

# In SafeHandS

Newsletter of the SafeHandS network

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ALBION STREET CENTRE

*In SafeHandS* is the official newsletter of the SafeHandS network to promote health care worker safety in the Asia Pacific. It is compiled and distributed by the Albion Street Centre.

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#### Editorial panel:

Maggy Tomkins; Philip Melling; Peter Said; Peta-Anne Zimmerman & Alexandra Wilson

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## ? 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 the Pacific region. The focus of the of the September issue will be Indonesia.

*Deadline for contributions for the next issue is 18th August, 2006.*

### SafeHandS

The Albion Street Centre  
150-154 Albion Street  
Surry Hills NSW 2010  
Australia

Email:  
safehandS@sesiahs.health.nsw.gov.au  
Tel: 61-2 9332 9711  
Fax: 61-2 9380 6572

Web: <http://www.uow.edu.au/health/safehandS/index.html>

## Editorial

Dr Tom Kiedrzyński

Epidemiologist  
Public Health Surveillance and  
Communicable Disease Control Section  
Public Health Programme  
Secretariat of the Pacific Community



Let's move on towards epidemic disease preparedness...

When I was a kid, my mother always told me not to touch food before having washed my hands, especially after coming out of a hospital. Like in some jokes about specialised professions, you don't need to have a diploma to have learnt some basic prevention behaviour called hygiene.

Recently, the sharing of tooth brushes at some schools in New Caledonia helped to spark an outbreak of hepatitis A among children. Other susceptible people were also affected through other ways, like non-immune adults who were sicker with the disease.

Infection prevention and control (IP&C) strategies, from systematic hand washing or disinfection to patient triaging or personal protective equipment, are crucial in epidemic situations. Some of them, like hand washing and patient triaging, can be particularly important in limited-resource countries.

With the current outbreak of measles in Fiji and earlier in 2003 in Majuro, triaging was put in place at health care facilities, aimed at minimizing the spread of measles among susceptible patients.

Everywhere, health care facilities are a concentration of sick persons, therefore sometimes if not often loaded with infectious and communicable diseases and germs. IP&C should not only aim at safety for health care workers: the whole population in health care facilities must be protected, i.e. health care workers, patients and visitors (especially patient "supporters").

Further on, in times of outbreaks and to prevent them, these practices must apply to the communities at risk in order to control the disease.

Dramatic examples that marked the recent

history of infectious diseases, like the epidemics of Ebola in Zaire and Congo, SARS in Asia and elsewhere and Marburg in Angola, were excellent demonstrations of how breaches in infection control practices can fuel epidemics: although the SARS epidemic started to spread in a hotel, it became essentially hospital borne, with close contacts in the communities, e.g. care takers, being also at risk. The same health care-related transmission applies for both other spectacular and killer scourges.

IP&C, a logical, often simple way to avoid the spread of infectious diseases, requires the knowledge of how germs may infect humans and spread: the application of basic hygiene rules for the protection of individuals is the essential part of it, with some IP&C measures more specific to the transmission features of targeted diseases. This is entirely part of day-to-day health care practice and preparedness planning.

In Pacific Island countries and territories (PICTs), IP&C practices, although well in place in some locations, need further development, advocacy and support in others. Therefore, in order to make the sharing of resources easier, to stimulate the systematic development of infection control and prevention practices, and to sustain it, the Pacific Infection Control Network was launched, enhancing the recognition of an "IC identity" in all the PICTs. Its inclusion under the Pacific Public Health Surveillance Network (PPHSN) marks what brought attention to IP&C practices: the epidemic diseases, and priorities of the PPHSN. It highlights the need for good IP&C practices in case of epidemics, and more generally, for all infectious diseases.

Within the framework of the PPHSN, the objectives of PICNet are set stepwise; first it was found essential to set the minimum standards and develop the capacity for infection control in PICTs, with the support of an increased awareness of infection control issues. These areas will benefit from infection control links with various resource entities and from a strategic plan for PICNet. Standardized healthcare associated infection (HAI) surveillance and response mechanisms are an important but subsequent step. In the context of the Asia-Pacific Strategy for

Emerging Diseases and the new International Health Regulations, PICNet is a step forward for a stronger early response to emerging diseases. Let's use the current momentum to reinforce our aptitude to fight the germs, with the threat of a future influenza pandemic giving us the incentive to improve and test our preparedness towards all infectious diseases.

## 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. This 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 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 55 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.

Our members' feedback on membership forms indicates that your priority services 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 will focus on expanding the "useful links and resources" page of the website to give you access to more resources on improving HCW safety in resource limited settings.

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

## Member Profiles

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

**Name:** Margaret Leong

**Title:** Risk Unit Manager



### Contact Details:

Lautoka Hospital  
Ministry of Health  
Fiji

### Describe your current job:

My job involves working as a principal member of the Risk Management Unit and as an adviser to the management and staff of the Western Division in risk management, (with a particular emphasis on clinical risks) that includes assisting in the development, co-ordination and implementation of the safety improvement agenda. The Infection Control Portfolio also comes under the risk management unit.

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

I graduated from the Fiji School of Nursing in 1989. After completing my internship I moved to CWM hospital where I joined the Maternity Unit. In 1992 I became the first Infection Control Nurse in Fiji and worked in CWM hospital until 1999 until I moved to Lautoka Hospital where I am currently based. In 1999, the Albion Street Infection Control Resource Centre conducted the first Infection Control workshop in Fiji. After attending the workshop, I went off on a one month Infection Control attachment to the John Hunter Hospital in Newcastle, Australia. I continued to work as an Infection Control Nurse in Lautoka Hospital

until 2003 when I moved to take on my current position. In 2004 I left for Perth to study, for a post-graduate diploma in Health Science and returned in 2005 to take on my current position.

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

Facilitating the review and development of clinical guidelines and overseeing the implementation of improvement strategies for every incident that happens so that a similar incident does not happen again.

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

The meetings I have to organise.

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

Health care worker safety means a lot to me, in terms of Infection Control its about providing Health Care Workers with knowledge and skills and providing the right protection to health care workers in order for them to carry out their work effectively. Without staff, we don't have a workforce.

### What are you reading at the moment?

I've just finished reading "Exposed Heart" by Jackie Holland, and I have just started reading "Becoming a Rock-Solid Christian" by Richard L Ruth.

### What are you currently listening to?

I'm listening to praise and worship songs. I have Darlene Zschech's – Touching Heaven Changing Earth CD in my car so I could be listening to her for sometime before I change the CD in my car.

### What is your favourite saying?

At the moment, it has got to be that for every incident that happens there are lessons to learn!

**Name:** June Scanlan Lui

**Title:** Principal Nurse



**Contact Details:**

21212 ext 205 or 7775330 or P.O. Box 588

**Describe your current job:**

To look after all the nursing staff within the clinical setting.

Provide clinical leadership in all nursing issues within the hospital etc

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

RN – 1983-1996  
Nurse manager Operating Theatre- 1997-2003  
Principal Nurse – September 2003 until now

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

Providing education for nurses.

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

When there's too many paper work

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

Environment for staff should be safe.  
Materials for work must be available.  
Good working conditions for staff offered.  
Environment must be conducive.

**What are you reading at the moment?**

Bible

**What are you currently listening to?**

Gospel songs

**What is your favourite saying?**

I can do all things when Christ is with me.

**Name:** Ms. Dominica Bessie Abo

**Title:** Director Anglicare StopAIDS PNG



**Contact Details:**

PO Box 6491 Boroko, NCD  
Papua New Guinea  
Phone: (675) 325 1855 Fax: (675) 325 1103

**Describe your current job.**

I am the Director of a non-government organisation called Anglicare StopAIDS in Papua New Guinea (PNG) and our core business is HIV/AIDS. We are one major service providers in HIV/AIDS work in PNG. I oversee different programs that we conduct such as Peer Education Training, Voluntary Confidential Counselling and Testing, Drop-in centre, HIV/AIDS awareness program to community at large in different settings, Home based care, Monitoring of ARV to name a few. I manage staff of 55 plus. Basically I oversee the different programs and attend to the development of the organisation as well.

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

I am a Registered Nurse Midwife in PNG having served the Health Department in different nursing capacity for 15 years and I pursued further studies at Curtin University of Technology Perth WA and obtained a degree in Health Science. This brought me to my current position.

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

I like managing human resource under my care and leading them into achieving better results in regards to our work.

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

Having to repeatedly assist staff members who do not use their initiatives and creativity to

perform their tasks.

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

Health care worker safety to me means staff taking precautions and using safety measures in order to prevent acquiring infections from the health setting and also prevent cross infection from one patient to another.

**What are you reading at the moment?**

Dr. Phil McGraw's Ultimate Weight Loss Book

**What are you currently listening to?**

Kenny G (Saxophone music)

**What is your favourite saying?**

Work hard, identify your purpose in life, pursue it and do not look back.

## Secretariat of the Pacific Community (SPC) Infection Control Activities

By Peta-Anne Zimmerman

### Introduction

Infection Control, particularly in healthcare facilities, is a critical element in interrupting transmission of priority infectious diseases in the Pacific Island region. Facilitation of infection control responses in the region requires improvements in communication at all levels (facility, national and regional) and improved access to expertise and technical advice. Over the last three years regional infection control input in the Pacific has taken the form of two major projects from the World Health Organization (WHO) and the Secretariat of the Pacific Community (SPC). This article primarily reports on the activities of the latter project.

### Objectives and activities

The objective of the Infection Control Specialist (ICS) short-term consultancy, funded by the Asian Development Bank (ADB), to the Pacific Public Health Surveillance Network (PPHSN) of the SPC was to reinforce good infection control practices and build infection control capacity in the Pacific Island region. This included the development of the Pacific Infection Control network (PICNet) to enable proper management of hospital infection control particularly in the area of infectious and emerging diseases such as SARS and pandemic influenza.

Working within the framework of the PPHSN, the consultant's duties and responsibilities were to collaborate and liaise with partner agencies in order to:

1. Review existing in-country infection control procedures and policies and make appropriate, realistic and practical recommendations.
2. Propose surveillance mechanisms for infection control in hospitals in Pacific Island countries and territories.
3. Conduct and/or contribute to training needs analysis (TNA) in the area of infection control at various levels of healthcare

delivery in Pacific Island countries and territories.

4. Based on the findings of the TNA, plan and initiate the organization of training activities for relevant health professionals. Training programs should utilise, as appropriate, in-country facilities, local individuals and national and or regional training institutions. These activities should take into account the Pacific Island contexts, include practical exercises and drills and where possible take advantage of exchange schemes.
5. Organise funding and rapid procurement procedures for appropriate PPE start-up kits in case SARS or other emerging disease emergencies occur.
6. Formalise links between institutions in the area of infection control inside and outside the Pacific region (network of expertise).
7. Promote internet connectivity for infection control staff, and contribute to improving communication and information exchange.

These duties were carried out within PICNet under the supervision of the SPC Epidemiologist, Dr Tom Kiedrzyński.

### Findings

Findings from this consultancy generally demonstrated limited infection control capacity, expertise and programme development within the Pacific Island countries and territories, with some exceptions. Positively, there was evidence that SARS had caused an increase in infection control awareness. In some nations this was demonstrated by the recent establishment of infection control committees, the development of manuals, increased staffing, the provision of training and the increased engagement of clinicians and leaders. However, in many nations, none of these responses were evident so that there was a significant disparity in programmes between countries.

The review by the ICS also found the following:

- Lack of awareness of infection control resources within the region.
- Lack of networking among infection control specialists.
- Difficulties in the management of health-care related waste.
- Absent or poor management of occupational exposures to blood borne

pathogens.

- Absence of ongoing infection control education and training for all levels of healthcare providers, especially ancillary staff.
- Food safety concerns for both patients and staff with evidence of unhygienic food handling and storage practices.
- Issues with clinician and leadership engagement.
- Difficulty with the sustainable procurement and replenishment of PPE.

### **Healthcare associated infection surveillance**

In most of the countries visited, healthcare associated infection (HAI) surveillance is not currently performed. Those countries which do have well-established infection control programmes and infection control professionals (ICPs) to implement them perform some form of HAI surveillance (surgical site, bacteraemia, occupational exposures and intravascular device infections). At this time it is in-appropriate to establish standardised case definitions and surveillance methodologies for HAI surveillance within the region, due to the disparity in programme capacity between countries. Given the current situation it should be a long-term goal for nations to develop their own surveillance protocols with a view to standardisation and benchmarking throughout the region. For those nations with established infection control programmes their surveillance systems should be encouraged to evolve and become a resource for those learning the use and value of HAI surveillance.

### **Training needs analysis**

As part of the review process staff from relevant training bodies such as schools of medicine, oral health and nursing from the countries visited during the consultation were interviewed to assess the integration of infection control theory, principles and practices into the respective curricula. The nursing and oral health schools demonstrated the greatest level of commitment to integrating infection control into their curricula. The schools of medicine, while recognising the importance of infection control, have not fully integrated it into all components of their curricula. Instead it has tended to highlight

infection control in those components involving infectious disease syndromes. Incorporating infection control into all components would reinforce its importance and necessity to students and partners.

In addition to the review of the curricula of formal training bodies, the continuing education of healthcare workers and the role of healthcare facilities in infection control programmes were also investigated. Only in those nations with established infection control professionals and programmes were orientation and continuing education for infection control provided. In some situations this education was provided primarily to clinical staff, however there were other nations with more comprehensive programmes which include all staff who work in the health facility including cleaners, food handlers and laundry staff.

Within the SPC member states there is a severe shortage of skilled healthcare professionals who have received formal training in their discipline, such as nursing and medicine. To alleviate the pressure created by this situation, a number of countries now train unskilled workers to become health assistants. These positions are largely task-oriented and labour intensive roles based in healthcare facilities. In the countries where this occurs, trainers were interviewed to ascertain the level of infection control training these staff members receive. The general consensus was that infection control and basic disease transmission principles were not included in the training. This situation appears to pose a significant infectious disease risk to patients and staff of those facilities.

There is no specialist training for infection control amongst the SPC member states. Opportunities for mentorship and clinical placement need to be further explored within the region, particularly in those nations with a well-established infection control programme and expert infection control professionals, such as Fiji.

### **Procurement of personal protective equipment**

As part of the consultancy, funding was allocated for the procurement of PPE to be utilised during infectious disease outbreak

response. While the in-country reviews were being conducted, information was also collected on the general availability of PPE, replenishment issues, types/sizes of PPE suitable to the Pacific region and ability to produce alcohol based hand rub (AHR) and reusable linen PPE if required. It was found that most countries experience shortages of PPE, mainly gloves, on a regular basis. However, most countries also have seamstress services which can be utilised to produce linen gowns, head covers, shoe covers and masks if required.

Using the information collected on PPE a projection for the requirements for the peak week of an influenza pandemic, both for inpatient and outpatient services, was calculated. The projection was based upon the expected inpatient and outpatient numbers calculated by the Public Health Section of the SPC<sup>1</sup>. Once calculated, it was projected that on average 674,024 PPE sets<sup>2</sup> would be required per country in the peak week (week four) of an influenza pandemic. The budget allocated by the consultancy could not accommodate this nor would funding by donor organisations.

After consultation with SPC staff it was decided that two outbreak kits would be prepared, to be mobilised in the event of an outbreak in an SPC member state. The decision to mobilise a kit will be at the discretion of the PPHSN focal point.

## Guidelines

In addition to the activities to be completed as part of this consultancy the ICS assisted in, and instigated, guideline development for infection control related issues in the region.

At the request of the SPC HIV team, the ICS reviewed the 'Guidelines for Management of Occupational Exposure to Blood and Body Substances Including HIV Prophylaxis in Healthcare Settings for the Pacific Islands Regional Global Fund Project'. This document was provided to PICNet members at the technical consultation meeting, which formed part of the project, in February 2006 for review and feedback.

As a result of the review visits during the consultancy it was found that infection control guidelines or manuals were rare and, with the

exception of the Fiji Ministry of Health Infection Control Guidelines, usually not evidence based. It was also found that the majority of the existing infection control guidelines were "nursing" documents and did not convey the impression that they were meant to be used by all healthcare workers. In response to this situation, a first draft version of regional infection control guidelines was developed by the ICS. This document is based on the Fiji Ministry of Health document and other key documents from the WHO and the US CDC. This draft document was also issued to participants at the technical consultation meeting for feedback and review. The initial feedback during the meeting indicated that there was a need for these guidelines and that it was a good initiative. The participants and the PICNet membership now carry the responsibility of continuing with the development of these guidelines and there is an anticipated completion at the end of September 2006.

## Conclusion

Infection control and prevention is an area of health service delivery in the Pacific Island region that needs strengthening. Infection control programme establishment, implementation and monitoring are essential to providing a safe environment for consumers, healthcare workers infection control aimed to assist member states of the SPC to improve and strengthen infection control capacity, promote infection control issues and assist in developing the ability to deal with infectious disease outbreaks. The activities of the consultancy were designed to build upon established linkages and previous work performed by Infection Control Consultants of the WHO and SPC. The SPC has consistently demonstrated an ongoing commitment to its member states in improving health outcomes for Pacific Island communities.

<sup>1</sup>Wilson N, Mansoor O, Lush D, Kiedrzyński T. Modeling the impact of pandemic influenza on Pacific Islands [letter]. *Emerg Infect Dis* [serial on the Internet]. 2005 Feb. Available from <http://www.cdc.gov/ncidod/EID/vol11no02/04-0951.htm>

<sup>2</sup>Minimum PPE set is 1 mask (N95 or surgical), 1 gown, 1 pair gloves and 1 set of eye protection (face-shield or goggles)

## Technical Consultation Meeting and Training Workshop on Infection Prevention and Control

By Peta-Anne Zimmerman

Included in the activities for the Secretariat of the Pacific Community (SPC) Infection Control Specialist (ICS) short-term consultancy was the organisation and delivery of a key stakeholders meeting for infection control in the region. This meeting was held on the 20th-24th of February 2006 in Lautoka, Fiji and incorporated two days of technical consultation followed by three days of training for novice infection control professionals. The facilitators of the meeting were:

- Ms Peta-Anne Zimmerman, Infection Control Specialist, ADB Consultant to the PPHSN, SPC, New Caledonia.
- Mr Philip Melling, Clinical Nurse Consultant, NSW Infection Control Resource Centre, Sydney, Australia.
- Ms Margaret Leong, Risk Management Unit, Dr Tom Kiedrzyński, Epidemiologist, Public Health Programme, SPC, New Caledonia.
- Dr Narendra Singh, Communicable Disease Surveillance Specialist, Public Health Programme, SPC, New Caledonia.
- Dr Kubo Toru, Medical Officer, Communicable Disease Surveillance and Response, WR South Pacific Office, WHO, Fiji Islands.

The objectives of this meeting were to:

- Report on and discuss the activities of the current Infection Control Specialist (ICS).
- Discuss current issues relevant to the practice of infection control.
- Provide consensus on, and prioritise, future steps for improving infection control and prevention in the Pacific region.
- Provide training and opportunities for sharing experiences for infection control professionals in the region.

The first two days of the meeting were dedicated to a technical consultation with participants, primarily to report on the current infection control situation in the region and to set priorities and future plans. To achieve these outcomes a number of activities were conducted with participants. Prior to these

activities, the ICS reported on activities so far of the current ADB consultancy, the global position of infection control, the history of infection in the Public Health Programme of the SPC and SPC future plans for infection control in the region. The last three days of the meeting were dedicated to training for novice Infection Control Professionals (details below).

### Launch of PICNet and Priority Setting

The Pacific Infection Control Network (PICNet) was officially launched on the first day of the meeting. PICNet is to be used as a tool for communication and sharing of experiences. It will have a particular focus on practical and innovative response to infection control with limited resources. In September 2005 the PICNet webpage was launched as the first step in the development of the network. Included on the page are links to various relevant websites, documents and information sources.

The priority setting exercise took the form of group-work and discussion to identify priorities for the evolution of infection control within the Pacific region and develop a plan of action to further these priorities. The group-work and subsequent discussion was informed by reporting of the ICS and the SPC Public Health Programme staff as well as the previously identified terms of reference for PICNet. As a result a document giving direction for PICNet members, the PPHSN, and the SPC was produced which can be found on the PICNet website. (More information on PICNet follow this report.)

### Exercise Lucy Goose

Exercise Lucy Goose was a tabletop influenza pandemic preparedness and response exercise. All participants were engaged in the exercise, with three groups established to work through the eight messages issued over a period of approximately four hours. The exercise was primarily facilitated by Ms Zimmerman and Mr Melling. The aim of the exercise was to highlight and define the role of Infection Control Professionals (ICPs), in influenza pandemic preparedness and response planning and implementation. The exercise was based on "Exercise Warning Shot", which was conducted by the New South Wales (Australia) government in 2003.

## Training workshop

The purpose of the training workshop on the last three days of the meeting was to assist beginning ICPs to set up and implement infection control programmes in their respective nations or facilities. The three major themes of the training were: basic principles of infection control; management of occupational exposures, including practical case study exercises; and sharing of experiences and lessons learnt.

## Conclusion

The workshop provided an unprecedented forum for ICP in the Pacific region to meet with each other and to plan exciting new initiatives to further the work of infection control and prevention throughout the region. The overall evaluation of the meeting indicates that participants overwhelmingly agreed that it was a worthwhile exercise and one important to raising the profile of infection control at facility, national and regional levels.

## Pacific Infection Control Network (PICNet)

The Second Regional EpiNet Workshop held in New Caledonia in 2004 recommended to “review and improve on the infection control measures in Pacific Island countries and territories (PICTs) by establishing and formalizing the Pacific Regional Infection Control network under the umbrella of the PPHSN” (Pacific Public Health Surveillance Network).

The Pacific Infection Control Network (PICNet) was officially launched on the first day of the Technical Consultation Meeting and Training Workshop on Infection Prevention and Control, Lautoka, Fiji from the 20th-24th of February 2006. PICNet is to be used as a tool for communication and sharing of experiences. It will have a particular focus on practical and innovative response to infection control with limited resources. In September 2005 the PICNet webpage was launched as the first step in the development of the network. Included on the page are links to various relevant websites, documents and information sources.

As this was the first meeting of PICNet members it was an opportunity to establish the terms of reference for the network. In addition, inaugural members were given two documents to review and feedback on. These were the Draft Regional Infection Control Guidelines and Management of Occupational Exposure Guidelines.

As part of the terms of reference objectives were set for PICNet:

1. Set the minimum standards for infection control in PICTs, with adapted evidence-based/best practices.
2. Develop infection control capacity in PICTs.
3. Raise awareness of infection control issues.
4. Develop and maintain infection control links with health (and other) entities (e.g. other governmental and non-governmental agencies, donors).
5. Develop a strategic plan for PICNet.
6. Future objective: To develop and maintain standardized healthcare associated infection (HAI) surveillance and response mechanisms.

The mechanism for communication for PICNet will be the use of the website (<http://www.spc.int/phs/PPHSN/Activities/PICNet.htm>) and an email list server. Membership is open to all who are interested in the field of infection control, particularly those located within the Pacific region.

The establishment of PICNet by the PPHSN is an important move forward in the development of infection control capacity within the region. It is essential that this momentum be maintained through the active participation and involvement of all members of PICNet and the SPC. The membership of PICNet need to acknowledge that they have an ongoing role in infection control in the region including the development of resources such as the regional infection control and prevention guidelines and the management of occupational exposure guidelines. It is recommended that there are annual PICNet conferences and that PICNet members are active in presenting papers or posters at regional and international meetings and in publishing papers in peer review journals.

## 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:** **The efficacy of safety winged steel needles on needlestick injuries** [Article in Japanese]

**Authors:** Suzuki R, Kimura S, Shintani Y, Uchida M, Morisawa Y, Okuzumi K, Yoshida A, Suganoy Y, Moriya K, Koike K.

**Date:** January 2006

**Source:** Kansenshogaku Zasshi 80(1):39-45

**Abstract:** Abstract: Safety winged steel needles were introduced at the University of Tokyo Hospital in January 2001. We studied their effect in needle-stick injuries. A total of 952 needle-stick and sharp-object injuries were reported from January 1999 to December 2004.

Cases of injury with winged steel needles decreased dramatically soon after safety devices were introduced, from 19.8% in Apr.-Dec.2000 to 6.7% in 2001 and 5.5% in 2002 ( $p < .01$ ). They began to increase, however, in July 2002, decreased again after medical staff members were given lectures and notices by e-mail. Due to the introduction of safety devices, cases classified as a "while recapping a used needle" and "when puncturing rubber stoppers" decreased. Among 17 injuries with safety winged steel needles, the most common cases were "safety mechanism not activated". We estimated that 76.5% of cases with safety winged steel needles could be prevented if they were used properly.

In conclusion, the introduction of safety winged steel needles effectively reduced cases of injury with such needles. It is thus important to regularly remind hospital staff of safety device techniques and information reduce the such injuries.

**Title:** **Needlestick and Sharps Injuries among Australian medical students**

**Authors:** Smith D, Leggat P

**Date:** 1 September 2005

**Source:** Journal of the University of Occupational and Environmental Health, 27(3):237-42.

**Abstract:** We investigated the prevalence and distribution of Needle-stick and Sharps Injuries (NSI) among a group of Australian medical undergraduates from 4 consecutive grades.

Data was obtained by means of an anonymous, self-reporting survey. A total of 254 questionnaires were obtained (response rate 97.3%).

Among them, 35 students (13.8%) had suffered a total of 41 NSI incidents. By gender, 71.4% of the NSI reporters were female and 28.6% were male. NSI prevalence varied significantly with respect to students' year of study ( $P$  for Trend = 0.0106), ranging from 7.3% in the 1st year to 26.8% in the 3<sup>rd</sup> year. Of the 41 NSI incidents, 29.2% were caused by a glass item, 24.4% by a hollow bore needle, 24.4% by another device and 22.0% by a surgical device. The distribution by causative device also varied from year to year. Overall, this study has shown that NSI represent an important hazard for Australian medical students. As such, the importance of intervention strategies to reduce NSI exposures must remain an essential facet of medical education, worldwide. Future preventive measures will also need to consider the unique situation of medical students in Australia, as elsewhere.

**Title:** **Perceived Barriers to Implementation of a Successful Sharps Safety Program**

**Authors:** Hagstrom A

**Date:** December 2005

**Source:** AORN Journal. 2006 V83(2):391-

**Abstract:** Percutaneous injuries with contaminated sharp objects are the most probable means of blood-borne pathogen transmission, placing physicians, nurses, and OR personnel in the highest risk group for blood-borne pathogen exposure.<sup>1-3</sup> In response to increasing needle sticks and sharps injuries at

a large, urban trauma center in the northeastern United States, a nurse educator undertook a quality improvement project to identify OR staff members' perceptions of barriers to successful implementation of a sharps safety program.

**Title:** Needlestick injuries in nurses--the Poznan study

**Authors:** Bilski B

**Date:** 2005

**Source:** Int J Occup Med Environ Health 18 (3):251-4.

**Abstract:** OBJECTIVES: Needle-stick injuries in healthcare workers are common. They are one of the main ways of transmitting large numbers of pathogenic micro-organisms in healthcare institutions. The aim of this study was to estimate the incidence and circumstances of needle-stick injuries in a selected population of nurses from the city of Poznan and the Wielkopolskie province.

**MATERIALS AND METHODS:** A questionnaire was filled in by 232 active nurses with secondary education, studying externally at the Medical University in Poznan. The sample was representative of nursing specialisations and workplaces of nurses in Poznan and the Wielkopolskie province. It comprised of nurses aged 22-51 years (mean, 35 years) and with work experience of 2-31 years (mean, 13 years). The workplaces of the study group were fairly diverse, but the great majority of nurses were employed in inpatient care, working in shifts (166 people).

**RESULTS:** The probability of needle-stick injuries per year equals 28.0%. Accidents of this kind were most common among nurses working in surgical wards, operating rooms, emergency medical care, GP surgeries and dialysis units. There were significant differences in the incidence of needle-stick injuries between GP surgeries (statistically more common) on the one hand, and surgical wards, non-surgical wards and operating rooms on the other. Moreover, accidents in operating rooms and surgical wards were significantly more common compared to non-surgical wards. Instruments contaminated with infectious material accounted for 73.8% of the injuries in the study group of nurses. They were usually injection needles. Injuries from sterile needles, clean scalpels and

contaminated scalpels were much less common. In the vast majority of cases, injuries were self-inflicted, and much less frequently caused by patients or colleagues. Most of these accidents happened during an attempt to remove a needle from a syringe, and much less while trying to place a used needle in a full medical waste container. In almost half of the cases (44.9%), the accidents occurred between the second and the fourth hour of the shift, which was probably due to a typically heavy workload during those hours, particularly on a morning shift. In the great majority of cases (84%), the nurses were wearing protective gloves at the time of accidents.

**CONCLUSIONS:** The probability of a needle-stick injury in the study group per year was 28.0%. Accidents of this kind were most common in nurses working in dialysis units, emergency medical care, GP surgeries, surgical wards, and operating rooms. Occupational sharps injuries were most often caused by a contaminated injection. The injuries were self-inflicted in the vast majority of cases. The most common cause of injuries from needles was an improper handling of syringes and needles after injections (removing a needle from a syringe or placing the needle in a full container for medical waste).

**Title:** Short-term economic impact associated with occupational needle-stick injuries among acute care nurses

**Authors:** Lee W, Nicklasson L, Cobden D, Chen E, Conway D, Pashos C

**Date:** December 2005

**Source:** Curr Med Res Opin. 21(12):1915-22

**Abstract:** PURPOSE: Recent survey data have reported the incidence rate of needle-stick injuries (NIs) and NIs which draw blood sustained by nurses caring for patients with diabetes in an in-patient hospital setting. The purpose of this study was to deduce the potential short-term annual economic impact resulting from such NI, and to project the potential national economic burden of NI among this population of health care workers (HCWs).

**METHODS:** Data were obtained from a recently published, IRB-approved, Internet-

based survey in which nurses routinely treating patients with diabetes self-reported outcomes of their experience with NI (N = 400). A micro-costing approach was adopted. Direct costs comprised post-exposure testing (PET) for infection, post-exposure health care services utilization, and NI-induced post-exposure prophylactic (PEP) drug utilization. Indirect costs were derived from missed work-days and associated lost productivity. These data were combined with data related to the national epidemiology and total incidence of NIs among HCWs and risk-associated populations to project the national burden.

**RESULTS:** Among 400 nurses, 110 sustained at least one NI in the past year, with 73 punctures drawing blood. The ensuing total short-term costs of these NIs were calculated to range from 25,896 US dollars to 36,066 US dollars. Indirect costs accounted for 44-62% of this total cost. Average short-term costs per NI ranged from 145 to 201 US dollars, and average short-term costs of NI per injured nurse ranged from 235 to 328 US dollars. Assuming mean values from published literature on the incidence and distribution of NI among nursing populations, an annual national burden of 65 million US dollars was calculated for costs in the immediate period following NI.

**CONCLUSIONS:** These data suggest substantial economic burden immediately following NI on a national and individual hospital level occurring among acute-care nurses treating patients with diabetes. Long-term treatment costs would add to the overall economic burden.

**Title:** **Review of studies conducted on the use of needle removal devices**

**Authors:** Elisabetta Rapiti

**Date:** January 2006

**Source:** Available at:  
<http://www.technet21.org/WHOReportNeedleRemovalReview.doc>

**Abstract:** Current WHO best infection control practices for injections do not address the use of needle removal devices that separate needles from syringes. Evidence regarding the safety and efficacy of such devices must to be documented before recommending them as a best practice standard. The aim of this review was to critically evaluate the evidence avail-

able on the impact of needle removal devices in health care delivery settings.

A comprehensive search strategy yielded five studies (randomized controlled trials, non-randomized trials and observational studies) that included results with needle removal devices on needle-stick incidence and/or impact on waste volume.

The methodological quality of the studies was highly variable. Overall no difference was found in the frequency of needle-stick injuries between intervention groups that used needle removal devices and control groups that used current practices for collection and disposal of sharps waste. In one randomized control trial a higher incidence of exposures to blood was found in the intervention group. Only in one, non-randomized controlled trial was the volume of sharps waste, measured as the number of safety boxes/1000 syringes, significantly reduced in the intervention group as compared to controls.

The review found insufficient evidence to support the use of needle removal devices in health settings. The primary shortcomings however, were not in the devices themselves, but rather the size and/or methodology of the studies conducted to date to evaluate their impact on needle-stick incidence and waste volume.

**Title:** **Needle-stick and sharps injuries among a cross-section of physicians in Mainland China**

**Authors:** Smith D, Wei N, Zhang Y, Wang R

**Date:** March 2006

**Source:** Am J Ind Med. 49(3):169-74

**Abstract:** BACKGROUND: Although needle-stick and sharps injuries (NSI) represent a significant occupational hazard for physicians worldwide, their epidemiology has not been previously examined in Mainland China. This study describes the prevalence, distribution, and risk factors for NSI among a cross-section of Chinese physicians.

**METHODS:** Data was obtained by an anonymous, self-reporting survey administered to all 361 physicians at a university teaching hospital, during 2004.

**RESULTS:** Seventy-nine percent of the physicians responded. Among them, 64% had experienced an NSI in the previous 12 months, 50.3% of which involved contaminated devices. By device, 22.8% were

caused by hollow-bore syringe needles, 19.1% by suture needles, and 12.1% by scalpel blades. Surgical procedures accounted for 27.9% of all injuries. Only 15.3% of physicians had officially reported their NSI to management, of which 10% went unreported because the individual felt they were not unlucky enough to get a disease. A statistically significant correlation was demonstrated between NSI and working in the intensive care unit (adjusted odds ratio: 5.3, 95% CI: 1.7-23.4).

**CONCLUSIONS:** Although this study suggests that NSI are an important workplace hazard for Chinese physicians, future measures should consider the unique cultural beliefs of Chinese people and its effect on preventive behaviours. The concept of 'luck,' and its relationship with NSI reporting in particular, may also need to be addressed.

**Title:** **Short communication: Strengthening sub-national communicable disease surveillance in a remote Pacific Island country by adapting a successful African outbreak surveillance model**

**Authors:** Nelesone T, Durrheim D, Speare R, Kiedrzyński T, Melrose W

**Date:** January 2006

**Source:** Tropical Medicine & International Health 11(1):17-21

**Abstract:** Successful communicable disease surveillance depends on effective bidirectional information flow between clinicians at the periphery and communicable disease control units at regional, national and global levels. Resource-poor countries often struggle to establish and maintain the crucial link with the periphery. A simple syndrome-based outbreak surveillance system initially developed and evaluated in Mpumalanga Province, South Africa was adapted for the Pacific island nation of Tuvalu. Eight syndromes were identified for surveillance: acute flaccid paralysis (poliomyelitis), profuse watery diarrhoea (cholera), diarrhoea outbreak, dysentery outbreak, febrile disease with abdominal symptoms and headache (typhoid), febrile disease with generalized non-blistering rash (measles), febrile disease with intense headache and/or neck stiffness with or without

haemorrhagic rash (meningococcal meningitis), and outbreaks of other febrile diseases of unknown origin. A user-oriented manual, the Tuvalu Outbreak Manual (<http://www.wepi.org/books/tom/>), was developed to support introduction of the surveillance system. Nurses working in seven outer island clinics and the hospital outpatient department on the main island rapidly report suspected outbreaks and submit weekly zero-reports to the central communicable disease control unit. An evaluation of the system after 12 months indicated that the Outbreak Manual was regarded as very useful by clinic nurses, and there was early evidence of improved surveillance and response to the disease syndromes under surveillance.

**Title:** **Moving knowledge of global burden into preventive action**

**Authors:** Eijkemans G, Takala J

**Date:** December 2005

**Source:** American Journal of Industrial Medicine 48(6):395-9

**Abstract:** BACKGROUND: Estimation of the global burden of disease and injury due to selected occupational factors is a topic of interest to policy makers, governments, and international bodies. The World Health Organization (WHO) has implemented a Comparative Risk Assessment (CRA) to estimate risk to exposed populations.

METHODS: Estimates of the risk factor-burden relationships by age, sex, and WHO sub-region were generated. Risk measurements (relative risks and mortality rates) for the health outcomes were determined primarily from studies published in peer review journals. The resulting burden was described as the attributable fraction of disease or injury, using both mortality and disability-adjusted life years (DALYs).

RESULTS: The papers in this issue include discussions of worldwide mortality and morbidity from lung cancer, leukemia, and malignant mesothelioma arising from occupational exposures; mortality and morbidity from asthma, COPD, and pneumoconiosis; the global burden of low back pain; exposure to contaminated sharps injuries among health care workers; noise-induced hearing loss; and occupational injuries. Three papers focus on economic issues: estimation

of net-costs for prevention of occupational low back pain; cost effectiveness of occupational health interventions; and the cost effectiveness of interventions in the prevention of silicosis.

**CONCLUSIONS:** The magnitude of the occupational health burden in the world is overwhelming, and the causes and mechanisms are multiple and complex. Commitment from all stakeholders is imperative to translate economic progress into sustainable human development and well-being.

**Title:** **Health care workers' knowledge on HIV and AIDS: universal precautions and attitude towards PLWHA in Benin-City, Nigeria**

**Authors:** Aisien A, Shobowale M

**Date:** December 2005

**Source:** Nigerian Journal of Clinical Practice 8(2):74-82

**Abstract:** **OBJECTIVE:** Health care workers are at risk of becoming infected with blood-borne pathogens, including HIV. The study was designed to test health care workers knowledge about HIV transmission, universal precautions and their attitude towards people living with HIV and AIDS.

**DESIGN:** A cross-sectional study.

**SETTING:** University of Benin Teaching Hospital, Benin-City, Nigeria. **PARTICIPANTS:** 120 Health Care Workers (HCWs) who were occupationally exposed to patient's blood and body fluids completed a self administered structured questionnaire between March and May 2004. The HCWs consisted of 50 doctors drawn from obstetrics and gynaecology (25) and surgery departments (25). 70 nurses from accident and emergency unit (23), labour ward (18), labour ward theatre (4), main surgical theatre (22) and family planning clinic (3).

**RESULTS:** The mean age of the health care workers and duration of practice were 39.8 +/- 8.0 years and 14.0 +/- 8.2 years respectively. Though many of the respondents demonstrated good knowledge about HIV transmission, more than 25% of them thought that HIV could be transmitted through saliva, vomit, faeces and urine. They over estimated their risk of acquiring HIV infection following needle stick injury, exposure of mucocutaneous membrane and intact skin to infected

blood and body fluids. There was poor adherence to universal precautions which was attributed to lack of knowledge and availability of materials in 48% and 60% of the workers respectively. Over 40% of the health care workers exhibited discriminatory attitude towards people living with HIV and AIDS. There was no statistical significant difference ( $p > 0.05$ ) in the knowledge of HIV and AIDS transmission and infection prevention practices amongst the doctors and nurses. Similarly there was no significant difference in their discriminatory attitude towards PLWHA.

**CONCLUSION:** We recommend that seminars, workshops should be organized on a continuous basis for health care workers on universal precautions, stigma and discrimination reduction. Those trained should train others on the job. The institution should also make available materials needed to protect workers against the risk of acquiring pathogenic infection in the course of providing health services to their patients.

**Title:** **Short-term economic impact associated with occupational needle-stick injuries among acute care nurses**

**Authors:** Lee WC, Nicklasson L, Cobden D, Chen E et al.

**Date:** December 2005

**Source:** Current Medical Research and Opinion. V21(12):1915-22

**Abstract:** **PURPOSE:** Recent survey data have reported the incidence rate of needle-stick injuries (NIs) and NIs which draw blood sustained by nurses caring for patients with diabetes in an in-patient hospital setting. The purpose of this study was to deduce the potential short-term annual economic impact resulting from such NI, and to project the potential national economic burden of NI among this population of health care workers (HCWs).

**METHODS:** Data were obtained from a recently published, IRB-approved, Internet-based survey in which nurses routinely treating patients with diabetes self-reported outcomes of their experience with NI (N = 400). A micro-costing approach was adopted. Direct costs comprised post-exposure testing (PET) for infection, post-exposure health care services utilization, and NI-induced post-

exposure prophylactic (PEP) drug utilization. Indirect costs were derived from missed work-days and associated lost productivity. These data were combined with data related to the national epidemiology and total incidence of NIs among HCWs and risk-associated populations to project the national burden.

**RESULTS:** Among 400 nurses, 110 sustained at least one NI in the past year, with 73 punctures drawing blood. The ensuing total short-term costs of these NIs were calculated to range from 25,896 US dollars to 36,066 US dollars. Indirect costs accounted for 44-62% of this total cost. Average short-term costs per NI ranged from 145 to 201 US dollars, and average short-term costs of NI per injured nurse ranged from 235 to 328 US dollars. Assuming mean values from published literature on the incidence and distribution of NI among nursing populations, an annual national burden of 65 million US dollars was calculated for costs in the immediate period following NI.

**CONCLUSIONS:** These data suggest substantial economic burden immediately following NI on a national and individual hospital level occurring among acute-care nurses treating patients with diabetes. Long-term treatment costs would add to the overall economic burden.

**Title:** **Risk Factors for Hepatitis C Virus Transmission to Health Care Workers after Occupational Exposure: A European Case-Control Study**

**Authors:** Yazdanpanah Y, De Carli G, Miguères B, Lot F, Campins M, Colombo C, Thomas T, Deuffic-Burban S, Prevot M, Domart M, Tarantola A, Abiteboul D, Deny P, Pol S, Desenclos J, Puro V, Bouvet E

**Date:** 15 November 2005

**Source:** Clinical Infectious Diseases 41 (10):1423-30

**Abstract:** Additional studies are required to identify risk factors for hepatitis C virus (HCV) transmission to health care workers after occupational exposure to HCV. We conducted a matched case-control study in 5 European countries from 1 January 1991 through 31 December 2002. Case patients were health

care workers who experienced seroconversion after percutaneous or mucocutaneous exposure to HCV. Control subjects were HCV-exposed health care workers who did not experience seroconversion and were matched with case patients for centre and period of exposure. Sixty case patients and 204 control subjects were included in the study. All case patients were exposed to HCV-infected fluids through percutaneous injuries. The 37 case patients for whom information was available were exposed to viremic source patients. As risk factors for HCV infection, multivariate analysis identified needle placement in a source patient's vein or artery (odds ratio [OR], 100.1; 95% confidence interval [CI], 7.3-1365.7), deep injury (OR, 155.2; 95% CI, 7.1-3417.2), and sex of the health care worker (OR for male vs. female, 3.1; 95% CI, 1.0-10.0). Source patient HCV load was not introduced in the multivariate model. In unmatched univariate analysis, the risk of HCV transmission increased 11-fold for health care workers exposed to source patients with a viral load  $>6 \log^{10}$  copies/mL (95% CI, 1.1-114.1), compared with exposures to source patients with a viral load  $\leq 4 \log^{10}$  copies/mL. In this study, HCV occupational transmission was found to occur after percutaneous exposures. The risk of HCV transmission after percutaneous exposure increased with deep injuries and procedures involving hollow-bore needle placement in the source patient's vein or artery. These results highlight the need for widespread adoption of needle-stick-prevention devices in health care settings, together with other preventive measures.

**Title:** **Usefulness of a rapid human immunodeficiency virus-1 antibody test for the management of occupational exposure to blood and body fluid**

**Authors:** Landrum M, Wilson C, Perri L, Hannibal S, O'Connell R

**Date:** September 2005

**Source:** Infection Control & Hospital Epidemiology 26(9):768 - 74

**Abstract:** **OBJECTIVE:** To describe the usefulness of the OraQuick Rapid HIV-1 Antibody Test (OraSure Technologies, Bethlehem, PA) in cases of occupational exposure regarding its use with source-patient sera, effects on

post-exposure prophylaxis (PEP) use, potential cost savings, and effects on health-care worker (HCW) stress reaction symptoms. DESIGN: Before-and-after analysis.

SETTING: A 269-bed, tertiary-care medical centre with adjacent clinics.

PARTICIPANTS: All source-patients and HCWs experiencing an occupational exposure during the study period.

METHODS: Use of the OraQuick test with patient sera was validated prior to its use for occupational exposures. Exposures from January 1 through July 10, 2003 (enzyme immunoassay [EIA] group) and July 11 through December 31, 2003 (OraQuick group) were retrospectively reviewed and the use and cost of PEP was compared for each group. Randomly selected HCWs from both groups completed a survey to assess their stress reaction symptoms.

RESULTS: After exclusion, there were 71 exposures in the EIA group and 79 in the OraQuick group. OraQuick results were 100% concordant with the reference standard of EIA and Western blot using patient sera. The mean number of doses ingested per course of PEP was significantly higher for HCWs in the EIA group (3.8; range, 0 to 6) compared with the OraQuick group (1.2; range, 0 to 3;  $P = .016$ ). Cost analysis revealed a mean savings of dollar 6.62 with the OraQuick test per occupational exposure. Although the survey failed to detect an overall reduction in HCW stress reaction symptoms using OraQuick for source-patient testing, 11 HCWs in the EIA group had repetitive thoughts of the exposure compared with 5 in the OraQuick group ( $P = .049$ ).

CONCLUSION: Because of the reduction in ingested doses of unnecessary PEP and reduced cost of occupational exposure management with their use, rapid HIV-antibody tests should be the preferred method for source-patient testing following an occupational exposure.

**Title:** Selective Transmission of Hepatitis C Virus Quasi Species through a Needlestick Accident in Acute Resolving Hepatitis

**Authors:** Liu C, Chen B, Chen S, Lai M, Kao J, Chen D

**Date:** 1 May 2006

**Source:** Clin Infect Dis 42(9):1254-9

**Abstract:** Background. Little is known about the transmission of variant hepatitis C virus (HCV) genome through needle-stick injuries.

METHODS: To demonstrate how HCV quasi species are transmitted and adapt to the new host in acute resolving infection, we analyzed the nucleotide and deduced amino acid sequences of the hyper-variable region 1 (HVR-1) in the E2 domain of HCV in both the source of the virus ("donor") and the person who received the virus through a needle-stick accident ("recipient"). In addition, we also performed phylogenetic analysis of HCV quasi species in these patients to document the viral transmission.

RESULTS: We obtained a total of 33 clones at different time points by using polymerase chain reaction amplification and cloning and sequencing of HVR-1. A predominant HVR-1 variant (in 4 of 10 isolates) in the donor was not present in the recipient 6 and 14 weeks after the accident. In contrast, a minor variant (in 1 of 10 isolates) in the donor became the predominant strain in the recipient 6 weeks (in 10 of 12 isolates) and 14 weeks (in 6 of 11 isolates) after the accident. Additional phylogenetic analysis showed high homology of nucleotide sequences between isolates obtained from the donor and isolates obtained from the recipient. In addition, the variants in the recipient's virus showed substantial genetic preservation in the course of acute resolving hepatitis.

CONCLUSION: These data suggested that a minor HCV variant from a donor was transmitted to the recipient through a needle-stick injury and that it prevailed as the dominant species. The preserved genetic homogeneity of the transmitted viral variants in patients with acute HCV infection may account for their clinical outcomes of resolving hepatitis.

**Title:** Intervention study of needle stick injury in Iran

**Authors:** Mobasherizadeh S, Abne-Shahidi S, Mohammadi N, Abazari F

**Date:** August 2005

**Source:** Saudi Med J. 26(8):1225-7

**Abstract:** OBJECTIVE: Injury resulting from contaminated sharp devices among health care workers (HCWs) is one of the most important concerns in medical centres. This

can lead to dangerous infections such as human immunodeficiency virus, hepatitis B virus and hepatitis C virus among such people. The documentation of needle-stick injuries started in Sadi Hospital, Isfahan, Iran in 2003, and our objective was to study cases of injuries by sharp devices before and after the implementation of intervention methods. **METHODS:** In an intervention survey of the type of before and after study, we studied injuries by needle and other sharp devices among 87 HCWs in Sadi Hospital, a private hospital in Isfahan, Iran, during the years 2003-2004. The groups under study were workers and paramedical staff; and the wards under study included surgery, internal, lab, x-ray and laundry. We entered and evaluated the data in SPSS software.

**RESULTS:** In the first phase of the study in 2003, 55.2% of those injured had been injured by sharp devices. After intervention in 2004, this percentage was reduced to 19.5% ( $p < 0.05$ ). At the beginning of the study, 26.4% of the injured had been injured by sharp devices more than twice, and at the end of the study this number was reduced to 2.3% ( $p < 0.05$ ). Also, injuries resulting from recapping were 45.8% at the beginning of the study, which was reduced to 5.9% at the end ( $p < 0.05$ ). **CONCLUSION:** With regard to this study and other studies carried out in other countries, a large number of injuries by contaminated sharp devices can be prevented by implementing suitable educational programs regarding disposal of sharp devices, and by using safe needle devices.

**Title:** **Posttraumatic stress disorder after occupational HIV exposure: two cases and a literature review**

**Authors:** Worthington MG, Ross JJ, Bergeron EK.

**Date:** February 2006

**Source:** Infect Control Hosp Epidemiology 27(2):215-7

**Abstract:** Two healthcare workers developed disabling chronic posttraumatic stress disorder after needle-stick exposures to blood from a patient infected with human immunodeficiency virus (HIV), even though both continue to test negative for HIV antibody more than 22 months after their exposures. We describe these 2 cases and review the relevant

literature. Prospective studies of psychological morbidity after occupational needle-stick injuries are required to determine the role of long-term psychological follow-up, counselling, and support.

**Title:** **Efficacy of safety-engineered device implementation in the prevention of percutaneous injuries: a review of published studies**

**Authors:** Tuma S, Sepkowitz K

**Date:** 15 April 2006

**Source:** Clin Infect Dis.42(8):1159-70

**Abstract :** Nearly 6 years have passed since the Needle-stick Safety and Prevention Act of 2000 was signed into law. We reviewed studies published since 1995 that evaluated the effect of safety-engineered device implementation on rates of percutaneous injury (PI) among health care workers. Criteria for inclusion of studies in the review were as follows: The intervention used to reduce PIs was a needle-less system or a device with engineered sharps-injury protection, the outcome measurements included a PI rate, the intervention was evaluated in a defined population with clear comparison groups in clinical settings, and outcomes and denominators used for rate calculations were objectively measured using consistent methodology.

All 17 studies reported substantial decreases in device-associated or overall PI rates after device implementation (range of reduction, 22%-100%). The majority of studies ( $n=12$ ) were uncontrolled before-after trials with limited ability to control for confounding variables. In addition, implementation of safety-engineered devices was often accompanied by other interventions, and direct measurement of outcomes was not performed. Nevertheless, safety-engineered devices are an important component in PI prevention.

**Title:** Needle-stick and sharps injuries among nurses in a tropical Australian hospital

**Authors:** Smith D, Smyth W, Leggat P, Wang R

**Date:** April 2006

**Source:** Int J Nurs Pract 12(2):71-7

**Abstract:** Although needle-stick and sharps injuries (NSI) represent a major hazard in nursing practice, most studies rely on officially reported data and none have yet been undertaken in tropical environments. Therefore, we conducted a cross-sectional NSI survey targeting all nurses within a tropical Australian hospital, regardless of whether they had experienced an NSI or not. Our overall response rate was 76.7%. A total of 39 nurses reported 43 NSI events in the previous 12 months. The most common causative device was a normal syringe needle, followed by insulin syringe needles, I.V. needles or kits and blood collection needles. Half of the nurses' NSI events occurred beside the patient's bed: drawing up medication was the most common reason. Nurses working in the maternity/neonatal wards were only 0.3 times as likely to have experienced an NSI as their counterparts in the medical or surgical wards. Overall, our study has shown that NSI events represent an important workplace issue for tropical Australian nurses. Their actual rate might also be higher than official reports suggest.

**Title:** Occupational Exposures to Potentially Infectious Material Among Guatemalan Health Care Workers

**Authors:** Samayoa B, Anderson M, Arathoon E, Hernandez C, Bourque D, Vela C

**Date:** 2006

**Source:** Einstein J. Biol. Med 22:49-52.

**Abstract:** Little is known about the risks to Guatemalan health care workers from accidental exposures to potentially infectious material. We studied occupational accidents at one of Guatemala's national hospitals to describe their frequency and setting. The current study was conducted on a cohort of health care workers seen at the Acquired

Immune Deficiency Syndrome (AIDS) specialty clinic of the Hospital General San Juan de Dios in Guatemala City. Hospital personnel suffering from an accident were referred to the clinic for care and detailed information regarding the accident was collected. When possible, source patients were tested for Human Immunodeficiency Virus (HIV). Two hundred sixty-five accidents were reported between July 1999 and June 2003. The incidence of occupational exposures to potentially infectious bodily fluids was 1.27 exposures per week (8.19 exposures per 100 beds yearly). Of those reporting exposures, 54% were medical students, 19% residents, 16% nurses, 6% laboratory staff, and 3% cleaning staff members. Forty eight percent of accident victims had a less than satisfactory hepatitis B vaccination status, defined as less than two immunizations. Eighty-two percent of the exposures were percutaneous and 14% were mucocutaneous. The clinic could determine HIV infection status of 118 source patients; 40 of these were HIV infected. This study documents the clear risk of HIV and Hepatitis B transmission posed to health care workers at a national hospital in Guatemala. The relatively low incidence of accidents undoubtedly reflects underreporting. Guatemalan hospitals and medical schools need to address and reduce occupational exposures to their staff and trainees.

**Title:** The World Health Report 2006 - Working together for health

**Authors:** World health Organization

**Date:** 2006

**Source:** Available at: <http://www.who.int/whr/2006/en/index.html>

This year's World Health Day, organized by the World Health Organization (WHO) and celebrated every year on April 7, focused on the serious impact that the global shortage of health workers is having on the ability of many countries to fight disease and improve health. At least 1.3 billion people around the world lack access to the most basic healthcare, often because there is no health worker. To mark the day, WHO launched its World Health Report 2006, entitled 'Working Together for Health, which sets out a ten-year plan to address the health workforce crisis.

*Press release: 7 April 2006, Geneva/Lusaka/London* - A serious shortage of health workers in 57 countries is impairing provision of essential, life-saving interventions such as childhood immunization, safe pregnancy and delivery services for mothers, and access to treatment for HIV/AIDS, malaria and tuberculosis. This shortage, combined with a lack of training and knowledge, is also a major obstacle for health systems as they attempt to respond effectively to chronic diseases, avian influenza and other health challenges, according to The World Health Report 2006 - Working together for health, published today by the World Health Organization (WHO). More than four million additional doctors, nurses, midwives, managers and public health workers are urgently needed to fill the gap in these 57 countries, 36 of which are in sub-Saharan Africa, says the Report, which is highlighted by events in many cities around the world to mark World Health Day. Every country needs to improve the way it plans for, educates and employs the doctors, nurses and support staff who make up the health workforce and provide them with better working conditions, it concludes.

The global population is growing, but the number of health workers is stagnating or even falling in many of the places where they are needed most," said WHO Director-General Dr LEE Jong-wook. "Across the developing world, health workers face economic hardship, deteriorating infrastructure and social unrest. In many countries, the HIV/AIDS epidemic has also destroyed the health and lives of health workers."

The World Health Report sets out a 10-year plan to address the crisis. It calls for national leadership to urgently formulate and implement country strategies for the health workforce. These need to be backed by international donor assistance. Infectious diseases and complications of pregnancy and delivery cause at least 10 million deaths each year. Better access to health workers could prevent many of those deaths. There is clear evidence that as the ratio of health workers to population increases, so in turn does infant, child and maternal survival.

Not enough health workers are being trained or recruited where they are most needed, and increasing numbers are joining a brain drain of qualified professionals who are migrating to

better-paid jobs in richer countries, whether those countries are near neighbours or wealthy industrialized nations. Such countries are likely to attract even more foreign staff because of their ageing populations, who will need more long-term, chronic care," said WHO Assistant Director-General Dr Timothy Evans. To tackle this crisis, more direct investment in the training and support of health workers is needed now. Initial costs will be for the training of more health workers. As they graduate and enter the workforce, funds will be needed to pay their salaries. Health budgets will have to increase by at least US\$10 per person per year in the 57 countries with severe shortages to educate and pay the salaries of the four million health workers needed to fill the gap. To meet that target within 20 years is an ambitious but reasonable goal, the Report concludes: Financing this gap will require significant, dedicated and predictable funding from national sources, as well as from international development partners. The Report recommends that of all new donor funds for health, 50% should be dedicated to strengthening health systems, of which 50% should be dedicated specifically to training, retaining and sustaining the health workforce.

At least 1.3 billion people worldwide lack access to the most basic healthcare, often because there is no health worker. The shortage is global, but the burden is greatest in countries overwhelmed by poverty and disease where these health workers are needed most. Shortages are most severe in sub-Saharan Africa, which has 11% of the world's population and 24% of the global burden of disease but only 3% of the world's health workers.

The Report calls for prompt and innovative initiatives to improve efficiency. For example, HIV/AIDS, TB and other priority disease programmes have implemented ways for health workers with limited formal training to successfully carry out specific health tasks. These experiences should be drawn upon to develop national health workforce strategies.

The World Health Report recommends that in order to achieve the goal of getting "the right workers with the right skills in the right place doing the right things," countries should develop plans that include the following:

- Acting now for workforce productivity: better

working conditions for health workers, improved safety, better access to treatment and care;

- Anticipating what lies ahead: a well-developed plan to train the health workforce of the future;
- Acquiring critical capacity: workforce planning; development of leadership and management; standard setting, accreditation and licensing as drivers for quality improvement.
- Beyond the national strategies the report urges global cooperation:
- Joint investment in research and information systems;
- Agreements on ethical recruitment of and working conditions for migrant health workers and international planning on the health workforce for humanitarian emergencies or global health threats such as an influenza pandemic;
- Commitment from donor countries to assist crisis countries with their efforts to improve and support the health workforce.

**Title:** **Seroprevalence of hepatitis C virus (HCV) in health care workers of a tertiary care centre in New Delhi**

**Authors:** Jindal N, Jindal M, Jilani N, Kar P

**Date:** February 2006

**Source:** Indian J Med Res 123: 179-180

**Abstract:** Hepatitis C virus (HCV) is a parenterally transmitted virus that poses an occupational hazard to the health care workers (HCWs). No significant data are available regarding the prevalence of HCV in health care workers in India. The present study was designed to determine the seroprevalence of HCV infection in health care workers in a tertiary care centre in New Delhi. The subjects (n=100) were divided according to the duration of employment and the unit where they were working. Blood samples were collected from all the subjects and sera were tested for anti-HCV antibodies. The seroprevalence of anti-HCV was found to be 4 per cent. The duration of occupational exposure was not a significant risk factor for HCV infection and prevalence of anti-HCV antibodies were highest in HCWs working in haemodialysis units. The seroprevalence of HCV in health care workers was considerably

higher than that reported in the general population, and needs to be evaluated on a larger sample.

**Title:** **Protecting workers against the risk of infection from contaminated needles**

**Authors:** European Parliament

**Date:** 20 April 2006

**Source:** Employment policy  
[http://www.europarl.europa.eu/news/expert/infopress\\_page/048-7413-110-04-16-908-20060411IPR07234-20-04-2006-2006-false/default\\_en.htm](http://www.europarl.europa.eu/news/expert/infopress_page/048-7413-110-04-16-908-20060411IPR07234-20-04-2006-2006-false/default_en.htm)

Every year around a million workers in Europe, mainly in the medical world, suffer injuries from used surgical needles. The consequences can be serious, including infections from HIV or hepatitis B or C. The EP Social Affairs Committee wants to improve existing EU legislation so as to give workers better protection.

MEPs believe that many of these "needle-stick injuries" which occur in the medical world could be prevented if appropriate measures were made compulsory in medical and veterinary services. In a report by Stephen Hughes (PES, UK), adopted by a large majority by the Social Affairs Committee on Thursday, MEPs say studies have shown that the use of safer needles together with regular training and organisational measures can help reduce the number of injuries. They add that safer working practices and medical devices designed to prevent accidental needle-stick injuries would also produce financial savings.

The committee says the existing directives which should in theory cover these risks have not had the desired effect. It therefore calls on the Commission to add various new provisions to one of the directives intended to improve accident prevention and the protection of workers (Directive 2000/54/EC on the protection of workers from risks related to exposure to biological agents at work). MEPs want the Commission to put forward a proposal to amend this directive within three months.

These proposals were made under a little-used procedure which enables the European Parliament to request the Commission to draft new legislative proposals (Rule 39 of

Parliament's Rules of Procedure). The draft resolution by the Committee on Employment and Social Affairs must still be approved by a majority of MEPs in plenary (at least 367 out of 732). Since the committee adopted the draft resolution with only two votes against, it has every chance of being adopted in plenary.

**Title:** National survey of the status of infection surveillance and control programs in acute care hospitals with more than 300 beds in the Republic of Korea

**Authors:** Oh HS, Chung HW, Kim JS, Cho SI.

**Date:** May 2006

**Source:** Am J Infect Control 34(4):223-33

**Abstract:** BACKGROUND: This study was conducted to assess the status of infection surveillance and control programs (ISCPs) and to analyse the trends associated with ISCP implementation since the first program was established in Korea in 1991. METHODS: A questionnaire modified from the Study on the Efficacy of Nosocomial Infection Control was mailed 4 times nationwide to acute care hospitals (n = 164) with more than 300 beds between June and October 2003. Eighty-five hospitals participated (52%). RESULTS: The mean number of beds (649) in the responding hospitals was significantly greater than in non-responding hospitals. Of the participating hospitals, 92% had educational functions, 40% to 90% used hand hygiene resources, and 100% had infection control committees; 86% had infection control doctors, 98% had infection control nurses (ICNs), 89% employed only 1 ICN, and 59% employed an ICN only part-time; 68% performed surveillance, undertaking 2.7 epidemic investigations per year and 8.4 teaching programs per year; 88% undertook needle-stick prevention programs; 58% performed regular air culture; and 64% discarded ineffective ISCPs. Annual trends analysis of ISCPs indicated that accreditation and legislation impact strongly on Korean ISCPs. CONCLUSION: The figures for ISCPs in this study indicate that improvements have been made since the 1990s. Legislation and accreditation have strongly influenced ISCPs. Much consideration should be given to the weaknesses in Korean ISCPs: surveillance, insufficient hand hygiene resources, and shortage of ICNs.

## Conference Report: 16<sup>th</sup> SHEA Annual Scientific Meeting 18-21 March, 2006 Chicago, Illinois, USA

By Philip Melling, SHEA delegate, Albion Street Centre, Sydney, Australia

The Society for Healthcare Epidemiology of America (SHEA) was organised in 1980 to foster the development and application of the science of healthcare epidemiology. The 16th Annual Scientific Meeting of SHEA was held over three and a half days in Chicago in March and brought together healthcare professionals involved in infection control and prevention and healthcare epidemiology from around the world.

The conference began with a provocative and emotive session, "How Can We Do Better?". In a poignant opening address, a medical officer who had personally undergone intensive treatment for ovarian cancer related her experiences in which staff in every hospital department and discipline, from house-keeping to the highest surgeon, consistently broke the infection control policy of the facility where she was being treated. Thus the major themes and messages of the conference, at least for this delegate, were established - that we need to ensure that staff adhere to infection policies; surveillance needs to be conducted to ensure staff adherence; a need for those who breach guidelines and policies to be made accountable; and an attitude of "zero tolerance" of health care associated infections.

Concurrent sessions were held over the three days. For those delegates with an interest in, or from, developing countries or countries with limited resources, a "Meet the Consultant: Infection Control in Developing Countries with Limited Resources" session offered great attraction on the second day. Presented by Silvia Fonseca from the Sao Francisco Hospital, Sao Paulo, Brazil, Dr Fonseca informed the room that life expectancy in Brazil is 67 years, the worst in South America; the infant mortality rate of 39 per 1,000 births is also the worst in South America; and 8% of Brazilians live on less than US \$1 per day.

Mr Fonseca went on to describe how the Sao Francisco Hospital reduced their rates of

incorrect use of surgical prophylaxis, ventilator-associated pneumonia, NICU infection rates and impetigo in newborns. While the hospital was based in a resource constrained country with many health care challenges, the hospital, from the photographs shown, was in fact resource rich with equipment and not typical of hospitals in developing or third world countries. Clearly the presentation did not meet the expectations of most delegates in the room. From the questions that following it was clear that those present wanted more basic practical information, examples being “how do you perform hand hygiene without running water?”, and “what to do when you run out of gloves and other personal protective equipment?”. I believe there is an opportunity here for the SafeHandS Network to make a valuable contribution at future SHEA Meetings on this topic of providing health care with limited resources.

The conference was packed with ongoing issues in the field of infection control and hospital epidemiology. A whole morning was devoted to hand hygiene in which Professor Didier Pittet from the University of Geneva Hospitals, Switzerland, gave an informative and engaging presentation. To improve the Geneva Hospitals hand hygiene compliance rate of 47.6%, the infection control program set about changing health care worker behaviour. As time constraint was seen as the major obstacle for hand hygiene, point-of-use alcohol-based hand rubs were introduced and, except when hands were visibly soiled, hand washing became an action of the past. Alcohol-based hand rub was used before and after patient contact, before and after glove use, and in-between different body site care, which is now the internationally accepted standard of care.

The parameters Professor Pittet associated with successful hand hygiene promotion and behaviour change were not financially challenging, simply requiring commitment and implementation. They included:

- Education
- Routine observation and feedback
- Engineering control – making hand hygiene possible, easy, convenient
- Patient education
- Reminders in the workplace
- Administrative sanction / rewarding

- Promote / facilitate HCWs skin care
- Obtain active participation at individual and institutional level

Following this model, the University Hospitals of Geneva improved hand hygiene compliance from 47.6% to 66.2% within three years.

The conference also looked to partnering groups to continue to stress the vital role of hand hygiene in preventing and controlling infections.

Many sessions covered the topics of drug resistance and antimicrobial management. SHEA compared US and international perspectives on the management of blood-borne pathogens in healthcare workers, healthcare associated infections, and resistant organisms. Time and again the sessions emphasised the messages of staff adherence, accountability and zero tolerance.

The conference ended with two well attended sessions, “Infection Control Issues in Large Scale Disasters”, and “Infection Control at the Edge”. The latter discussed the important role of improved infection control measures in developing nations and settings with limited resources following a recent Marburg virus outbreak. Speakers also addressed avian influenza, preparedness for a pandemic, and efforts toward development of an avian influenza vaccine.

Lessons learned from the infection control perspective of the Hurricane Katrina disaster in New Orleans in August 2005 included: portable toilets and buckets work well in a disaster; N95 masks and patient positioning are the only protection against tuberculosis when airborne isolation systems are down; use a germicidal cleaner with a *C. difficile* claim on all patients with diarrhoea; encourage alcohol-based waterless hand-cleaner use and pre-stage it on each campus; and provide hand hygiene education to the public.

General disaster preparedness lessons learned included: personnel must be physically fit to work in a disaster; the sign in process for the activation team should include more detailed information; limit the number of people in the health care facility at the time of the disaster; paper copies of manuals and information sheets need to be available prior to the disaster; each campus must be self-

sufficient; all staff must be educated on disaster triage categories and process; and hospitals are vulnerable and they need to evacuate in the face of a hurricane.

Different poster sessions were held over the three days of the conference. On the second day part of the poster display area was devoted to Infection Control in Low and Middle-Income Countries with seven posters displayed from Argentina, Brazil, Columbia, Egypt, India, Mexico and Peru.

For details of how to purchase the SHEA 2006 conference proceedings on CD-ROM and MP3, which includes all PowerPoint presentations and audio recordings of the presenters as they present, visit the SHEA webpage at: [www.shea-online.org](http://www.shea-online.org)

SHEA's next annual scientific meeting will be held from 14-17 April, 2007 at the Baltimore Marriott Waterfront in Baltimore, Maryland, USA.

## 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)*

### **7th Annual Congress of the International Federation of Infection Control (IFIC) 3-5 July, 2006 Stellenbosch, South Africa**

The scientific programme encompasses several infection control challenges in low income countries as well as those common to infection control globally and includes international speakers from Latin America and the Middle East as well as Europe and North America, with the programme including sessions devoted to (amongst others):

- MRSA and other antibiotic resistant organisms
- Tuberculosis
- Transmission of blood borne viruses
- Institutions as amplifiers of infectious diseases
- Sterile services in developing countries
- Infection control in high care settings
- Antibiotic use and pressure

- The economics of infection control
- The effect of migration on communicable diseases
- Quality management and infection control
- Waste disposal

For more information, visit the website: <http://www.theific.org/southafrica2006/default1.asp>

### **XVI International AIDS Conference (AIDS 2006) 13-18 August, 2006 Toronto, Canada**

The world's largest HIV/AIDS conference provides an international, open & independent forum for the exchange of ideas, knowledge and research which will inform HIV/AIDS programmes and strengthen prevention, treatment and care efforts worldwide.

Over 15 000 delegates including scientists, health care providers, political, community and business leaders, journalists, government, non-governmental and intergovernmental representatives, and people living with HIV/AIDS are expected.

The Conference theme - Time to Deliver – will focus AIDS 2006 on the promises and progress made to scale-up treatment, care and prevention. Conference sessions and activities will be designed to engage all delegates in dialogue about strategies to meet these shared goals. For more information about the Conference, visit the website: <http://www.aids2006.org>

### **12th Conference on Occupational Hazards to Health Care Workers 13-14 September, 2006 Seattle, Washington, USA**

Organised by The University of Washington School of Public Health, The University of Washington School of Nursing and The University of British Columbia School of Occupational & Environmental Hygiene.

This conference features educational program sessions that focus on a variety of issues related to the health and safety of health care workers. Of special interest are proposals that address the conference theme: Narrowing the Knowledge and Action Gaps. This theme

reflects the shared goal of bridging theory (concepts, knowledge and methods) to concrete and practical experiences. Proposed presentations will showcase cutting-edge research and practices, introduce innovative and practical “best practices” solutions and equip conference attendees with take-away tools and information to do their jobs better.

Topics to be considered for the conference include: workplace violence, airborne exposures to contaminants in hospital settings, blood-borne pathogens, ergonomic issues, infection control, psychosocial and mental health issues, work organization, disability management, and emergency preparedness and response.

Abstract submissions closed in January. For more information visit the website:  
<http://depts.washington.edu/ehce/NWcenter/course/OHN0906.htm>

**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.

Deadline date for abstract submission: 30 June 2006. For more information visit the website: <http://www.his2006.com>