovative, integrated infection control strategy involving triaging patients using barriers, zones of risk, and extensive installation of alcohol dispensers for glove-on hand rubbing. This integrated infection control approach was implemented at a SARS designated hospital ('study hospital') where NPIRs were not available. The number of HCWs who contracted SARS in the study hospital was compared with the number of HCWs who contracted SARS in 86 Taiwan hospitals that did not use the integrated infection control strategy. Two HCWs contracted SARS in the study hospital (0.03 cases/bed) compared with 93 HCWs in the other hospitals (0.13 cases/bed) during the same three-week period. Our strategy appeared to be effective in reducing the incidence of HCWs contracting SARS. The advantages included rapid implementation without NPIRs, flexibility to transfer patients, and re-inforcement for HCWs to comply with infection control procedures, especially hand-washing. The efficacy and low cost are major advantages,

especially in countries with large populations at risk and fewer economic resources.

**Title:** **Effects of a SARS prevention programme in Taiwan on nursing staff's anxiety, depression and sleep quality: a longitudinal survey**

**Authors:** Chen R, Chou K, Huang Y, Wang T, Liu S, Ho L

**Date:** February 2006

**Source:** Int J Nurs Stud 43(2):215-25

**Country:** Taiwan

**Abstract:** The aim of this research is to determine the levels of anxiety, depression, and sleep quality a severe acute respiratory syndrome (SARS) nursing staff experienced before and after a SARS prevention program. The 116 subjects were recruited from nursing staff in the largest obligatory SARS designated treatment hospital in Taiwan. Using general estimating equations (GEE) statistical analysis to control possible for affecting factors, we found that the nursing staff's anxiety and depression along with sleep quality started to improve 2 weeks after the initiation of SARS prevention controls. From this research, we determined that nursing staff members were anxious, depressed, and they could not sleep well at the SARS outbreak. However, the systematic SARS prevention program improved these factors. When faced with these types of diseases, related international medical organizations should establish a comprehensive program to help medical professionals cope better.

**Title:** **Occupational blood and infectious body fluid exposures in a teaching hospital: a three-year review**

**Authors:** Hsieh W, Chiu N, Lee C, Huang F

**Date:** August 2006

**Source:** J Microbiol Immunol Infect 39 (4):321-7

**Country:** Taiwan

**Abstract;** *Background and purpose:* Blood and infectious body fluid (BBF) exposures are common safety problems for healthcare workers (HCWs). We analyzed reported BBF

exposures during a 3-year period at a teaching hospital. *Methods:* We collected reports of BBF exposures among HCWs occurring from January 2001 to December 2003 at a 2000-bed tertiary care medical center in northern Taiwan. HCWs were requested to report BBF exposures immediately after each exposure, which required completing a report sheet of questions concerning the exposure. The HCW was also required to visit an infectious diseases specialist who would decide on the appropriate management in each case. *Results:* Needle-stick injuries were the most commonly reported BBF exposure, accounting for 80% of reported cases. The total incidence density of BBF exposures was 1.96 per 100 person-years. BBF exposures were most common in December and least common in September. Nurses had the highest per-centage (60.6%) of BBF exposures and other job categories including physicians, technicians, cleaning staff, and interns accounted for around 10% each. Injuries occurred most commonly during the daytime (57.0%). Three-quarters (74.9%) of the injured HCWs had appropriate immediate care. Interns had the highest incidence density (4.48 per 100 person-years) of BBF exposures and technicians the lowest (0.50 per 100 person-years). Among the exposed HCWs, 1 received hepatitis B vaccine, 1 received both hepatitis B vaccine and hepatitis B immune globulin, 1 received zidovudine/lamivudine due to a needle-stick injury when treating an HIV-positive patient, and 4 received penicillin due to exposure to syphilis. No HCW developed infections after BBF exposure during the study period. *Conclusions:* Measures which may be effective in reducing BBF exposures include education of HCW, increased use of standard precautions, improved administrative support, and enhanced reporting of BBF exposures.

**Title:** **Use of HIV Postexposure Prophylaxis in healthcare workers after occupational exposure: a Thai university hospital setting**

**Authors:** Kiertiburanakul S, et al.

**Date:** July 2006

**Source:** J Med Assoc Thai 89(7):974-8

**Country:** Thailand

The abstract was presented at the 2nd International Congress of the Asia Pacific

Society of Infection Control, February 14-17, 2004, Singapore

**Abstract:** *Background:* Post Exposure Prophylaxis (PEP) is widely used after exposures to Human Immunodeficiency Virus (HIV) to reduce the risk of infection in the healthcare setting. Few data are available on the safety and tolerability of Anti Retro Viral drugs (ARV) among Health Care Workers (HCWs) who are prescribed prophylaxis. *Objective:* To collect information about the safety and compliance of taking ARV for HIV PEP among HCWs. *Material and Method:* Retrospective review on registry data regarding occupational HIV exposures, the PEP regimens used, and the adverse events associated with PEP was performed. *Results:* During a five year-period, 820 episodes with occupational blood or body fluid exposures were reported. Nurses (27%) were the largest group at risk. The most common type of exposure was percutaneous injuries (82%). Only 125 (15%) HCWs had occupational exposures to HIV, 64 HCWs were prescribed HIV PEP and 32 (50%) HCWs did not complete the PEP regimen as initially prescribed. The commonly prescribed ARV was zidovudine (38%), lamivudine (33%), and indinavir (11%). Overall, 18 (28%) HCWs reported symptoms while on PEP, such as nausea (89%), vomiting (55%), and dizziness (39%). None of the HCWs had HIV seroconversion. *Conclusions:* Adverse effects from HIV PEP were very common. Clinicians prescribing HIV PEP need to discuss with HCWs about PEP efficacy and side effects. Education efforts aimed at occupational exposure prevention are still important issues.

**Title:** **Glove allergy and sensitization to natural rubber latex among nursing staff at Srinagarind Hospital, Khon Kaen, Thailand**

**Authors:** Chaiear N, Jindawong B, Boonsawas W, Kanchanarach T, Sakunkoo P

**Date:** March 2006

**Source:** J Med Assoc Thai 89(3): 368-76

**Country:** Thailand

**Abstract:** *Background:* According to studies from different countries, the prevalence of natural rubber latex (NRL) sensitization in

healthcare workers ranges from 2.9 to 17%. The incidence and prevalence of sensitization and allergy to NRL in Thailand is limited to two studies. There is no study among the high risk healthcare workers. *Objectives:* 1) To estimate the prevalence of natural rubber latex (NRL) glove allergy and NRL sensitization among nurses; 2) To describe its clinical symptoms. *Material and Method:* Included in the present study were 412 nursing and medical record staff. A self-administered questionnaire was used to collect personal biodata and individual allergy histories to NRL products. Skin prick tests (SPTs) with the commercial NRL allergens; Stallergènes, S.A, Fresnes, France, and common environmental allergens, were performed. *Results:* The questionnaire response rate was 88% (412/470), 93% females. The response rate of SPT was 72% (295/412) (95%CI 67.2, 76.0). The prevalence of NRL glove allergic symptoms and NRL sensitization was 24% (95%CI 19.9, 28.1) and 2% (95%CI 0.4, 3.6), respectively. The most frequently reported symptoms among the positive SPT to NRL was angioedema. Five of the six NRL sensitised subjects had high exposure to NRL. *Conclusion:* NRL sensitization among Thai nursing staff is less prevalent than in healthcare workers in Europe.

**Title:** **Effectiveness of protocols for preventing occupational exposure to blood and body fluids in Dutch hospitals**

**Authors:** Van Gemert-Pijnen J, Hendrix M, Van der Palen J, Schellens P

**Date:** February 2006

**Source:** J Hosp Infect 62(2):166-73

**Country:** The Netherlands

**Abstract:** Compliance of different healthcare workers (HCWs) (nurses, physicians, laboratory technicians and cleaners) with protocols to prevent exposure to blood and body fluids (BBF) was studied. Questionnaires were used to assess perception of risks, familiarity with protocols, motivation and actual behaviour. Performance of the protocols in practice was also tested. The practical test provided more reliable results than the questionnaire. HCWs overestimated their knowledge and skills, and compliance was influenced by risk perception. HCWs encountered problems with comprehension,

acceptability and applicability of protocols, especially for post-exposure precautions. Protocols are not tailored to the differences in knowledge, risk perception and practical needs of different professional groups, probably because HCWs have rarely been involved in writing them and they are governed more by legal considerations than applicability. Most HCWs experienced a lack of organizational support to aid compliance. To improve compliance, we recommend information and training on risk management and individual responsibilities regarding the safety of co-workers and patients, participation of HCWs in protocol development, and support of management to avoid reversion to previous habitual behaviour.

**Title:** **Impact of safety needle devices on occupationally acquired needle-stick injuries: a four-year prospective study.**

**Authors:** Adams D & Elliot T P

**Date:** September 2006

**Source:** J Hosp Inf 64(1):50-5

**Country:** United Kingdom

**Abstract:** A four-year prospective study was undertaken at the University Hospital Birmingham National Health Service Foundation Trust to evaluate the effect of the introduction of a range of safety hypodermic needle devices on the number of reported needlestick injuries (NSIs). Data on the number of reported NSIs for four clinical areas began in 2001. Following an enhanced sharps awareness strategy in 2002, the number of NSIs reduced from 16.9/100 000 devices used in 2001 to 13.9/100 000 devices (P= 0.813). In 2003, when only standard training was provided, the number of NSIs increased to 20/100 000 devices. However, the subsequent introduction of three safety needle devices with concomitant training resulted in a significant reduction in the number of reported NSIs to 6/100 000 devices in 2004 (P=0.045). User satisfaction and acceptance of the safety needles was also very favourable. These results suggest that when safety needle devices are introduced into the clinical setting and appropriate training is given, a significant reduction in the number of occupationally acquired NSIs may ensue.

**Title:** **Do N95 respirators provide 95% protection level against airborne viruses, and how adequate are surgical masks?**

**Authors:** Balazy A, Toivola M, Adhikari A, Sivasubramani S, Reponen T, Grinshpun S

**Date:** March 2006

**Source:** American Journal of Infection Control 34(2): 51 -7

**Country:** United States

**Abstract:** *Background:* Respiratory protection devices are used to protect the wearers from inhaling particles suspended in the air. Filtering face piece respirators are usually tested utilizing nonbiologic particles, whereas their use often aims at reducing exposure to biologic aerosols, including infectious agents such as viruses and bacteria. *Methods:* The performance of 2 types of N95 half-mask, filtering face piece respirators and 2 types of surgical masks were determined. The collection efficiency of these respiratory protection devices was investigated using MS2 virus (a nonharmful simulant of several pathogens). The virions were detected in the particle size range of 10 to 80 nm. *Results:* The results indicate that the penetration of virions through the National Institute for Occupational Safety and Health (NIOSH)-certified N95 respirators can exceed an expected level of 5%. As anticipated, the tested surgical masks showed a much higher particle penetration because they are known to be less efficient than the N95 respirators. The 2 surgical masks, which originated from the same manufacturer, showed tremendously different penetration levels of the MS2 virions: 20.5% and 84.5%, respectively, at an inhalation flow rate of 85 L/min. *Conclusion:* The N95 filtering face piece respirators may not provide the expected protection level against small virions. Some surgical masks may let a significant fraction of airborne viruses penetrate through their filters, providing very low protection against aerosolized infectious agents in the size range of 10 to 80 nm. It should be noted that the surgical masks are primarily designed to protect the environment from the wearer, whereas the respirators are supposed to protect the wearer from the environment.

**Title:** **The relationship between hospital-based healthcare personnel perceptions of safety culture and the occurrence of sharps injuries**

**Authors:** Grytdal S, Kobeski A, Caplan C, Flanagan E, Cousin P

**Date:** June 2006

**Source:** American Journal of Infection Control 34(5): E14 (online article)

<http://journals.elsevierhealth.com/periodicals/ymic/issues/contents>

**Country:** United States

**Abstract:** *Background/Objectives:* Hospital-based healthcare personnel (HCP) sustain an estimated 385,000 sharps injuries (SI) each year in the United States. Sharps injury prevention efforts have been primarily focused on providing safer needle devices and reducing unsafe work practices. However, HCP perceptions of institutional safety culture have been associated with adherence to universal precautions and the risk of sustaining blood and body fluid exposures (BBFE). We examined perceptions of safety culture among HCP at a large multi-facility medical center to assess the relationship between HCP attitudes and the risk of SI. *Methods:* A 33-item survey was mailed to the home addresses of 13,700 employees of Detroit Medical Center from June-July 2005. Data obtained included occupational demographics, perceptions of safety culture, knowledge of SI/BBFE reporting procedures, SI incident history, reasons for not reporting SI/BBFE, and post-BBFE care experiences. A 13-item safety culture construct measured perceptions of safety culture using a 5-point Likert scale; a total safety culture score was created for each respondent by adding the scores for each question. Associations between perceptions of safety culture and SI occurrence were assessed using bivariate associations and simple logistic regression. *Results:* Of the 13,700 surveys mailed, 3,043 (22%) were returned. One-third of all respondents were employed in patient care services (nursing). Most (87%) respondents were familiar with hospital protocols for reporting SI/BBFE; 109 (3.6%) recalled sustaining an SI in the past 12 months. The average safety culture score was 49.4 (range 4-65; highest possible score = 65); 568 (19%) gave positive responses

(agreed or strongly agreed) to all questions. After adjusting for occupation, work shift, and knowledge of hospital reporting procedures, respondents with positive perceptions of safety culture (higher total safety culture score) were less likely (OR = 0.97, 95% CI = 0.95, 0.99) to have sustained an SI in the previous 12 months. *Conclusions:* These results suggest that HCP perceptions of safety culture may influence the risk of sustaining an SI. Perceptions of safety culture should be measured when designing an SI prevention program in hospitals.

**Title:** **Best practices for the safe use of glutaraldehyde in health care**

**Authors:** U.S. Department of Labor, Occupational Safety and Health Administration

**Date:** 2006

**Source:** OSHA 3258-04N  
<http://www.osha.gov/Publications/glutaraldehyde.pdf>

**Country:** United States

**From the Introduction:** "In the years since its introduction as a disinfectant/sterilant, glutaraldehyde has been linked with a variety of health effects – ranging from mild to severe – including asthma, breathing difficulties, respiratory irritation, and skin rashes....."

The purpose of this document is to provide information that can be used by health care employers and employees to understand and control exposures to glutaraldehyde. This document describes engineering controls, work practices, and facility design considerations that will help reduce employee exposure to glutaraldehyde. This document also includes recommendations for personal protective equipment, worker training, exposure monitoring, disposal practices, and spill and cleanup procedures. The use of alternatives to glutaraldehyde is also addressed."

**Contents:**

- Introduction
- Summary of Health Effects
- Occupational Exposure Limits for Glutaraldehyde
- Glutaraldehyde Use as a High-Level Disinfectant
- Engineering Controls

- Alternatives to Glutaraldehyde for High-Level Disinfection
- Glutaraldehyde Use as a Tissue Fixative
- Glutaraldehyde Use in X-Ray Processing
- General Recommendations Applicable to all Uses of Glutaraldehyde In Health Care
- Additional Resources

**Title:** The 2003 SARS outbreak: global challenges and innovative infection control measures

**Authors:** Murphy C

**Date:** January 2006

**Source:** Online Journal of Issues in Nursing 11(1), Manuscript 5, available at:

[http://www.nursingworld.org/ojin/topic29/tpc29\\_5.htm](http://www.nursingworld.org/ojin/topic29/tpc29_5.htm)

**Country:** Multiple

**Abstract:** In early 2003, the global infection control community faced a great challenge, sudden [sic] acute respiratory syndrome (SARS). The rapid spread of SARS, its capacity to infect health care workers, and its many unknown features in the early days of the outbreak meant that health care workers were unsure of the most effective methods of infection control to prevent disease transmission. These conditions made designing appropriate, effective and standard infection control responses difficult. Innovation was necessary. This article provides a brief overview of global challenges in infection control and SARS. The author reports field observations and describes five selected examples of highly innovative, SARS-related infection control practices observed in three affected countries during the height of the 2003 outbreak. These examples relate to risk assessment, patient segregation, strategies to limit access to clinical areas, health care worker protection, and efforts to promote public confidence. Many of these strategies could be considered for use in the post-2003 SARS era, especially in preparation for an influenza or Avian influenza pandemic.

**Title:** Preventing needle stick injuries and occupational exposure to bloodborne pathogens

**Authors:** Wilburn S, Eijkemans G

**Date:** Winter 2006

**Source:** [http://www.who.int/occupational\\_health/publications/newsletter/gohnet8eng.pdf](http://www.who.int/occupational_health/publications/newsletter/gohnet8eng.pdf)

**Country:** Multiple

Provides a summary of epidemiology and control measures for NSI and introduces the WHO and ICN Joint Project to Protect Health Care Workers from Needle-stick Injuries.

## Calendar of Events

In SafeHandS invites members to advise us about any future events related to health care worker safety which other members may be interested to attend. Send an email to: [safehands@sesiahs.health.nsw.gov.au](mailto:safehands@sesiahs.health.nsw.gov.au)

### **Sixth International Conference of the Hospital Infection Society, (HIS 2006) 15-18 October, 2006 Amsterdam, The Netherlands**

“The HIS Conference takes place every four years and is the major international congress focusing on healthcare associated infection prevention and control. It provides a unique opportunity to discuss the latest developments in this rapidly expanding and changing field.

We have gathered experts in infection prevention and control from around the globe in a programme that covers a broad range of topical and important subjects. We are looking forward to a very successful Conference with high quality science, the latest developments from industry and an attractive social programme.”

For more information visit the website: <http://www.his2006.com>

**International Meeting on Emerging Diseases And Surveillance (IMED 2007)  
23-25 February, 2007  
Vienna, Austria**

“ProMED-mail, the Program for Monitoring Emerging Diseases, is pleased to invite you to the International Meeting on Emerging Diseases and Surveillance 2007. Along with our co-sponsors, the European Centre for Disease Prevention and Control, the World Organization for Animal Health (OIE), the European Commission, and the WHO Regional Office for Europe, we are developing a conference that will bring together the public health community, scientists, health care workers and other leaders in the field of emerging infectious diseases.”

Abstract submission deadline: December 1, 2006

For more information visit the website:  
<http://imed.isid.org>

**International AIDS Society Conference  
22-25 July, 2007  
Sydney, Australia**

“As the fourth conference in this series, IAS 2007 will feature reports of the latest developments in the areas of basic, clinical and prevention science. The conference will continue its strong emphasis on treatment and pathogenesis, while building upon the biomedical prevention agenda introduced in Rio de Janeiro, Brazil in 2005. As a defining feature of the conference, IAS 2007 will examine how scientific advances can, in very practical ways, inform the global response to HIV/AIDS.

Since the earliest years of the epidemic, Australia has maintained a strong commitment to HIV education, prevention, treatment and research. It was one of the first countries to develop a national strategy on HIV/AIDS, and currently supports dedicated research centres in several disciplines. The Australian response is based on a collaborative partnership between the research, health care, government and community sectors. On behalf of all of these sectors, Australian Society for HIV Medicine (ASHM), one of the first HIV medicine societies in the world founded in 1987, looks forward to welcoming delegates to

Sydney and to serving as local host. The truly international nature of the conference (with more than 125 countries represented in 2005) is an ideal opportunity for networking and collaboration.”

For more information visit the website:  
<http://www.ias2007.org>

**8th Annual Congress of the International Federation of Infection Control (IFIC)  
18-22 October, 2007  
Budapest, Hungary**

For more information visit the website:  
<http://www.theific.org>