In SafeHandS

Newsletter of the SafeHandS network

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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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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 surveillance for health care worker safety
The next issue will be published in March 2007
Deadline for contributions for the next issue is 16th February, 2007

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Editorial

Mary-Louise McLaws

Mary-Louise McLaws is Associate Professor in epidemiologist and statistics, School of Public Health and Community Medicine, UNSW. Her research area is infectious diseases, primarily hospital epidemiology and healthcare worker behaviour in Australia, Iran, Taiwan, Hong Kong, Macau and China. She has worked on World Health Organisation (WHO) projects including Clean Care is Safer Care Guidelines and most recently on a WHO mission to develop an accreditation program in infection control surveillance in Chinese hospitals.

A personal view of needle-stick injury surveillance – an integral component to the World Health Organisation Injection Safety strategy

According to World Health Organization (WHO) estimates 16 billion health care injections are given annually in its developing and transitional Member states. [1] Our preliminary results from Dr Brahmaputra Marjadi's PhD fieldwork has identified that there is an excessive practice of injections and utilization of intravascular catheters for the delivery of medications in various healthcare settings in Indonesia that could be replaced by the oral route. Such practice is potentially unsafe for patients and unsafe for the healthcare worker (HCW). Accurate projections of the expected number of occupational injuries to HCWs associated from the WHO estimates of injections is difficult for two reasons: the lack of reliable and accessible surveillance of needlestick injuries (NSI) in low resourced countries and the common problem of under-reporting of NSI by HCWs. Countries other than the United States of America (USA) and those with lower resourced healthcare systems but where HCWs have access to NSI surveillance have consistently reported an epidemic proportion of HCWs injured. In a 12-month period 87.3% of all HCWs in Taiwan [2] had reported a NSI while in China the rate is epidemic at 82.0% [3] and in north India the rate has been estimated at 63.0% [4]. The World Alliance for Patient Safety, launched in October 2004, brought together heads of health agencies, policy makers, clinical leaders and patient groups to campaign for safer patient care to reduce adverse health and its social consequences.[1] The first Global Challenge was titled *Clean Care is Safer Care* and began in 2005 and has continued during 2006 to raise awareness of the impact of healthcare associated infection (HAI), to increase global commitment to reduced HAI, and test the WHO Guidelines for Hand Hygiene in Health Care.[1] The WHO Injection Safety strategy is part of that Global Challenge to reduce HAI. This strategy engages countries to develop their national policy for the safe and appropriate use of injections, and facilitate access to safe, high-quality injection equipment. One aim of this strategy is to achieve universal access to high quality injection equipment – essential if the numbers of occupationally acquired blood-borne viruses (BBV) through NSI are to be reduced. Until hollow-bore needles and syringes are universally replaced with retractable needles and syringes and every clinical room has safe disposal boxes, HCWs remain at-risk of a NSI. It is well established that NSI associated with hollow-bore needles carry the greatest risk of seroconversions.[5] The WHO has estimated the risk of BBV from a contaminated NSI is 30% for hepatitis B virus (HBV), 1.8% for hepatitis C virus (HCV) and 0.3% for human immunodeficiency virus (HIV). Seroconversions in HCWs from injuries associated with unsafe injection practices have been conservatively projected at 8-16 million acquiring HBV, up to 4.7 million HCV and up to 160,000 HIV infections. [5] Until accessible surveillance, rapid assessment and follow-up of injured staff become the norm globally the true estimate of occupational BBV and its social impact will never be known.

Despite the fact that surveillance of NSI does not directly prevent NSI or seroconversions, it does provide the infection control department an opportunity to counsel the injured HCWs about their risk of BBV and educate the HCW about safe injecting procedures. Therefore, the provision of accessible easy-to-use surveillance programs for NSI is fundamental to risk assessment and policy development and should be an essential clinical governance issue for any healthcare facility. Information collected during surveillance does not have to be onerous to be used effectively. There is an argument that all NSI, including clean injuries, should be reported so that the magnitude of unsafe injecting practices can be assessed to formulate effective injury prevention intervention programs. To date surveillance systems report both clean and contaminated NSI, yet

in-service education programs based on these data have done little to impact on the steady trend of both types of NSI. [6] Perhaps it is time to focus our information collection on only those NSI associated with a contaminated device to effectively understand the clinical circumstances, staff and devices associated with high risk injuries. We know there are essentially two dangerous devices associated with high frequencies of percutaneous injury - the hollow-bore hypodermic needle, associated with between 34.5% to 83% [6-10] of injuries and the butterfly needle, implicated in 2.0% to 18.7% [6,9,10] of injuries. HCWs more often than not sustain an injury with a hollow-bore needle during disposal, patient movement, colleagues accidentally sticking each other and recapping.[2,6,10] Inappropriate disposal of hollow-bore needles is by far the most common circumstance associated with NSI [6-8] and studies still report two-handed recapping at disturbing frequencies from 18% [8] of all injuries to 43.0% [4]. This inappropriate disposing behaviour involving recapping is a phenomenon that is very understandable – it is human nature to want to cover a sharp object. Whereas butterfly needle injuries are usually associated with the removal of the device using the tubing not the wings which results in the tube recoiling when the needle may stick the user. Surveillance and observation are essential if we want to change HCW behaviour. It is not enough to simply collect the magnitude of NSI but data collected on high risk injury must be accompanied with the healthcare facility's hollow-bore and butterfly needle utilization rates and the reason for the use of the needle. Then we can fully understand the frequency of high risk injury within an environment of high or low utilization rates of hollow-bore and butterfly needles to assist in directing policy that will reduce injecting medication practices. Education has indeed reduced recapping behaviour in the USA. [11] It was not clear the extent of any concurrent introduction of retractable needles that may have occurred during the same period. Nevertheless, the principal method for stopping the natural urge to recap a sharp object and other disposal related injuries from occurring is for industry to provide inexpensive retractable hollow-bore syringes that are easy to operate one-handed or are fully automatic and are available in various gauges. The sooner the better!

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What is SafeHandS?

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

We know that health care workers are essential in responding to HIV/AIDS and other communicable diseases. Without health care workers, there is no health system. We want this network to provide information, support and practical solutions to help health care workers in resource limited settings to feel safe and encouraged to provide optimal care.

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

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

Become a member

Benefits of membership include:

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

Membership is free. To join, you can either:

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

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

Update on SafehandS membership

We are pleased to report that we now have 104 members of SafeHandS.

Members work in:

Australia, Cambodia, China, Cook Islands, East Timor, Fiji, Hong Kong, India, Indonesia, Kenya, Lao PDR, Malaysia, New Zealand, Nigeria, Pakistan, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Taiwan, Turkey, Tuvalu, USA and Vietnam.

Feedback on membership forms indicates that the services to members would most like are (in order of preference):

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

Surveillance of health care worker safety

This issue of the newsletter is about surveillance because people we work with in the region have identified it as a priority.

Why is surveillance important? Baseline data about health care worker safety is important to determine the extent of the problem. Without this is it can be difficult to convince governments, administrators and donors that it is an important issue that needs funding and

other resources. Also, without baseline data, it is hard to demonstrate change from any strategies that are put in place to improve health care worker safety.

What do you think? Do you have any good surveillance tools? Have you had any successes in improving health care worker safety?

SafeHandS would like to hear from members - send an e-mail to:
safehands@sesiahs.health.nsw.gov.au

Surveillance of Occupational Exposure to Blood-borne Pathogens in Healthcare Workers

Susan Martland,
Manager, Government Relations and Public Policy, BD, Sydney, Australia

Susan Martland has worked in the medical industry for more than 20 years, beginning her career as a medical laboratory scientist. In her current role with BD (Becton, Dickinson and Company), Susan is focused on building external relationships and programs with governments, professional associations, unions, thought-leaders, and policy makers to raise awareness of the issue of healthcare worker safety and needle-stick injury prevention. She has been managing the EPINet™ Surveillance Programme in Australia and New Zealand for the past 6 years.

BD, a leading global medical technology company that manufactures and sells medical devices, instrument systems and reagents, is dedicated to improving people's health throughout the world.

BD is focused on improving drug therapy, enhancing the quality and speed of diagnosing infectious diseases, and advancing research and discovery of new drugs and vaccines. The company's capabilities are instrumental in combating many of the world's most pressing diseases. Founded in 1897 and headquartered in Franklin Lakes, New Jersey, BD employs more than 25,000 people in approximately 50 countries throughout the world. The Company serves healthcare institutions, life science researchers, clinical laboratories, industry and the general public. For more information, please visit www.bd.com.

Surveillance of occupational exposure to blood-borne pathogens is a well accepted and important component of broader healthcare associated infection surveillance activities. It allows timely identification of issues relating to work practices, equipment and materials which will result in the development of relevant intervention strategies to improve healthcare worker and patient safety.

There have been many articles published over the past two decades documenting the significant risk faced by healthcare workers of acquiring transmissible diseases such as hepatitis B, hepatitis C and HIV/AIDS from occupational exposures to blood-borne pathogens by needle-stick and other sharp object injuries.

The World Health Organization estimates that worldwide, more than three million healthcare workers will be exposed to a sharp object contaminated with hepatitis C, hepatitis B or HIV every year. *This corresponds to almost one healthcare worker out of ten.*[1] However; this figure is probably a low estimate because of the lack of surveillance systems available in many countries and underreporting of injuries.[2]

Dr. Janine Jagger (M.P.H., Ph.D., University of Virginia, USA) is an epidemiologist specialising in injury prevention and control. Over the last 15 years, Dr. Jagger has devoted herself to reducing healthcare workers' risk of occupational exposures to blood-borne pathogens. In 1988, Dr. Jagger and colleagues published a landmark study in the *New England Journal of Medicine* which detailed the characteristics of medical devices causing needle-stick injuries, and criteria for protective needle designs.[3]

In 1991, Dr. Jagger and colleagues developed the Exposure Prevention Information Network (EPINet™) to provide healthcare facilities with a standardised system for tracking percutaneous injuries and blood and body fluid exposures. In 1994 she founded the International Healthcare Worker Safety Centre to disseminate the findings from the US EPINet network which detailed the causes of needle-sticks and blood exposures.
EPINet is now used by over 3000 healthcare facilities in the U.S., Canada, UK, Australia,

New Zealand, Taiwan, Japan, Korea, numerous EU countries, South Africa and other countries around the world.

In the Asia Pacific region, EPINet is used by many healthcare organisations either as a stand alone computer programme, or by using pre-designed paper-based EPINet surveillance forms to capture all relevant information and in-depth analysis of the data.

The EPINet system consists of a Needle-stick and Sharp Object Injury Report, a Blood and Body Fluid Exposure Report, a Post-Exposure Follow-up Report and the EPINet software programmed in Microsoft® Access.

Effective surveillance for occupational exposure to blood-borne pathogens requires the following key components:

- *Who* is being injured (job category of injured worker),
- *What* device or activity is associated with the exposure,
- *Where* in the organisation the exposure occurs,
- *When* the exposure occurs (before, during or after the procedure) and
- *How* the exposure occurs (procedure or activity being performed at the time of exposure)

The simplicity of the EPINet occupational exposure surveillance system allows you to understand the "*who, what, where, when and how*" of needle-sticks, sharp object injuries and blood and body fluid exposures occurring in your healthcare organization.

In EPINet, each injury or exposure is recorded as one incident in the database. Records are aggregated to produce summary reports. Reports can be generated for exposures occurring within any range of dates you specify. Reports can also be created for exposures associated with a specific department, job category, location, procedure, or device, among other categories. These options are selected from drop-down menus and require no programming expertise.

The reporting functionality of EPINet allows you to analyse injury frequencies by job category, device and procedure. This information can then be used to determine specific intervention strategies aimed at preventing occupational exposure to blood-borne pathogens and improving healthcare worker safety.

To determine the effectiveness of intervention strategies you need accurate and simple to understand "before and after" surveillance data. Without this data, it is difficult to gauge the extent of the problem and even more difficult to justify prevention initiatives.

Effective surveillance is the first step towards prevention of needle-sticks, sharp object injuries and blood and body exposures.

In 2003, the World Health Organization published the "Global burden of disease from sharps injuries to health-care workers" which gives some examples of simple measures shown to be effective in the primary prevention of sharps injuries:[2]

- **Avoid unnecessary injections** – reducing the number of injections also reduces the opportunities for needle-stick injuries as fewer sharps are handled
- **Safely manage sharps waste** – this includes collecting contaminated sharps waste immediately after use (without recapping the needle) and using puncture-proof sharps containers that will not leak liquids
- **Immunise at-risk healthcare workers against Hepatitis B** – immunization of healthcare workers at risk of sharps injuries reduces the proportion of workers susceptible to this infection, and thus the number of infections
- **Use engineering controls**, such as auto-disposable syringes, needle-free devices, and retractable or sheathed needles
- **Provide personal protective equipment** such as gloves, gowns, masks etc
- **Train and inform** workers on the risks of transmission of blood-borne pathogens and on safe practices to combat transmission.

Regardless of where you live and work these simple primary prevention measures are relevant to all healthcare organizations and when combined with Standard Precautions and proactive surveillance of occupational exposures to blood-borne pathogens, the

health and safety of all healthcare workers and patients will be improved.

BD (Becton, Dickinson and Company) is proud to have been a primary supporter of the International Healthcare Worker Safety Centre and EPINet since the early 1990's. If you would like more information regarding EPINet™ and how it may positively impact your healthcare organisation, please contact BD by email to bd_anz@bd.com or visit the International Healthcare Worker Safety Centre at: http://www.healthsystem.virginia.edu/internet/epinet/home.cfm

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Measuring The Impact of Your Infection Prevention Program

By Dr Cathryn Murphy RN, MPH, PHD, CIC

Dr Cathryn Murphy is Managing Director, Infection Control and is well known for her long term commitment and contributions to global infection control and prevention improvements. Cathryn has held clinical, government and academic positions in infection prevention and is currently enjoying life as a private consultant with important clients including the WHO. She is highly sought as a speaker and currently serving as an elected member of the Board of Directors of the world's largest infection control professional group, the Association For Professionals in Infection Control & Epidemiology Inc.

The first formal, organised infection control programs began more than forty years ago mainly in Britain and the United States. In the early days routine infection control focussed mainly on monitoring the cleanliness of the environment by performing inspections and taking environmental swabs. While there are obvious benefits in providing healthcare in clean environments experts soon began to realise that a combination of factors contributed to the risk of a particular patient acquiring an infection. These risks were identified as being intrinsic, that is within the patient themself such as underlying physical condition, age, sex, illness. The other type of identifiable infection risks were termed extrinsic and included things such as length of stay in a hospital, presence of an invasive device, patient location and specific clinical procedures, etc. Infection control professionals realised that to prevent healthcare associated infections (HAIs) clinicians had to initiate a combination of specific strategies targeting either the intrinsic or the extrinsic risk factors and in some cases both factors. Some of the early ground breaking research found that hospitals with a dedicated infection control team, a formal surveillance program and a system for providing feedback on infection rates to clinicians, were able to reduce infection rates by almost a third. These findings became the platform from which modern HAI measurement processes developed.

Subsequent researchers recommended that rather than trying to minimise or eliminate all HAIs, infection control programs should target specific frequently occurring, high-cost infections. This principle underlies the modern concept of "targeted surveillance" and has been used in many countries with mature systems of infection prevention and control to minimise HAI incidence.

The world's longest running and most productive HAI monitoring system is the National Nosocomial Infection Surveillance System (NNIS) which operated from the Centres for Disease Control and Prevention (CDC) in the US. The NNIS system first began collecting voluntary data from

participating hospitals in the USA in 1970. The original aims of the NNIS were to establish a national database of nosocomial infection and to enable participating hospitals to improve their methods of surveillance. The program required contributing hospitals to perform hospital-wide nosocomial infection surveillance amongst acute care patients. Hospitals used standard definitions and codes to collect and report data to the CDC each month. Reports comprised a line-listing of minimal data relating to the patient, the infection, associated risk factors and outcome. CDC analysed the data and provided regular local and periodic national reports of aggregate data.

The NNIS methods were relatively constant until 1985 when the system adopted a more rigorous methodological approach to surveillance aimed at providing valid results for infection rates and associated risk factors. From 1985, participating hospitals were able to use dedicated software to facilitate participation in the NNIS system. The second major advancement in the NNIS methodology occurred in 1986 when the CDC endorsed a more targeted outcome-focussed approach to surveillance. From this time, hospitals were no longer required to carry out hospital-wide surveillance. Instead, they could select target approaches that focussed on intensive care unit, high-risk nursery or surgical patient infections. Around this time hospitals also recognised that monitoring healthcare worker (HCW) safety and in particular occupational exposures to blood and/or body fluids was increasingly important. The best example still of a comprehensive system for monitoring HCW exposures is EPINet™ which is freely available from the International Healthcare Worker Safety Centre at the University of Virginia and downloadable from their website http://www.healthsystem.virginia.edu/internet/epinet/

In 2005 the NNIS was replaced with the CDC's new National Healthcare Safety Network (NHSN) which introduced new methods for patient safety monitoring and evaluation. NHSN includes a web-based knowledge management and adverse events reporting system which will ultimately be freely available to U.S. hospitals, long-term-care facilities, and other healthcare settings.

Since the mid 1990s several countries in Europe, Asia and South America have developed modified local and national systems for monitoring HAIs. Many of these are based on NNIS methods. In Australia at least three states have developed local standardised systems for measuring HAIs and in two of these states, Victoria and New South Wales (NSW), surveillance of needle-sticks is mandatory. NSW adopted EPINet™ as the mandatory software system for NSI surveillance in 2003. After three years it appears that the problem of needle-stick injury in NSW continues and each year on average almost 1700 NSI are reported. Details on the NSW monitoring system methods are available at: http://www.health.nsw.gov.au/pubs/2005/pdf/infection_ctrl_manual.pdf Surveillance results are available at http://www.health.nsw.gov.au/health_pr/infection/cons/inf_rates.html

In 2006 we appreciate and understand that developing and implementing local strategies to improve the quality of healthcare through prevention of HAIs is core business for individual health care facilities. Successful strategies address specific local, at-risk populations and conditions according to their incidence, cost, morbidity or mortality and preventability. Ongoing evaluation of infection control strategies is equally important to identify additional at-risk populations and to provide valid and reliable feedback to clinicians, administrators and government regarding the outcome of their clinical practice and the impact of their respective investment and recommendations.

Even in countries with less developed resources there are simple surveillance measures that can be implemented, and make a positive improvement, at a local level. The proposed 2007 Australian Council on Health-care Standards clinical indicators are good examples and two simple process indicators include:

- Number of staff attending annual infection control training/total number of staff required to attend annual infection control training
- Number of NSIs from recapping/total number of NSIs

Similarly the CDC's *Workbook for Designing, Implementing, and Evaluating a Sharps Injury Prevention Program* which can be downloaded

at: http://www.cdc.gov/sharpssafety/appendixA.html includes a series of practical tools and forms for healthcare organizations to develop and/or improve their local sharps injury prevention and surveillance program. The Workbook's *Sample Blood and Body Fluid Exposure Report Form* is a freely available form for surveillance of NSI and occupational exposures. It can be downloaded as a WORD document from: http://www.cdc.gov/sharpssafety/pdf/AppendixA-7.doc

Despite more than four decades of infection prevention and control, evaluation is contentious and to date consensus regarding the best methods and target areas for monitoring outcomes is yet to be achieved at international, national or even some local levels. It is however generally agreed that target areas for monitoring include both patient and healthcare worker safety. There are many examples of indicators which measure either clinical processes or clinical outcomes and are used to assess the effectiveness of clinical improvement strategies or the impact of new devices or equipment. The indicators and reference sites discussed in this article provide useful starting points for SAFEHANDS members seeking to develop, review or improve their local monitoring efforts. Better monitoring is essential to better understanding and ultimately safer patient care and improved HCW safety.

Members with a special interest in this area are welcome to contact me through the Infection Control Plus website at www.icp.au.com

Member Profiles

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

Name: Dimple Kasana

Title: Doctor

Describe your current job:

I am a senior Clinical Microbiologist at Safdarjung Hospital and assoc V.M. Medical College New Delhi. It is a large tertiary care Asian hospital with 1550 beds. I am Hospital Infection Control Officer and responsible for hospital infection control practises and formulating antibiotic policies in our hospital. Teaching MBBS students is also integral part of my job chart.

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

I was trained as clinical microbiologist at Bangalore and got my first regular appointment at National AIDS Control Organization, MoHFW, Govt of India, where I worked as Assistant Director and then as Deputy Director for five years. I was responsible for formulating HIV control policies and its implementation through 38 State AIDS Control Societies.

What do you like most about your job?

It's challenging and needs constant vigil to control multi drug resistant organisms in Hospital society and teaching undergraduates gives me a chance to update my knowledge regularly. Hospital infection control practices is the most interesting part of my job.

What do you like least about your job?

As it keeps me restricted to one hospital and medical college so chances to share scientific ideas on a global platform are missing. No travels at all, needs to be worked upon.

What does health care worker safety mean to you?

Its very crucial to have all measures in place as HCWs are our sentinel at ground level and any control measures can't succeed without them so it gains an uppermost position in my list of priorities.

What are you reading at the moment?

I am working and reading about device related infections and prevalence surveys along with efficacy testing of disinfectants. Nil fermenters and multi drug resistant bacteria are the areas I shall be working upon shortly.

What are you currently listening to?

Critical care/ management of patients.

What is your favourite saying?

"Whatever mind conceives can achieve."

Name: Dr Cathyrn Murphy

Title: Associate Professor, Faculty of Health Services and Medicine, Bond University, Australia and Managing Director, Infection Control Plus.

Contact Details: www.icp.au.com

Describe your current job:

Infection Control Plus is an independent, international infection control consulting company and as Managing Director my work ranges from teaching, consulting, writing, providing expert clinical research and advice nationally and internationally. I am also very active in the Australian Infection Control Association and the US-based Association for Professionals in Infection Control and Epidemiology.

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

As a small child my mother worked as a Practice Manager for a general practitioner and one of her responsibilities was to turn on the steam steriliser each day. I was intrigued with the whole concept of medical procedures and cleanliness. I worked as a nurse in NSW from 1981 and, after registering as a theatre nurse, I had a fascination with asepsis and infectious diseases, taking my first infection control position in 1988. After serious tertiary study and completion of a Masters of Public Health in 1995 I coordinated a one-year special project for NSW Health which investigated the feasibility of developing a state-wide system for monitoring healthcare associated infections.

I managed the New South Wales State Government Healthcare Associated Infection Prevention and Control Program from 1997 until December 2004 with programmatic responsibility for more than 200 hospitals. In 1999 I completed a Doctoral thesis which examined Infection Control in the Australian Healthcare Setting.

One of my career highlights was a post-doctoral placement where I worked as a guest researcher in the Division of Healthcare Quality and Infection Prevention at the CDC, Georgia in 2000. Another was completion of a short-term mission throughout Southeast Asia with the WHO during the height of the 2003 SARS Outbreak.

What do you like most about your job?

I have always loved the unpredictable nature of a day in infection control. I also enjoy the wide range of people and issues that infection control encompasses. In my current job I love the flexibility of being my own boss and not having to request annual leave or seek permission for flexi-days.

What do you like least about your job?

There is little that I dislike about my job; however in the last 12 months I have made 11 overseas trips including 8 trips to the USA, 2 to Europe, 3 to Asia and 1 to New Zealand. I really hate being jet lagged and being far away from my family and friends.

What does health care worker safety mean to you?

Healthcare care worker safety represents a key challenge for a wide range of healthcare personnel. I consider HCW safety to be the highest priority for governments, health administrators and clinicians as without healthy and safe clinicians our patients will be unabled to be cared for. I think that the days of doctors and nurses automatically placing everyone else's safety before their own are gone and that our patients will benefit if we are provided with equipment, supplies and conditions that ensure our health and safety.

What are you reading at the moment?

Once While Travelling: The Lonely Planet Story – it's a fascinating read about how two people with 27 cents built a global empire.

What are you currently listening to?

This is really pathetic, I'm listening to *Disco Boogie* a collection of disco hits from the eighties. I found it at a local garage sale for $1 and I thought it would be good for a friend's upcoming 50th birthday party that we are hosting.

What is your favourite saying?

"Love What You Do, and Do What You Love"

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

Title:	**Why healthcare workers don't wash their hands?: a behavioral explanation**
Authors:	Whitby M, McLaws M-L, et al.
Date:	May 2006
Source:	Infect Control Hosp Epidemiology 27(5): 484-92
Country:	Australia

Abstract: *Objective*: To elucidate behavioural determinants of hand-washing among nurses. Design: Statistical modelling using the Theory of Planned Behaviour and relevant components to hand-washing behaviour by nurses that were derived from focus-group discussions and literature review.
Setting: The community and 3 tertiary care hospitals.
Participants: Children aged 9-10 years, mothers, and nurses.
Results: Responses from 754 nurses were analyzed using backward linear regression for hand-washing intention. We reasoned that hand-washing results in 2 distinct behavioural practices inherent hand-washing and elective hand-washing with our model explaining 64% and 76%, respectively, of the variance in behavioural intention. Translation of community hand-washing behaviour to healthcare settings is the predominant driver of all hand-washing, both inherent (weighted =2.92) and elective (weighted =4.1). Intended elective in-hospital hand-washing behaviour is further significantly predicted by nurses' beliefs in the benefits of the activity (weighted =3.12), peer pressure of senior physicians (weighted =3.0) and administrators (weighted =2.2), and role modelling (weighted =3.0) but only to a minimal extent by reduction in effort (weighted =1.13). Inherent community behaviour (weighted =2.92), attitudes (weighted =0.84), and peer behaviour (weighted =1.08) were strongly predictive of inherent hand-washing intent.
Conclusions: A small increase in hand-washing adherence may be seen after implementing the use of alcoholic hand rubs, to decrease the effort required to wash hands. However, the facilitation of compliance is not simply related to effort but is highly dependent on altering behavioural perceptions. Thus, introduction of hand rub alone without an associated behavioural modification program is unlikely to induce a sustained increase in hand hygiene compliance.

Title:	**Quality of working life indicators in Canadian health care organizations: a tool for healthy, health care workplaces?**
Authors:	Cole D, Robson L, et al.
Date:	January 2005
Source:	Occup Med (Lond) 55(1):54-9
Country:	Canada

Abstract: *Background:* Quality-of-work-life (QWL) includes broad aspects of the work environment that affect employee learning and health. Canadian health care organizations (HCOs) are being encouraged to monitor QWL, expanding existing occupational health surveillance capacities.
Aim: To investigate the understanding, collection, diffusion and use of QWL indicators in Canadian HCOs.
Methods: We obtained cooperation from six diverse public HCOs managing 41 sites. We reviewed documentation relevant to QWL and conducted 58 focus groups/team interviews with strategic, support and programme teams. Group interviews were taped, reviewed and analysed for themes using qualitative data techniques. Indicators were classified by purpose and HCO level.
Results: QWL indicators, as such, were relatively new to most HCOs yet the data managed by human resource and occupational health and safety support teams were highly relevant to monitoring of employee well-being (119 of 209 mentioned indicators), e.g. sickness absence. Monitoring of working conditions (62/209) was also important, e.g. indicators of employee workload. Uncommon were indicators of biomechanical and psycho-

social hazards at work, despite their being important causes of morbidity among HCO employees. Although imprecision in the definition of QWL indicators, limited links with other HCO performance measures and inadequate HCO resources for implementation were common, most HCOs cited ways in which QWL indicators had influenced planning and evaluation of prevention efforts.
Conclusions: Increase in targeted HCO resources, inclusion of other QWL indicators and greater integration with HCO management systems could all improve HCO decision-makers' access to information relevant to employee health.

Title: **Social marketing: a behaviour change technology for infection control**

Authors: Mah MW, Deshpande S, et al.

Date: Septemberl 2006

Source: Am J Infect Control 34(7):452-7

Country: Canada

Abstract: Changing health care worker behaviors is a core function of infection control programs. The social change technologies of education and institutional policy are limited in their capacity to achieve desired behaviors on a sustained basis because they do not address the importance of opportunity and ability in practice enhancement. Social marketing addresses the health care worker's lack of opportunity and ability by offering a bundle of benefits at low cost with high accessibility and by doing this better than the behavioral status quo. This article introduces some social marketing concepts and explicates them in the context of hand hygiene promotion.

Title: **Infection risks following accidental exposure to blood or body fluids in health care workers: a review of pathogens transmitted in published cases.**

Authors: Tarantola A, Abiteboul D, et al.

Date: August 2006

Source: Am J Infect Control 34(6):367-75

Country: France

Abstract: Hospital staff and all other human or veterinary health care workers, including laboratory, research, emergency service, or cleaning personnel are exposed to the risk of occupational infection following accidental exposure to blood or body fluids (BBF) contaminated with a virus, a bacteria, a parasite, or a yeast. The human immunodeficiency virus (HIV) or those of hepatitis B (HBV) or C (HCV) account for most of this risk in France and worldwide. Many other pathogens, however, have been responsible for occupational infections in health care workers following exposure to BBF, some with unfavourable prognosis. In developed countries, a growing number of workers are referred to clinicians responsible for the evaluation of occupational infection risks following accidental exposure. Although their principal task remains the evaluation of the risks of HIV, HBV, or HCV transmission and the possible usefulness of postexposure prophylaxis, these experts are also responsible for evaluating risks of occupational infection with other emergent or more rare pathogens and their possible timely prevention. The determinants of the risks of infection and the characteristics of described cases are discussed in this article.

Title: **Compliance with antiseptic hand rub use in intensive care units: the Hawthorne effect**

Authors: Eckmanns T, Bessert J, et al.

Date: September 2006

Source: Infect Control Hosp Epidemiol 27:931-934

Country: Germany

Abstract: *Objective*: To determine the influence the Hawthorne effect has on compliance with antiseptic hand rub (AHR) use among healthcare personnel.
Design: Observational study.
Setting: Five intensive care units of a university hospital in Berlin, Germany.
Participants: Medical personnel were monitored in 2 periods regarding compliance with AHR use when there were indications for AHR use. In the first period, the personnel had no knowledge of being observed. The second observation period was announced to the staff of the intensive care units in advance and information about what the observer would be monitoring was provided. Potential confounders of compliance with AHR use

included occupational groups (nurses, physicians, and other healthcare workers), intensive care units, and indications for AHR use before or after any procedure.
Results: Data were collected from 2,808 indications for AHR use. The overall rate of compliance was 29% (95% confidence interval, 26%–32%) in the first period and 45% (95% confidence interval, 43%–47%) in the second period. A logistic regression analysis with potential confounders revealed a significant odds ratio for the comparison between period 2 and period 1. The differences in compliance with AHR use were statistically significant (P < .001) between the occupational groups (nurses had the highest compliance and physicians had middle compliance) and between indication for AHR use before procedures and indication for AHR use after procedures.
Conclusions: The Hawthorne effect has a marked influence on compliance with AHR use, with a 55% increase of compliance with overt observation. This result is consistent throughout subgroups. The rate of compliance with AHR use may in fact be lower than we thought because of results from studies that did not take the Hawthorne effect into account. The results of this study underline the necessity for infection control teams to be on wards as often as possible.

Title: **The health beliefs of hospital staff and the reporting of needle-stick injury**

Authors: Tabak N, Shiaabana AM, et al.

Date: October 2006

Source: J Clin Nurs 15(10):1228-39

Country Israel

Abstract: *Aim*: The aim of this study is to examine the connection between the health beliefs of hospital staff (doctors, nurses and auxiliary staff) and their failure to report needle-stick injuries.
Background: Needle-stick injury to hospital staff is quite frequent and can result in infections and disease, but staff frequently do not report the injury despite their awareness of the risk of blood-borne pathogens.
Methods: Five questionnaires were constructed based on three existing research tools and were tested for validity and reliability. Two hundred and forty questionnaires were distributed to eight randomly chosen departments of a single Israeli hospital. Seventy-six percent of the questionnaires were anonymously completed and returned.
Results: Nurses had the highest rate of needle-stick injury, followed by auxiliary staff and doctors. Auxiliary staff showed the highest rate of compliance with the duty to report such injuries, while doctors showed the lowest. Perceived severity of contractible disease, the perceived efficacy of reporting injuries and overall motivation to maintain health were the best predictors of reporting compliance. Non-compliers emphasized the negative aspects of reporting the injuries, primarily that it took up too much time.
Conclusions: The solution to non-compliance with the duty to report must be a targeted investment in training and education. Relevance to clinical practice. Finding the reasons for compliance and non-compliance with the duty to report needle-stick injuries will help in designing educational programmes for hospital staff and in determining a strategy for improving health behaviour.

Title: **Long working hours increase the risk of sharp and needle-stick injury in nurses: the need for new policy implication**

Authors: Ilhan M, Durukan E, et al.

Date: December 2006

Source: J Adv Nurs 56(5):563-8.

Country Turkey

Abstract: *Aim:* This paper reports a study to determine the sharp and needle-stick injury incidence in nurses working at a university hospital and the contributing factors.
Background. Although it is generally felt that working in the healthcare sector is clean and without risk, healthcare staff and especially physicians and nurses who generally work very long hours are actually exposed to various occupational risks. Sharps and needle-stick injuries are important problems for healthcare workers as they increase the risk of spread of infection.
Method: A self-administered questionnaire was completed in October 2005 by 449 of the 516 nurses working at a Turkish hospital (response rate 87.0%).
Results: The percentage of nurses experiencing a sharp or needle-stick injury

during their professional life was 79.7%. The incidence of exposure to sharp or needle-stick injury in the last year was 68.4%. The factors increasing the rate of sharp and needle-stick injury were: age 24 years and less, </=4 years of nursing experience, working in surgical or intensive care units and working for more than 8 hours per day (P < 0.05).
Conclusion: The findings indicate which groups of staff should be targeted for educational programmes. Consideration also needs to be given to the unwanted effects of working long shifts, where tiredness may contribute to the number of needle-stick injuries.

Title: **Sharps injuries in UK health care: a review of injury rates, viral transmission and potential efficacy of safety devices**

Authors: Elder A, Paterson C.

Date: 25 October 2006

Source: Occup Med (Lond); [Epub ahead of print]

Country: United Kingdom

Abstract: *Aims:* To review the literature on sharps injuries and occupational blood-borne virus transmission in health care in the UK and the worldwide evidence for injury prevention of sharps safety devices.
Methods: Literature review by online data-base and Internet resource search.
Results: Twenty-four relevant publications were identified regarding UK reported sharps injury rates. UK studies showed as much as a 10-fold difference between injuries reported through standard reporting systems (0.78-5.15 per 100 person-years) and rates estimated from retrospective questionnaires of clinical populations (30-284 per 100 person-years). National surveillance data from England, Wales and Northern Ireland gives a rate of 1.43 known hepatitis C virus or human immu-nodeficiency virus (HIV) transmissions to health care workers per annum. When extrapolated, this suggests an approximate rate of 0.009 such viral transmissions per 1000 hospital beds per annum. Risk of infection from sources with no risk factors is extremely small (less than one in one million for HIV transmission based on Scottish data). Thirty-one studies on the efficacy of sharps safety devices showed evidence of a reduction in injuries, with the greatest reductions achieved by blunt suture needles and safety cannulae.
Conclusions: Although injuries remain common, confirmed viral transmission in the UK has been relatively rare. The degree of under-reporting of sharps injuries may be as much as 10-fold. Safety-engineered devices are likely to be effective at injury reduction.

Title: **The impact of educational interventions on primary health care workers' knowledge of occupational exposure to blood or body fluids**

Authors: Krishnan P, Dick F, et al.

Date: 2 November 2006

Source: Occup Med (Lond); [Epub ahead of print]

Country: United Kingdom

Abstract: *Aim*: To assess the impact of educational interventions on primary health care workers' knowledge of management of occupational exposure to blood or body fluids.
Methods: Cluster-randomized trial of educational interventions in two National Health Service board areas in Scotland. Medical and dental practices were randomized to four groups; Group A, a control group of practices where staff received no intervention, Group B practices where staff received a flow-chart regarding the management of blood and body fluid exposures, Group C received an e-mail alert containing the flow-chart and Group D practices received an oral presentation of information in the flow-chart. Staff knowledge was assessed on one occasion, following the educational intervention, using an anonymous postal questionnaire.
Results: Two hundred and fifteen medical and dental practices were approached and 114 practices participated (response rate 53%). A total of 1120 individual questionnaires were returned. Face to face training was the most effective intervention with four of five outcome measures showing better than expected knowledge. Seventy-seven percent of staff identified themselves as at risk of exposure to blood and body fluids. Twenty-one percent of staff believed they were not at risk of exposure to blood-borne viruses although potentially exposed and 16% of exposed staff had not

been immunized against hepatitis B. Of the 856 'at risk' staff, 48% had not received training regarding blood-borne viruses.
Conclusions: We found greater knowledge regarding management of exposures to blood and body fluids following face to face training than other educational interventions. There is a need for education of at risk primary health care workers.

Title: **An integrated comprehensive occupational surveillance system for health care workers**

Authors: Dement J, Pompeii L, et al.

Date: June 2004

Source: Am J Ind Med 45(6):528-38

Country: USA

Abstract: *Background*: Workers in the health care industry may be exposed to a variety of work-related stressors including infectious, chemical, and physical agents; ergonomic hazards; psychological hazards; and workplace violence. Many of these hazards lack surveillance systems to evaluate exposures and health outcomes. The development and implementation of a comprehensive surveillance system within the Duke University Health System (DUHS) that tracks occupational exposures and stressors as well as injuries and illnesses among a defined population of health care workers (HCWs) is presented.
Methods: Human resources job and work location data were used to define the DUHS population at risk. Outcomes and exposure data from existing occupational health and safety programs, health promotion programs, and employee health insurance claims, were linked with human resources data and de-identified to create the Duke Health and Safety Surveillance System (DHSSS).
Results: The surveillance system is described and four examples are presented demonstrating how the system has successfully been used to study consequences of work-related stress, hearing conservation program evaluation, risk factors for back pain and inflammation, and exposures to blood and body fluids (BBF).
Conclusions: Utilization of existing data, often collected for other purposes, can be successfully integrated and used for occupational health surveillance monitoring of HCWs. Use of the DHSSS for etiologic studies, benchmarking, and intervention program evaluation are discussed. Copyright 2004 Wiley-Liss, Inc.

Title: **Blood and body fluid exposure risks among health care workers: results from the Duke Health and Safety Surveillance System**

Authors: Dement J, Epling C, et al.

Date: December 2004

Source: Am J Ind Med 46(6):637-48

Country: USA

Abstract: *Background*: Health care workers (HCWs) are at risk of exposures to human blood and body fluids (BBF). Needle-stick injuries and splashes place HCWs at risk for numerous blood-borne infections including human immunodeficiency virus (HIV), hepatitis B (HBV), and hepatitis C (HCV). Utilizing a new comprehensive occupational health surveillance system, the objective of this research was to better define the BBF exposure risk and risk factors among employees of a large tertiary medical center.
Methods: A population of 24,425 HCWs employed in jobs with potential BBF exposures was followed for BBF exposure events from 1998 to 2002. BBF exposure rates were calculated for strata defined by age, race, gender, occupation, work location, and duration of employment. Poisson regression was used for detailed analyses of risk factors for BBF exposure.
Results: The study population reported 2,730 BBF exposures during the study period, resulting in an overall annual rate of 5.5 events/100 FTEs and a rate of 3.9 for percutaneous exposures. Higher rates were observed for males, persons employed less than 4 years, Hispanic employees, and persons less than 45 years of age. Much higher rates were observed for house staff, nurse anesthetists, inpatient nurses, phlebotomists, and surgical/operating room technicians. Poisson regression results strengthened and extended results from stratified analyses. Rates of percutaneous exposures from hollow needles were found to decrease over the study period; however, exposure rates from suture needles appear to be increasing.
Conclusion: While continued training efforts need to be directed toward new HCWs, our

data also suggest that employees who have been in their job 1-4 years continue to be at higher risk of BBF exposures. This research also points to the need for better safety devices/products and work practices to reduce suture-related injuries.

Title: **Extended work duration and the risk of self-reported percutaneous injuries in interns**

Authors: Ayas N, Barger L, et al.

Date: 6 September 2006

Source: JAMA 296(9):1055-62.

Country: USA

Abstract: *Context*: In their first year of post-graduate training, interns commonly work shifts that are longer than 24 hours. Extended-duration work shifts are associated with increased risks of automobile crash, particularly during a commute from work. Interns may be at risk for other occupation-related injuries.
Objective: To assess the relationship between extended work duration and rates of percutaneous injuries in a diverse population of interns in the United States. *Design, Setting, and Participants*: National prospective cohort study of 2737 of the estimated 18,447 interns in US postgraduate residency programs from July 2002 through May 2003. Each month, comprehensive Web-based surveys that asked about work schedules and the occurrence of percutaneous injuries in the previous month were sent to all participants. Case-crossover within-subjects analyses were performed. *Main Outcome Measures*: Comparisons of rates of percutaneous injuries during day work (6:30 am to 5:30 pm) after working overnight (extended work) vs day work that was not preceded by working overnight (non-extended work). We also compared injuries during the night time (11:30 pm to 7:30 am) vs the day-time (7:30 am to 3:30 pm).
Results: From a total of 17,003 monthly surveys, 498 percutaneous injuries were reported (0.029/intern-month). In 448 injuries, at least 1 contributing factor was reported. Lapse in concentration and fatigue were the 2 most commonly reported contributing factors (64% and 31% of injuries, respectively). Percutaneous injuries were more frequent during extended work compared with non-extended work (1.31/1000 opportunities vs 0.76/1000 opportunities, respectively; odds ratio [OR], 1.61; 95% confidence interval [CI], 1.46-1.78). Extended work injuries occurred after a mean of 29.1 consecutive work hours; non-extended work injuries occurred after a mean of 6.1 consecutive work hours. Injuries were more frequent during the night time than during the daytime (1.48/1000 opportunities vs 0.70/1000 opportunities, respectively; OR, 2.04; 95% CI, 1.98-2.11).
Conclusion: Extended work duration and night work were associated with an increased risk of percutaneous injuries in this study population of physicians during their first year of clinical training.

Title: **Perioperative use of the hands-free technique: a semistructured interview study**

Authors: Stringer B, Haines T, et al.

Date: August 2006

Source: AORN J 84(2):233-5, 238-48.

Country: USA

Abstract: Occupationally contracted blood-borne infections are preventable, but the use of many protective measures remains limited. There is growing evidence that the use of the hands-free technique (HFT) to pass sharp items during surgical procedures is effective in protecting against sharps injury and bloody contamination. Researchers conducted in-depth telephone interviews to explore 20 health care providers' knowledge and use of the HFT. Most of the interviewees did not regularly use the HFT, and some were resistant to its use.

Title: **Student occupational exposure incidence: perception versus reality**

Authors: Wood A, Nadershahi N, et al.

Date: October 2006

Source: J Dent Educ 70(10):1081-8

Country: USA

Abstract: Reports of clinical injuries made to a dental school Office of Occupational Health and Safety at the time of their occurrence were compared to self-reports on a survey for

dental students in five classes at various times over their educational careers. The majority of injuries were from needle-sticks and mishaps with hand instruments. Underreporting at the time of injury was approximately one-third in the first clinical year and one-half in the final clinical year of the three-year program. Students reported a greater perceived likelihood of injury later in their education than at the beginning but a decreased fear of such injuries. Female students reported more needle-sticks and a greater fear of injury than did male students. It is hypothesized that a personal interpretation of the meaning of clinical injuries influences reporting behaviour.

Title: **Taking stock: Health worker shortages and the response to AIDS**

Authors: World Health Organization

Date: 2006

Source: WHO/HIV/2006.05 http://www.who.int/hiv/toronto2006/takingstockttr.pdf

Country: Global

Extract: In August 2006, the World Health Organization (WHO) launched a coordinated global effort to address a major and often overlooked barrier to preventing and treating HIV: the severe shortage of health workers, particularly in low and middle-income countries. Called 'Treat, Train, Retain' (TTR), the plan is an important component of WHO's overall efforts to strengthen human resources for health and to promote comprehensive national strategies for human resource development across different disease programmes. It is also part of WHO's effort to promote universal access to HIV/AIDS services. TTR will strengthen and expand the health workforce by addressing both the causes and the effects of HIV and AIDS for health workers. Meeting this global commitment will depend on strong and effective health-care systems that are capable of delivering services on a scale much larger than today's.

TREAT - a package of HIV treatment, prevention, care and support services for health workers who may be infected or affected by HIV and AIDS.

TRAIN - measures to empower health workers to deliver universal access to HIV services, including pre-service and in-service training for a 'public health' approach.

RETAIN - strategies to enable public-health systems to retain workers, including financial and other incentives, occupational health and safety and other measures to improve the workplace as well as initiatives to reduce the migration of health-care workers.

In conclusion, TTR is a broad, multifaceted AIDS health workforce plan that understands the special needs of the health workforce; will involve country ownership and be integrated into national planning; will depend on alternative models of health care, such as task-shifting and the involvement of people living with HIV; will combine the coherence of a systems approach with the speed required to respond to the AIDS emergency; will depend on cooperation and partnership and will be evidence-based. WHO's 'Treat, Train, Retain' plan provides a much-needed boost to national health systems that will have an impact far beyond HIV and AIDS. By increasing the number of well-trained, healthy and motivated health workers, the plan will provide significant benefit to health systems in general.

Title: **2006 Report on the global AIDS epidemic**

Authors: Joint United Nations Programme on HIV/AIDS (UNAIDS)

Date: November 2006

Source: http://www.unaids.org/en/HIV_data/2006GlobalReport/default.asp

Country: Global

This report is published annually before World AIDS Day (1st December)

Contents:

5. At risk and neglected: four key populations
6. Comprehensive HIV prevention
7. Treatment and care
8. Reducing the impact of AIDS
9. The essential role of civil society
10. Financing the response to AIDS
11. Getting the best out of national responses
12. From crisis management to strategic response

A global view of HIV infection: 2006 Global Report prevalence map

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*

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

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

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

17th European Congress of Clinical Microbiology and Infectious Diseases & 25th International Congress of Chemotherapy
31 March to 3 April, 2007
Munich, Germany

"The European Society of Clinical Microbiology and Infectious Diseases (ESCMID) and the International Society of Chemotherapy (ISC) are joining forces to address the issues of global challenges in the disciplines of clinical microbiology and infectious diseases. We believe that combining tradition, science and strength of two thriving societies will form the foundation of a leading international meeting in Europe in the field of infectious diseases and clinical microbiology.

The programme committee has designed a programme of the highest scientific quality with keynote lectures, symposia, meet-the-expert sessions, educational workshops, poster discussions and additional sessions of the study and working groups of both societies.

All important aspects of current infectious diseases and clinical microbiology, including developments in opportunistic infections, emerging and re-emerging diseases, microbial resistance, new antimicrobials, vaccines, molecular biology and public health issues will be covered."

For more information visit the website: http://www.akm.ch/eccmid2007/

The Society for Healthcare Epidemiology of America (SHEA) 17th Annual Scientific Meeting
14-17 April, 2007
Baltimore, USA

"The SHEA Annual Meeting is the premier scientific meeting for healthcare epidemiologists and other individuals working in the field of healthcare epidemiology.

SHEA 2007's expert international faculty will address healthcare epidemiology issues within plenary, symposia, workshop, and meet the consultant formats. The program will provide attendees with the very latest information, including cutting edge updates on new and emerging issues such as avian influenza, problematic outbreaks, and cost-effective infection control. The program will also feature point-counterpoint discussions on controversial guidelines and reviews of the science and practice related to longstanding issues including antibiotic resistance, Clostridium difficile, advances in epidemiologic methods, hand hygiene, and healthcare worker and patient safety."

Abstract submission deadline: January 12, 2007

For more information visit the website:
http://www.shea-online.org/about/annual_meeting_overview.cfm

Association for Professionals in Infection Control and Epidemiology, Inc (APIC) Annual Conference
24-28 June, 2007
San Jose, California, USA

"Connect with your health care peers at the APIC 2007 Annual Conference in San Jose, California. APIC's 34th Annual Educational Conference & International Meeting promises to be an unrivalled forum for showcasing cutting-edge ideas in the increasingly complex field of infection prevention and control.

Network with 3,000 attendees representing more than 27 countries to gain innovative cost-saving strategies to improve compliance, manage risk, and reduce adverse outcomes.

Learn progressive techniques for eliminating healthcare-associated infections from leading experts of APIC, CDC, JCAHO, SHEA, and other key organizations.

Visit with nearly 200 vendors at the largest ever expo for infection prevention and control solutions."

Abstract submission deadline: January 16, 2007.

For more information visit the website:
http://www.apic.org/scriptcontent/custom/sites/ac2007/index.cfm

3rd International Congress of the Asia Pacific Society of Infection Control
8-11 July, 2007
Kuala Lumpur, Malaysia

Theme: Infection Control in a Global Village
Abstract submission deadline: 14 February, 2007

For more information visit the website:
http://www.apsic2007.com/

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

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

Since the earliest years of the epidemic, Australia has maintained a strong commitment to HIV education, prevention, treatment and research. It was one of the first countries to develop a national strategy on HIV/AIDS, and currently supports dedicated research centres in several disciplines. The Australian response is based on a collaborative partnership between the research, health care, government and community sectors. On behalf of all of these sectors, Australian Society for HIV Medicine (ASHM), one of the first HIV medicine societies in the world founded in 1987, looks forward to welcoming delegates to Sydney and to serving as local host. The truly international nature of the conference (with more than 125 countries represented in 2005) is an ideal opportunity for networking and collaboration."

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

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

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

GRADUATE CERTIFICATE IN HIV/AIDS

UNIVERSITY OF WOLLONGONG, Wollongong, Australia
THE ALBION STREET CENTRE, Sydney, Australia
CENTRE FOR THE ADVANCEMENT OF INTERNATIONAL HEALTH

The University of Wollongong's Faculty of Health and Behavioural Sciences and the Albion Street Centre is offering students a new course leading to the formal qualification of a **GRADUATE CERTIFICATE IN HIV/AIDS.**

This course will be of particular interest and value to people who are working or have worked in the field of HIV/AIDS and who would like to gain a formal qualification from an Australian university, or to those who have some prior involvement in health activities and would like to expand their experience into the HIV/AIDS field. Those seeking to work internationally in the field of HIV/AIDS will find this course is designed to meet their needs.

The **Graduate Certificate in HIV/AIDS** provides students with a broad overview of the nature of infectious diseases (with a focus on HIV/AIDS and hepatitis C); an understanding of reproductive health care with an emphasis on developing countries and skills related to working with people affected by and/or living with HIV/AIDS. It will also develop skills in organizational management and reflective practice.

The course is taught both on the campus of the University of Wollongong and at the Albion Street Centre in Sydney. Some modules can be completed as part of the University's distance education programme. The **Graduate Certificate in HIV/AIDS** may be completed over the course of either one or two semesters (six or twelve months) and is available in each semester (commencing February and July).

ENROLMENT DETAILS

On-line enrolment details may be found at:

www.uow.edu.au/prospective/downloads/app-forms/pg-application.pdf

FURTHER CONTACT DETAILS

Enquiries about this Course, including enquiries about possible contractual delivery of the programme to offshore students should be addressed in the first instance to:

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