

In SafeHandS

Newsletter of the SafeHandS network

June 2008



Volume 3 Issue 1



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.

SafeHandS is funded by AusAID.

Editorial panel:

Maggy Tomkins; Philip Melling; Charmaine Turton & Alexandra Wilson

Compilation & Publication:

Ann Brennan

? 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

Editorial	2
What is SafeHandS?	5
Member Profile	6
Joint WHO/ILO Guidelines On Post-Exposure Prophylaxis (PEP)	7
Equitable And Appropriate Access To HIV Post Exposure Prophylaxis (PEP)	8
Other Useful Resources For Occupational Post Exposure Prophylaxis	11
Human Resources For Health	12
Current Resources	14
Calendar of Events	24



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

The focus of this issue is post exposure prophylaxis

The next issue will be in September 2008.

Deadline for contributions - 21st August, 2008. Guidelines for contributors can be found on the SafeHandS website.

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>

Disclaimer

Unless stated otherwise, opinions expressed in this newsletter are those of the identified author and are not to be regarded as the official positions of SafeHandS, The Albion Street Centre (ASC) or AusAID. SafeHandS accepts no responsibility for opinions or information contained in this newsletter. SafeHandS does not receive any financial support or contribution from any commercial organisations or agencies.

SafeHandS

..Information, support and practical solutions to promote health care worker safety in the Asia Pacific

Editorial

HIV post exposure Prophylaxis

Guest editor: Dr Micheline Diepart



Micheline Diepart, MD, MPH, MSc, is working for the World Health Organization, Geneva, in the HIV Department, Treatment and Care Unit. With clinical and public health experience of HIV, she has worked over 15 years in Africa and Asia. Has gained international experience with the World Bank, International Organization of Migration. In charge of the prevention of HIV transmission in health care settings, she has coordinated the development of the Post Exposure Guidelines for the prevention of HIV.

When asked to introduce to you the WHO/ILO PEP¹ guidelines, I remembered this encounter in a hospital laboratory, with a nurse who, for years and years, had performed blood drawing for testing...He was extremely patient and took pride in the fact that he was second to none when it came to rapidity, dexterity and the ability to draw blood painlessly.

On that day he was busy training a newly graduated health worker. This young girl, while eager to do her best and taking it very seriously, was still clumsy and uneasy with the syringe. He grew angry and called on other colleagues to support his argument: "Tell her that she should not play with her own life, explain to her how dangerous it is not to be perfect in this job. Tell her!" the vehemence of his tome was surprising and he realized an explanation was necessary: "I did not know about the risk," he said. "'I did not know even that HIV was existing. I got infected possibly even long before I knew about the existence of the HIV Virus."

"She has to replace me in this work and I will do anything I can to prevent her to get the virus".....

What would be your reaction as an experienced or newly graduated health worker? Is the risk of infection from workplace exposure so high as to warrant attention? And what support could a health care worker get nowadays in her/his work?

In the environmental "Burden of Disease" series², WHO provides an assessment method for estimating the burden of disease for sharp injuries to health-care workers at both the national and local levels. Worldwide, experts estimate that sharp injuries cause about 66,000 HBV (Hepatitis B virus), 16,000 HCV (Hepatitis C virus) and about 5,000 HIV (Human Immunodeficiency virus) infections among health-care workers each year.

For health-care workers worldwide, the risk of transmission for percutaneous occupational exposure to HBV, HCV and HIV are 37%, 39% and 4.4% respectively. More specifically, for HIV transmission, the risk of infection from a needle stick injury is estimated to be less than 1 percent (0.3% on average), however, all needle stick and sharp injuries do not carry the same risk: in a recent Cochrane review³, the HIV transmission was significantly associated with deep injury, visible blood on the device, procedure involving a needle placed in the source patient's blood vessel, and terminal illness in the source patient. The majority of exposures compromised nurses (48.8%), physicians (22.7%) and students/trainees (16.3%)⁴.

In addition to the risk estimate, and even if it is relatively limited in regard to HIV transmission, exposure to these bloodborne infections has serious consequences, including long-term illness, disability and death. This justifies serious fears for the wellbeing of health care workers who can be exposed to infection through injury with a potentially contaminated instrument.

New protection measures are now in place, such as Standard Precautions and safe injection best practice⁵, protective equipment and safe waste disposal devices. Post exposure prophylaxis is available for HBV and HIV. The prompt provision of antiretroviral drugs for post-exposure prophylaxis can reduce the risk of HIV transmission by over 80%.

What is PEP for HIV?

Post exposure prophylaxis for HIV (PEP HIV)

is a set of preventative services provided to someone exposed to the potential transmission of HIV, through occupational or non-occupational exposure. It includes, when relevant, a course of antiretroviral drugs (ARVs) prescribed to stop the replication of the virus and prevent the development of the infection. PEP for HIV is recommended following accidental occupational exposure to potentially infectious blood or body fluids. In other instances, it may be prescribed after exposure to the virus through sexual contact, for example following sexual violence. It is also important to note that it is the same strategy used to prevent the transmission of the HIV virus from a pregnant mother to her child at birth (PMTCT).

PEP services for HIV prevention are designed to ensure that appropriate care and prescription of drugs if needed. This includes to provide first aid care immediately following the incident, and to report to a responsible person. An experienced and trained service provider should be able to assess the risk, provide the appropriate counselling and, based on the risk assessment decide whether to prescribe ARVs. Testing and follow up with continuous support, counselling and care will help the person to better adhere to PEP. Finally, health-care staff should report the incident in order to protect the right of the worker, as well as to improve workers' safety.

What are the drugs used in PEP?

Discussions are held on the use of two or three drugs regimens in PEP. Based on current knowledge and the availability of potent combinations of drugs, WHO recommends a two-drug regimen unless there is suspicion or evidence of drug resistance, in which instance a third drug may be added. There is no evidence that the three drugs regimen is any more efficacious, while the risk of side effects increases with the addition of a third drug.

These drugs are primarily nucleoside reverse transcriptase inhibitors (NRTIs), ideally prescribed as combination tablets. Protease inhibitors (PI), ideally ritonavir-boosted, should be considered should a third drug be added.

The existence of side effects and adverse events may jeopardize the adherence to PEP for HIV and a substantial proportion of health-care workers (up to 40%) do not complete the full course of drugs⁶. The most common short-

term toxicities reported in a PEP registry of 492 health care workers⁷ included nausea/vomiting, fatigue, headache, and diarrhea. Such intolerance may be prevented or treated with appropriate diet and, if necessary, with drugs prescribed to treat symptoms. Toxicities are rarely reported and are mostly related to nevirapine, which is no longer recommended for PEP.

Is PEP the solution?

The prevention of blood borne diseases depends *much more* on workplace safety than on PEP. These safety measures -the elimination of hazards, sound engineering, administrative and work practice controls such as Standard Precautions, wearing personal protective equipment (PPE) - are more efficient to minimize risks and prevent the transmission of HIV as occupational hazard. From this perspective, PEP should be considered as the last resort and only used when all other HIV risk reduction and prevention methods have failed.

The most common causes⁴ of injuries linked with the transmission of blood borne pathogens occur while recapping needles (16,6%), handling surgical material (16,3%), during phlebotomy (16,1%) and during sharps disposal (8,0%). All of these incidents are preventable and risks can be substantially reduced. Thus, the best way to prevent the transmission of blood borne infections remains the use of Standard Precautions and of best practices for injections and skin piercing procedures. The observance of safety rules and wearing protective equipment is part of standard of care for protecting patients and health care workers safety. To strengthen this, in addition to the "Best Practice on Injection Safety" document (WHO, 2003)⁸ WHO is preparing a toolkit of injection safety best practices.

How does PEP for HIV work and what do we know about PEP efficiency?

PEP for HIV, saves lives, and this is the unique case where ARVs stop the HIV infection. Immediately after exposure, ARV drugs for PEP prevent the replication of the initial viral inoculum, thereby preventing establishment of chronic HIV infection. Immediately after entering the body, HIV replicates for about 72 hours within dendritic cells of the skin and mucosa before spreading through lymphatic

vessels and developing into a systemic infection. Following the transmission of the virus, this 72 hour delay in the virus systemic spread represents a "window of opportunity" for anti-retroviral drugs to prevent HIV⁹.

In order to be effective PEP should be taken **at the right time** (as early as possible and not later than 72 hours after exposure) **at the right dose** (at least two antiretroviral drugs) and should be taken **continuously for 28 days**. PEP effectiveness cannot be assured if there is not full adherence to the treatment.

In a retrospective case-control study of health care professional, the use of a single ARV, zidovudine (ZDV) was associated with a reduction of HIV infection by approximately 81%¹⁰. Based on current regimen, the failure of PEP to prevent HIV infection occurs only rarely and is usually associated with poor adherence.

Health care workers taking PEP should receive the appropriate counselling and support, as well as treatment for side effects in order to assist them to adhere to the full course of ARVs. They also should be aware that even in the best conditions, PEP may not be 100% effective in preventing HIV sero-conversion. Adherence, therefore, is critical.

Promoting and integrating PEP into primary health care: a public health approach for low income settings

For the last decade, PEP has been part of standard of care in many countries. Increasingly, in low income settings where ART has become available, both policy-makers and health care providers have been raising questions about certain aspects of the use of HIV PEP. We hope these guidelines will provide responses to questions relating to policies and programme implementation as well as clinical aspects.

However, PEP will not be made available in countries unless there is a strong commitment on the part of policy makers and health care workers to make PEP an integral part of the HIV prevention care and treatment programmes.

Our aim today is to ensure that all health care workers are appropriately informed about why

.....So, please tell her, tell them, how much you care about workplace safety and do not forget that, while protecting others, to take good care of yourself

We cannot miss this opportunity to warmly thank Julian Gold and Maggy Tomkins who closely contributed to the development of these guidelines.

References

1. Post-exposure prophylaxis to prevent HIV infection. Joint WHO/ILO guidelines on post-exposure prophylaxis (PEP) to prevent HIV infection. Geneva 2008 <http://www.who.int/hiv/pub/guidelines/PEP/en/index.html>
2. E. Rapiti, A. Prüss-Üstün, Y. Hutin Sharps injuries: Assessing the burden of disease from sharps injuries to health-care workers at national and local levels. Geneva, The World Health Organization, 2005 (WHO, Environmental burden of disease series No. 11) www.who.int/quantifying_ehimpacts/publications/ebd11/en/index.html accessed May 8th 2008
3. Young TN, Arens FJ, Kennedy GE, Laurie JW, Rutherford G. Antiretroviral post-exposure prophylaxis (PEP) for occupational HIV exposure. Medical Research Council, South African Cochrane Centre, PO Box 19070, Tygerberg, South Africa, 7505.
4. Mendes R, Rapparini C, Saraceni V, Cruz M, Durovni B; International Conference on AIDS. Profile of occupational exposures and post exposure prophylaxis (PEP) among healthcare workers exposed to HIV-negative source patients in 2.719 exposures reported over 5 years. Int Conf AIDS. 2002 Jul 7-12; 14: abstract no. MoPeD3691
5. WHO Tool Kit Protecting Health-care Workers - Preventing Needlestick Injuries. Geneva 2005 http://www.who.int/occupational_health/activities/pnitoolkit/en/index.html
6. Parkin JM, Murphy M, Anderson J, El-Gadi S, Forster G, Pinching AJ. Tolerability and side-effects of post-exposure prophylaxis for HIV infection. Lancet 2000;355:722--3
7. Bassett I., Freedberg K., Walensky R., Two Drugs or Three? Balancing Efficacy, Toxicity, and Resistance in Post-exposure Prophylaxis for Occupational

- Exposure to HIV. *Clinical Infectious Diseases* 2004;39:395–401
8. WHO. Managing an injection safety policy. March 2003. WHO/BCT/03.01. 12. Hart C, M Usher. Contraceptive Security, What Is It and What Best Practices Achieve. www.who.int/injection_safety/WHOGuidPrinciplesInjEquipFinal.pdf
 9. Panlilio A., Cardo D., Grohskopf L., Heneine W., Ross C. Updated U.S. Public Health Service guidelines for the management of occupational exposures to hiv and recommendations for postexposure prophylaxis. September 30, 2005 / 54(RR09);1-17 and Updated U.S. Public Health Service guidelines for the management of occupational exposures to HBV, HCV, and HIV and recommendations for postexposure prophylaxis June 29, 2001 / 50(RR11);1-42
 10. Cardo DM, Culver DH, Cieselski CA, et al. A case-control study of HIV seroconversion in healthcare workers after percutaneous exposure. *N Engl J Med.* 1997; 337:1485-1490.

Recently got email access?

Changed your email address?

If you received this newsletter in the post, it means you have not supplied your email address or the one you gave us is not working.

Please help to keep our costs down by letting us know if you get access to email or if your address changes.

Email access means your copy of the newsletter is available the day it is published.

The print version of the newsletter may also be smaller than the email version.

More importantly, you can join in email discussions with other members and receive up to date information by email.

Just email us at:
safehands@sesiahs.health.nsw.gov.au

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 at the end of April 2008, we had 155 members of SafeHandS working in 34 countries.

Members work in:

Australia, Cambodia, Canada, China, Cook Islands, East Timor, Fiji, India, Indonesia, Kenya, Kiribati, Lao PDR, Malaysia, Marshall Islands, Nauru, New Zealand, Nigeria, Niue Island, Northern Mariana Islands, Pakistan, Palau, Papua New Guinea, Philippines, Qatar, Samoa, Solomon Islands, Sri Lanka, Taiwan, Thailand, Tonga, Turkey, Tuvalu, Vanuatu 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

Member Profile

To help link and support members, we provide a profile of one of our SafeHandS member.



Name: Mosese Tavaga Seru

B.Biomedical Science
(University of Tasmania, Australia)

Post Graduate Diploma – Pathology
(Charles Sturt University, Australia)

Title: Medical Scientist

Contact Detail: mtseru@kaiviti.com

Describe your current job:

Contract Medical Scientist for Aspen Medical an Australian private health company providing health services to RAMSI and expatriate personnel in the Solomon Islands and Australian Defence Force personnel in East Timor.

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

1983 - Graduated with certificate in Medical Laboratory Technology from Fiji School of Medicine and worked in clinical pathology hospitals around Fiji. In 1996 graduated with a Bachelors degree in Biomedical Science from University of Tasmania. In 2004 graduated with a Post Graduate Diploma in Pathology from Charles Sturt University, Australia. Worked as a Research Assistant for Fiji Ministry of Health Public Health Laboratory from 1998 to 2004. Recruited as a HIV Laboratory Project Officer for GFATM in 2005 –2006 doing confirmation HIV testing for Fiji and the Pacific Region. Resigned in December 2006 to join Aspen Medical.

For 2007, worked with Aspen medical in the Solomon Islands for 5 months. For this year, 2008, just completed 3 months contract with Aspen Medical in the Solomon Islands from Jan-March. Currently in East Timor for 5 weeks and will be back in the Solomon Islands for another 3 months from July-Sept.

Joint WHO/ILO guidelines on post-exposure prophylaxis (PEP)

The *Guidelines on post-exposure prophylaxis (PEP) to prevent HIV infection* from the World Health Organization and International Labour Organization are now available.

The Guidelines include policy and clinical guidelines for PEP for occupational exposure and non-occupational exposure (primarily after sexual assault) and are intended to be able to be used in any setting in any country.

The development of the Guidelines began in September 2005, when a “Joint WHO/ILO expert consultation for the development of policy and guidelines on occupational and non-occupational HIV post-exposure prophylaxis” was held in Geneva.

The objectives of the expert consultation were to review scientific evidence and experience in relation to providing HIV PEP and to develop a consensus on policy and operational guidelines. The consultation focused primarily on the needs of workers and people who have been sexually assaulted.

The advice and recommendations from the consultation represented the collective opinion of experts working in this field based on current available data and form the basis of this publication.

The guidelines consist of both information for policy development and practical clinical guidelines which will be useful for anyone required to assess exposures, prescribe or administer PEP, or support people who have experienced potential exposures to HIV.

The appendices contain several useful tools, such as sample patient information sheets, “scripts” which help health workers to explain PEP and adherence issues to patients, sample patient record forms and indicators which can be used for monitoring and evaluation of PEP programs.

Many aspects of the guidelines can be adapted to suit the users’ local context and resources.

A copy of the Guidelines (2.1MB) can be downloaded from this website:

<http://www.who.int/hiv/pub/guidelines/PEP/en/index.html>

The document is also available on the Safe-HandS website.

The Table of Contents is summarised below.

1. Introduction

- 1.1 Background
- 1.2 Definitions
- 1.3 Rationale for the use of post-exposure prophylaxis
- 1.4 Scope and structure of the guidelines

2. Policy development and implementation

- 2.1 National commitment to develop policy on post-exposure prophylaxis
- 2.2 Addressing legal and human rights issues
- 2.3 Availability of and eligibility for post exposure prophylaxis
- 2.4 Integration of post-exposure prophylaxis into HIV policies and services
- 2.5 Implementing policy on post-exposure prophylaxis
- 2.6 Monitoring and evaluation
- 2.7 Summary: key considerations for developing policy on post-exposure prophylaxis

3. Clinical management of HIV post-exposure prophylaxis

- 3.1 Establishing eligibility for post-exposure prophylaxis
- 3.2 Counselling for post-exposure prophylaxis
- 3.3 Prescribing and dispensing post-exposure prophylaxis medicine
- 3.4 Laboratory evaluation
- 3.5 Record-keeping
- 3.6 Follow-up and support

4. Occupational post-exposure prophylaxis

- 4.1 Background

- 4.2 Policy issues
- 4.3 Clinical management of occupational HIV exposure

5. Post-exposure prophylaxis for people who have been sexually assaulted

- 5.1 Background
- 5.2 Policy issues
- 5.3 Clinical management of people who have been sexually assaulted

References

Further reading

- Annex 1. Training requirements
- Annex 2. Sample scripts for health care providers
- Annex 3. Sample patient information sheets
- Annex 4. Indicators for evaluating HIV post-exposure prophylaxis programmes
- Annex 5. Sample checklists for the clinical management of HIV post-exposure prophylaxis
- Annex 6. Post-exposure prophylaxis for HIV infection: general recommendations on regimen
- Annex 7. Sample documentation templates

Equitable and appropriate access to HIV post exposure prophylaxis (PEP)

Maggy Tomkins

The World Health Organization (WHO) and International Labour Organization (ILO) recently published *Joint WHO/ILO guidelines on post-exposure prophylaxis (PEP) to prevent HIV infection*.¹ The Guidelines include policy and clinical guidelines for PEP for occupational exposure and non-occupational exposure (primarily after sexual assault) and are intended to be able to be used in any setting in any country. Professor Julian Gold and Maggy Tomkins from the Albion Street Centre and the SafeHandS network contributed to the expert

meeting which informed the project and the development of the Guidelines.

The Editorial in this newsletter by Dr Micheline Diepart from WHO, describes the extent of the problem of occupational exposures, what PEP is, what drugs are recommended and what is known about their efficacy.

In developing the Guidelines there were many questions that the Expert Group grappled with before making recommendations. Decisions were based on the scientific evidence available (which in some areas may be incomplete or inconclusive) and considerations of efficiency (whether the intervention is worth doing), equity (ensuring the human rights of all people are considered) and practicality (whether the intervention can be implemented). The Guidelines give recommendations on these issues, but individual governments and institutions will need to consider local implementation strategies when developing policies. Some of the issues for managing occupational exposures to health care workers (HCW) are outlined below.

Prevention, treatment, or prophylaxis

Although access to antiretroviral therapy for people with HIV has increased exponentially in recent years, we still have a situation globally where large numbers of people who are clinically eligible for treatment are not able to access it.² In this context, how can PEP for occupational exposures to HCW be seen as a priority in countries where there are not enough resources to treat all eligible infected people? From a limited pool of resources, how can PEP be supplied without affecting the resources available for prevention or antiretroviral therapy?

A strong ethical argument can be made for providing PEP because it is an intervention which may “preserve life and health”¹, but there may also be other benefits in terms of resources and costs (see next section).

The Guidelines emphasise that although PEP is a secondary prevention measure for HIV, a “balanced prevention portfolio positions PEP as part of a national HIV strategy that emphasizes primary prevention... These services should also be used as an opportunity to reinforce primary prevention behaviour. Providing

PEP should not result in reduction to funding primary prevention efforts.”¹

Cost effectiveness

A question that will inevitably be asked about the provision of PEP after occupational exposure is whether it is beneficial in terms of effectiveness and/or cost.

In terms of effectiveness, the Guidelines conclude: “Prospective, randomized studies to evaluate the efficacy of PEP in preventing HIV are unlikely to ever be conducted because the generally supportive data ... create difficulty in withholding PEP for ethical reasons. In addition, evaluating the efficacy of an intervention aimed at reducing the risk of single incidents of exposure associated with low-risk transmission would require an extremely large sample size” and “Although data on the efficacy of HIV PEP are fairly limited, good evidence suggests that a short course of antiretroviral therapy effectively reduces HIV transmission rates following needlestick exposure.”¹

Cost benefits for what is a fairly costly, but comparatively rarely used intervention, for a low risk event are difficult to measure. However, “policies and measures that help prevent HIV transmission in workers can often be justified based on cost-effectiveness: they have the potential to increase staff retention rates, reduce sickness-related costs and reduce human resources costs for the recruitment and training of new staff.”¹ The continued increased access to antiretroviral treatment for people with HIV can only be implemented with skilled HCW. Maintenance and support of the health workforce in the light of HIV infection is a current World Health Organization (WHO) priority³ (see also *Human Resources for Health* in this newsletter). Fear of HIV infection has been shown to impact on recruitment and retention of HCW.^{3,4} Providing a comprehensive prevention plan – including PEP – is likely to make HCW feel safer and be more likely to stay in the workforce and also more likely to engage in the care of people with HIV.

Appropriate use

One of the issues for the use of PEP is deciding when it should be recommended. It is not uncommon when PEP is first made available in a country for it to be given inappropriately.

For instance, it may be given for any exposure to an HIV positive person – even if the type of exposure carries little or no risk of HIV transmission. The Expert Group grappled with the question of whether there is a reliable risk assessment algorithm that ensures PEP is not given for low risk exposures. The following table is the result and can be used to perform a risk assessment for whether PEP should be recommended.

Recommended eligibility criteria for post-exposure prophylaxis in occupational settings

- (1) less than 72 hours has elapsed since exposure; and
- (2) the exposed individual is not known to be HIV infected; and
- (3) the person who is the source of exposure is living with HIV, or has unknown HIV status; and
- (4) exposure was to blood, body tissues, visibly blood-stained fluid, concentrated virus, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid or amniotic fluid; and
- (5) exposure penetrated the skin with spontaneous bleeding, or deep puncture, or splash of significant amount of fluid to mucous membrane, or prolonged contact of an at risk substance with non-intact skin; and
- (6) if the skin was penetrated, exposure was from a recently used hollow bore needle, or other sharp object visibly contaminated with blood.

Another common source of debate when developing PEP protocols is the role of source assessment. Should PEP only be given if the source is known to be HIV antibody positive? The following is what the Guidelines have to say:¹

“A person who is the source of an exposure only needs to be identified and HIV tested if the results would lead to a change in the exposed worker is clinically managed. If the exposure is assessed as posing no or a very low risk of HIV transmission, the source person does not need to be tested given that PEP would not be prescribed even if the source person were found to be infected with HIV. If, however, the exposure is significant, testing of the source person should be encouraged and carried out according to locally prescribed HIV testing and counseling protocols. ...

“If the source person can be tested and consents to testing, the test results should be taken into account when deciding whether to continue PEP in cases where it has started. Even if the source person is found to be HIV antibody negative at the time of the incident, the probability that the source person is in the window period must be assessed before any decision is made to discontinue PEP.

If the source person’s HIV infection status is unknown at the time of exposure or the source is unable or unwilling to consent to be tested, use of PEP should be decided on a case-by-case basis after considering the type of exposure and the clinical and/or epidemiological likelihood that the source person is HIV infected. Under such circumstances, however, standard precautions require that all source people be regarded as potentially HIV infected and PEP be initiated, if indicated by the severity of exposure. Similarly, in settings where rapid testing techniques are not available, waiting for the results of source testing should not be allowed to jeopardize the timeliness of commencing post-exposure prophylaxis if the source person may be HIV positive, and under such circumstances PEP should therefore be given after significant exposure.”

Resources needed

The Guidelines also consider the minimum requirements (in terms of other support services) needed to be able to offer PEP.

“PEP should never be provided in isolation, but should always form a part of a wider strategy for preventing exposure to HIV. It is also associated with measures to prevent other bloodborne diseases, such as hepatitis B and C.”¹ The following are considered the core services (the Guidelines also list desirable, but not essential, support services):

“HIV PEP services would include, as a core package:

- reporting assistance and possible referral capacity;
- risk assessment;
- counselling services for:

- ◊ providing consent to PEP
- ◊ pre- and post-HIV test counselling (for both the exposed person and the source person)
- ◊ drug adherence and managing side effects
- ◊ preventing the risk of transmission;
- HIV testing, to include:
 - ◊ initial testing of exposed individuals
 - ◊ testing of the source person, when possible;
- providing PEP medication, which includes:
 - ◊ the initial dose (as soon as possible following exposure and preferably within 72 hours)
 - ◊ the full course (28 days of treatment);
- support and follow-up; and
- appropriate record-keeping and documentation”¹

The Guidelines recommend that PEP programs are implemented even when there is no national antiretroviral therapy treatment program. “Where antiretroviral therapy is not yet available, the availability of PEP may help to prevent new infections and will encourage health care workers and other workers to care for people living with HIV. Providing [PEP] may also be an opportunity to strengthen health systems in preparation for subsequent antiretroviral therapy and/or programmes for preventing mother-to-child transmission, for example, by developing systems to provide information on HIV prevention and testing (voluntary counselling and testing as well as provider-initiated testing and counselling) to procure medicine and to train health care workers.”¹

References

1. World Health Organization. *Post-exposure prophylaxis to prevent HIV infection: Joint WHO/ILO guidelines on post-exposure prophylaxis (PEP) to prevent HIV infection*. Geneva. 2007. <http://www.who.int/hiv/pub/guidelines/PEP/en/index.html>
2. UNAIDS. *2007 UNAIDS Annual report*. 2008 http://data.unaids.org/pub/Report/2008/jc1535_annual_report07_en.pdf
3. World Health Organization *Taking stock: Health worker shortages and the response to AIDS*. Geneva. 2006. <http://www.who.int/hiv/pub/advocacy/ttr/en/index.html>
4. International Council of Nurses. *Positive practice environments: quality workplaces = quality patient care*. 2007. <http://www.icn.ch/indkit2007.pdf>, and *Occupational Health and Safety Management Programme for Nurses*. 2007. www.icn.ch/guideline_occupationalhealth.pdf

Other useful resources for occupational post exposure prophylaxis

Gold J, Tomkins M, Melling P, Bates N. *Guidance Note on Health Care Worker Safety from HIV and other Blood Borne Infections.* May 2004. The World Bank
<http://www.uow.edu.au/content/groups/public/@web/@health/documents/doc/uow025378.pdf>
 (Note this is a 4.3mb file).

Abstract: The safety of health care workers (HCWs) who take care of people with HIV/AIDS and other infectious diseases is of paramount importance. Occupational transmission of blood borne infections is not regarded as a common problem in developed country settings, but this is not the case in resource poor countries where the incidence and impact of such exposures is under-reported and is now becoming appreciated as an important risk factor for HCWs. It is generally assumed that protection from occupational exposures requires expensive equipment which is not reasonable for resource poor healthcare services. However, appropriately designed education and training, in combination with relatively low-cost technologies have the potential for both reducing injuries and increasing the confidence of HCWs in providing essential care for their patients.

Contains sections on the scope of the problem, developing health care worker safety guidelines and formulating strategies. Checklists for prioritising measures to increase health care worker safety by cost and assessing health care worker safety are included as appendices.

Gold J, Tomkins M. *Occupational post exposure prophylaxis for HIV: A discussion paper, prepared for the technical meeting for the development of guidelines and policies on occupational and non-occupational post exposure prophylaxis, WHO/ILO, Geneva, 5-7 September 2005.* September 2005
<http://www.uow.edu.au/content/groups/public/@web/@health/documents/doc/uow025491.pdf>

Discussion paper on the use of post exposure prophylaxis (PEP) after occupational exposures. Summarises some of the difficult and controversial issues in making PEP more widely available in resource constrained settings.

SafeHandS

..Information, support and practical solutions to promote health care worker safety in the Asia Pacific

Rapiti E, Pruss-Ustun A & Hutin Y. *WHO Environmental Burden of Disease Series, No. 11. Sharps injuries: assessing the burden of disease from sharps injuries to health-care workers at national and local levels.* 2005

http://www.who.int/quantifying_ehimpacts/global/7sharps.pdf

Background: We estimated the global burden of hepatitis B (HBV), hepatitis C (HCV) and human immunodeficiency virus (HIV) infection due to percutaneous injuries among health care workers (HCWs).

Methods: We modelled the incidence of infections attributable to percutaneous injuries in 14 geographical regions on the basis of the probability of injury, the prevalence of infection, the susceptibility of the worker and the percutaneous transmission potential. The model also provided the attributable fractions of infection in HCWs.

Results: Overall, 16,000 HCV, 66,000 HBV and 1,000 HIV infections may have occurred in the year 2000 worldwide among HCWs due to their occupational exposure to percutaneous injuries. The fraction of infections with HCV, HBV and HIV in HCWs attributable to occupational exposure to percutaneous injuries fraction reaches 39%, 37% and 4.4% respectively.

Conclusions: Occupational exposures to percutaneous injuries are substantial source of infections with bloodborne pathogens among health-care workers. These infections are highly preventable and should be eliminated.

Australian National Council on AIDS, Hepatitis and Related Diseases. *Bulletin* 29 :

Management of Exposures to HIV/AIDS in a Health Care Setting. 2002
<http://www.uow.edu.au/content/groups/public/@web/@health/documents/doc/uow025471.pdf>

Guidelines for managing occupational exposures in health care settings in Australia. It covers steps to take following the exposure over 6 months (from first aid immediately after the exposure to follow up serology 6 months after). (4 pages).

Centers for Disease Control Updated U.S. Public Health Service guidelines for the management of occupational exposures to HBV, HCV, and HIV and recommendations for post-exposure prophylaxis *Morbidity and Mortality Weekly* September 30 /54(RR-9). 2005: 1-24. <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5409a1.htm>

Evidence-based document which provides detailed information about occupational exposures (risks and management) and post exposure prophylaxis (rationale and efficacy).

Young T, Arens F, Kennedy G, Laurie J, Rutherford G. *Antiretroviral post-exposure prophylaxis (PEP) for occupational HIV exposure (Review)*. 2007 http://www.mrw.interscience.wiley.com/cochrane/clsystrev/articles/CD002835/pdf_fs.html

Literature review of all published controlled and analytical studies of use occupational post exposure prophylaxis from 1985 – 2005.

Human Resources for Health

Global forum

The First Global Forum on Human Resources for Health was held in Kampala, 2-7 March 2008 with nearly 1500 participants.

Delegates from the 57 countries identified by WHO as undergoing an acute crisis attended the Forum, which was hosted by the Government of Uganda and organised by the Global Health Workforce Alliance. Representatives and experts from the United Nations and international agencies, countries, health worker associations, civil society and academia also participated.

“The critical shortage of health workers across the world has been identified as one of the most fundamental constraints to improving health systems and to achieving international health and development goals. The World Health Organization (WHO) estimates there is a shortage of more than 4 million health workers globally, with one million needed in Africa alone.” (Media Advisory 25/2/08.)

More information about the Forum can be found on the website, (<http://www.who.int/workforcealliance/forum/en/>) which includes documents, media releases, and the winning and commended photos submitted from the competition “Daily life of a health worker”.

Endorsed documents from the meeting are the Kampala Declaration (text reproduced in full below) and *Health Workers for All and All for Health Workers: An Agenda for Global Action*.

“The agenda for global action is built around six fundamental and interconnected strategies, based on previous actions and commitments.

The six interconnected strategies are:

1. Building coherent national and global leadership for health workforce solutions
2. Ensuring capacity for an informed response based on evidence and joint learning
3. Scaling up health worker education and training
4. Retaining an effective, responsive and equitably distributed health
5. Managing the pressures of the international

workforce market and its impact on migration

6. Securing additional and more productive investment in the health workforce”
http://www.who.int/workforce_alliance/forum/1_agenda4GAction_final.pdg

Health Workers for All and All for Health Workers

The Kampala Declaration and Agenda for Global Action Declaration

http://www.who.int/workforcealliance/Kampala_declaration_final.pdf

We, the participants at the first Global Forum on Human Resources for Health in Kampala, 2-7 March 2008, and representing a diverse group of governments, multilateral, bilateral and academic institutions, civil society, the private sector, and health workers' professional associations and unions;

Acknowledging that the enjoyment of the highest attainable standard of health is one of the fundamental human rights;

Recognizing the need for immediate action to resolve the accelerating crisis in the global health workforce, including the global shortage of over 4 million health workers needed to deliver essential health care;

Recognizing the devastating impact that HIV/AIDS has on health systems and the health workforce, which has compounded the effects of the already heavy global burden of communicable and non-communicable diseases, accidents and injuries and other health problems, and delayed Development Goals;

Recognizing that in addition to the effective health system, there are other determinants to health;

Aware that we are building on existing commitments made by global and national leaders to address this crisis, and desirous and committed to see immediate and urgent actions taken;

Now call upon:

1. Government leaders to provide the stewardship to resolve the health worker crisis,

- involving all relevant stakeholders and providing political momentum to the process.
2. Leaders of bilateral and multilateral development partners to provide coordinated and coherent support to formulate and implement comprehensive country health workforce strategies and plans.
 3. Governments to determine the appropriate health workforce skill mix and to institute coordinated policies, including through public private partnerships, for an immediate, massive scale-up of community and mid-level health workers, while also addressing the need for more highly trained and specialized staff.
 4. Governments to devise rigorous accreditation systems for health worker education and training, complemented by stringent regulatory frameworks developed in close cooperation with health workers and their professional organizations.
 5. Governments, civil society, private sector, and professional organizations to strengthen leadership and management capacity at all levels.
 6. Governments to assure adequate incentives and an enabling and safe working environment for effective retention and equitable distribution of the health workforce.
 7. While acknowledging that migration of health workers is a reality and has both positive and negative impact, countries to put appropriate mechanisms in place to shape the health workforce market in favour of retention. The World Health Organization will accelerate negotiations for a code of practice on the international recruitment of health personnel.
 8. All countries will work collectively to address current and anticipated global health workforce shortages. Richer countries will give high priority and adequate funding to train and recruit sufficient health personnel from within their own country.
 9. Governments to increase their own financing of the health workforce, with international institutions relaxing the macro-economic constraints on their doing so.
 10. Multilateral and bilateral development partners to provide dependable, sustained and adequate financial support and immediately to full fill existing pledges concerning health and development.
 11. Countries to create health workforce information systems, to improve research and to develop capacity for data management in

order to institutionalize evidence-based decision-making and enhance shared learning.

12. The Global Health Workforce Alliance to monitor the implementation of this Kampala Declaration and Agenda for Global Action and to re-convene this Forum in two years' time to report and evaluate progress.

Special issue of The Lancet

In conjunction with the Forum, a special issue of The Lancet was published on 23 February 2008 (volume 371, issue 9613). Here is a selection of relevant articles from the table of contents.

- Editorial: Finding solutions to the human resources for health crisis: 623
- Human resources for global health: time for action is now: 625-6 Francis Omaswa
- Human resources for health in fragile states: 626-7 Linda Doull, Fiona Campbell
- Africa's neglected surgical workforce crisis: 627-8 Doruk Ozgediz, Stephen Kijjambu, Moses Galukande, Gerald Dubowitz, Jackie Mabweijano, Cephas Mijumbi, Meena Cherman, Sam Kaggwa, Sam Luboga
- Lack of evidence hampers human-resources policy making: 629-30 William Pick
- Training programmes for field epidemiology: 630-1 Peter Nsubuga, Mark White, Robert Fontaine, Patricia Simone
- Book: Understanding women's contribution to the health workforce: 641-2 Mario R Dal Poz
- Francis Omaswa: tackling the shortage of health workers: 643 Joseph J Schatz
- Effects of policy options for human resources for health: an analysis of systematic reviews: 668-74 Mickey Chopra, Salla Munro, John N Lavis, Gunn Vist, Sara Bennett
- Training the health workforce: scaling up, saving lives: 689-91 Nigel Crisp, Bience Gawanas, Imogen Sharp, Task Force for Scaling Up Education and Training for Health Workers
- Planning and costing human resources for health: 693-5 Amanda Glassman, Loren Becker, Marty Makinen, David de Ferranti

Asia Pacific Action Alliance on Human Resources for Health (AAAH)

<http://aaahrh.org>

From the website: "**The Asia Pacific Action Alliance on Human Resources for Health (AAAH)** is a response to international recognition of the need for global and regional action to strengthen country planning and action on health workforce system. As of January 2007 it has 15 members including Bangladesh, Cambodia, China, Fiji, India, Indonesia, Lao PDR, Myanmar, Nepal, PNG, Philippines, Samoa, Sri Lanka, Thailand, and Vietnam. There are 5 priority actions for the first two years including: HRH advocacy, information monitoring, capacity strengthening, knowledge generation, and technical co-ordination."

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: **Needlestick injuries in a major teaching hospital: The worthwhile effect of hospital-wide replacement of conventional hollow-bore needles**

Authors: Whitby M, McLaws M-L, et al

Date: February 2008

Source: American Journal of Infection Control 36(3):180-6

Country: Australia

Abstract: *Background:* Needlestick injury (NSI) with hollow-bore needles remains a significant risk of bloodborne virus acquisition in health care workers. The impact on NSI

rates after substantial replacement of conventional hollow-bore needles with the simultaneous introduction of safety-engineered devices (SEDs) including retractable syringes, needle-free intravenous (IV) systems, and safety winged butterfly needles was examined in an 800-bed Australian university hospital.

Methods: NSIs were prospectively monitored for 2 years (2005-2006) after the introduction of SEDs and compared with prospectively collected preintervention NSI data (2000-2004).

Results: Preintervention hollow-bore NSI rates over 10 years persisted at a constant rate between 3.01 and 3.77 per 100 full-time equivalent employees (FTE) ($P = .31$). Rates for 2005 (1.93; 95% CI: 1.48-2.47 per 100 FTE) and 2006 (1.50; 95% CI: 1.11-1.97 per 100 FTE) were significantly lower than the average rate for the preintervention years (3.39; 95% CI: 2.7-4.24 per 100 FTE, $P = .00004$). This represents a fall of 49% (43.1%-55.7%) in hollow-bore NSI, contributed to by the virtual elimination of NSI related to accessing IV lines. More importantly, high-risk injuries were also reduced 57% by retractable syringe use with an overall budgetary increase of approximately US \$90,000 per annum.

Conclusion: Introduction of SEDs results in an impressive fall in NSI with minimal cost outlay.

Title: **Sharps injury and body fluid exposure among health care workers in an Australian tertiary hospital**

Authors: Peng B, Tully P, et al.

Date: 2008

Source: Asia-Pacific Journal of Public Health 20(2):139-147

Country: Australia

Abstract: To examine sharps injury and body fluid exposure among health care workers, a descriptive epidemiological study was conducted in a 1000-bed tertiary hospital between 2000 and 2003 using surveillance data of all reported sharps injuries and body fluid exposures. A total of 640 sharps injuries and body fluid exposures were reported from hospital and nonhospital staff, although no seroconversions to HIV, hepatitis B virus, or

hepatitis C virus were observed during the study period. Nurses reported 47% of sharps injuries and 68% of body fluid exposures, medical staff reported 38% and 16%, and other nonmedical staff notified 5% and 4%, respectively, while nonhospital staff reported the rest. Hollow-bore needles accounted for 56% of sharps injuries, while 11% of the incidents were sustained during recapping and inappropriate disposal. Further research into Australian work practices, disposal systems, education strategies, and the use of safety sharps should be emphasized to implement strategies to reduce work-related injuries among health care workers.

Title: **Impact of Severe Acute Respiratory Syndrome and the perceived Avian Influenza epidemic on the increased rate of influenza vaccination among nurses in Hong Kong**

Authors: Tam D, Lee S-S, et al.

Date: March 2008

Source: Infection Control and Hospital Epidemiology 29:256-261

Country: China (Hong Kong)

Abstract: **Objective:** To determine the rate of influenza vaccination and the factors associated with the vaccination's acceptance among nurses in Hong Kong.

Design: Cross-sectional survey.

Participants: Nurses practicing between 2003 and 2007.

Methods: A questionnaire was sent to all nurses registered with any of the 3 nursing associations that participated in this study.

Results: A total of 941 completed questionnaires were available for analysis, though not all nurses responded to every question (response rate, 33.5%-36.3%). Vaccination rates in 2006 and 2007 were 57.2% and 46.2%, respectively. Nurses who were vaccinated in 2006 were more likely to get vaccinated in 2007 (); 56% of the nurses perceived influenza vaccine as being effective against influenza. The perceived effectiveness of influenza vaccine was a consistent

predictor of rates of vaccination in 2006 (odds ratio [OR], 8.47 [95% confidence interval {CI}, 6.13-11.70];) and 2007 (OR, 6.05 [95% CI, 3.79-9.67];). Concern about contracting avian influenza was a predictor of the vaccination rate in 2006 but not in 2007 (OR, 1.47 [95% CI, 1.03-2.09];), as was the perceived lack of control over avian influenza infection (OR, 1.52 [95% CI, 1.06-2.18];).

Conclusions: The overall influenza vaccination rate for nurses in Hong Kong was about 50%. It was affected by the perceived threat of an impending outbreak. The attitudes of nurses toward the effectiveness of and rationale for vaccination were a major barrier to increasing the rate of vaccination.

Title: **Percutaneous injuries among medical interns and their knowledge & practice of post-exposure prophylaxis for HIV**

Authors: Chacko J. Isaac R

Date: April – June 2007

Source: Indian Journal of Public Health 51 (2):127-9

Country: India

Abstract: This was a prospective, questionnaire-based study to determine the incidence of percutaneous injury among medical interns in a tertiary care hospital in Punjab. The incidence of percutaneous injury among interns was found to be 157.89 per 100 person-years. Of 38 interns, 31 (81.6%) experienced a lot of anxiety with regard to their occupational risk of contracting HIV, 23 (60.5%) felt that there was no easy availability of materials in the wards to take universal precautions and 17 (44.7%) felt they were not well informed about what to do in case of an occupational exposure to HIV. 7.9% interns always took universal precautions with every patient. Lack of time, lack of materials and emergency situations were the major reasons why universal precautions were not taken at times. 12 out of 38 (31.6%) interns correctly knew when PEP should ideally be initiated.

Title: **Perception of risk and potential occupational exposure to HIV/AIDS among medical interns in Delhi**

Authors: Lal P, Singh M, et al.

Date: June 2007

Source: Journal of Communicable Diseases 39(2):95-9

Country: India

Abstract: A cross sectional study was conducted among 129 medical interns of Maulana Azad Medical College, New Delhi for assessing the perceived levels of risk of acquiring HIV infection in the health care settings among medical interns, reasons for the same and their exposure to situations having potential of HIV transmission. Majority of the interns (68.3%) perceived themselves to be at a very high/high risk of acquiring HIV infection during their medical career. The common reasons for perceived risk of acquiring HIV infection were getting injuries due to needle pricks/cuts during surgical procedures (32.4%), frequent exposure to the blood/ secretions of patients (28.5%) and insufficient availability of gloves (17.6%). Some (23.2%) were of the opinion that students in future might lose interest in the medical profession due to increasing risk of HIV infection and few (3.1%) were even considering to leave the medical profession for the same reason. Majority of the interns (72.9%) had experienced needle pricks and more than half (53.7%) of them even had had blood splashes in their eyes/ nose/ mouth during surgical procedures. The findings of the study call for efforts for bringing a reduction in the risk perception of the interns through awareness campaigns and reorientation trainings, ensuring availability of gloves and other items necessary for observing universal work precautions and proper disposal of potentially contaminated articles.

Title: **Impact of hospital accreditation on infection control programs in teaching hospitals in Japan**

Authors: Sekimoto M, Imanaka Y, et al.

Date: April 2008

Source: American Journal of Infection Control 36(3):212-9

Country: Japan

Abstract: *Background:* In Japan, hospital infection control (IC) programs are frequently under-resourced, whereas their improvement is considered a pressing issue. Hospital accreditation may have a positive impact on IC program performance. The Japan Council for Quality Health Care (JCQHC) is a hospital accreditation organization that now prescribes broad elements of IC as part of its accreditation standards.

Methods: We sent questionnaire surveys to all teaching hospitals in Japan to characterize the current situation of hospital IC activities and identify the impact of accreditation on IC infrastructure and performance. The self-administered questionnaire that we used was developed based on the JCQHC accreditation standards. Surveys were sent to all institutions in 2004 and again in 2005.

Results: Of the 638 hospitals surveyed, 335 (52%) answered in both years. Most IC practitioners in Japanese teaching hospitals were working part time and spent limited hours performing IC duties. Surveillance was poorly implemented in Japan, and IC activities without evidence of effectiveness were widely performed. Surveillance was implemented more frequently in hospitals with adequate IC staffing. Improvement in IC infrastructure and performance between the surveys was larger in the newly accredited hospitals than the others.

Conclusions: Hospital accreditation had a significant impact on hospitals' IC infrastructure and performance.

Title: **Protection provided by clothing and textiles against potential hazards in the operating theatre**

Authors: Laing R

Date: 2008

Source: International Journal of Occupational Safety and Ergonomics 14 (1): 107-15

Country: New Zealand

Abstract: The typical hospital and operating theatre present multiple potential hazards to both workers and patients, and protection against some of these is provided through use of various forms of clothing and textiles. While many standards exist for determining the per-

formance of fabrics, most tests are conducted under laboratory conditions and against a single hazard. This paper provides an overview of selected developments in the principal properties of fabrics and garments for use in these workplaces, identifies the key standards, and suggests topics for further investigation.

Title: **National incidence of percutaneous injury in Taiwan healthcare workers**

Authors: Shiao J, Lin M, et al

Date: April 2008

Source: Research in Nursing and Health 31 (2):172-9

Country: Taiwan

Abstract: We established a standardized surveillance system using the Chinese Exposure Prevention Information Network to estimate the frequency of percutaneous injuries (PCIs) in Taiwanese healthcare workers (HCWs). Fourteen hospitals employing 8,132 HCWs participated and a total of 583 PCIs were reported. The annual number was estimated to be 8,058 PCIs per hospital size, 8,100 per HCWs, and 8,286 per inpatient-day; indicating similar estimates using different denominators. The estimated annual frequency of pathogen-specific PCIs was 1,168 for hepatitis B, 1,263 for hepatitis C, and 59 for HIV. This study documents the annual incidence of PCI among HCWs showing important potential exposure to viral hepatitis and HIV in Taiwan.

Title: **The effect of nondevice interventions to reduce needlestick injuries among health care workers in a Thai tertiary care center (Letter)**

Authors: Apisarnthanarak A, Babcock HM, et al

Date: February 2008

Source: American Journal of Infection Control 36(1):74-5

Country: Thailand

Extract: *To the Editor* — It is estimated that more than 380,000 needlestick injuries (NSIs) are reported by hospital staff members each year in the United States. In developing countries, health care workers (HCWs) face

even greater risks because of the higher prevalence of bloodborne pathogens and the use of certain medical equipments, such as nonretracting finger-stick lancets and glass capillary tubes to test for common tropical diseases. Although safety-engineered devices have been incorporated to help reduce NSIs in the United States, the role of such devices in developing countries remains controversial.

To evaluate the effect of nondevice interventions on NSIs rate in a Thai tertiary care center, we performed a hospital-wide, 1-year pre- (January 1-December 31, 2005; period 1) and 1-year postinterventional study (January 1-December 31, 2006; period 2)....

Our study suggests that nondevice interventions, such as use of safety sharps disposal containers, education about avoiding needle recapping, training related to preventing exposures, and approaches that incorporate administrative and workplace controls can help reduce NSIs in a developing country.

Title: **Cytomegalovirus mononucleosis after percutaneous injury in a Thai medical student (Letter)**

Authors: Apisarnthanarak A, Mundy L

Date: April 2008

Source: American Journal of Infection Control 36(3):228-9

Country: Thailand

Extract: *To the Editor* — Transmission of more than 20 different bloodborne pathogens by injuries due to sharp instruments, medical devices, and needlesticks has been reported. Health care workers (HCWs) in middle-income and developing countries face an even greater risk because of the higher prevalences of hepatitis B virus (HBV), hepatitis C virus (HCV), and HIV. In addition, certain medical devices used to test for common tropical diseases, including nonretracting fingerstick lancets and glass capillary tubes, increase the risk for occupational injuries and transmission of bloodborne pathogens (Fig 1). Here we report the first documented case of cytomegalovirus (CMV) mononucleosis after a percutaneous needlestick injury (NSI) in a Thai medical student.

Title: **Impact of Knowledge and Positive Attitudes About Avian Influenza (H5N1 Virus Infection) on Infection Control and Influenza Vaccination Practices of Thai Healthcare Workers**

Authors: Apisarnthanarak A, Phattanakeit-chai P, et al

Date: May 2008

Source: Infection Control and Hospital Epidemiology 36(5):472-4

Country: Thailand

Extract: *To the Editor* — Few data are available concerning healthcare workers' (HCWs') knowledge and attitudes regarding avian influenza (H5N1 virus infection) and what effect their knowledge and attitudes have on infection control practices for suspected or documented cases of infections spread by droplet or airborne transmission and on influenza vaccination practices in an area where H5N1 is endemic. We designed a cross-sectional survey that collected data on these factors to guide the development of public health policy for prevention of the transmission of influenza in healthcare settings during a pandemic.

Title: **Variation in interpretation and counselling of blood exposure incidents by different medical practitioners**

Authors: van Wijkabc P, Pelk-Jongena M, et al

Date: March 2008

Source: American Journal of Infection Control 36(2):123-8

Country: The Netherlands

Abstract: *Background:* Blood exposure incidents pose a risk for transmission of bloodborne pathogens for both health care workers and public health. Despite several national and international guidelines, counsellors have often different opinions about the risks caused by these incidents. Little is known about the consequences of these variations in risk assessment on the effectiveness of the treatment and the costs for the health care system.

Methods: The aim of this study was to reveal

differences among diverse groups of counsellors in assessing the same blood exposure incidents. Subjects included 4 different kinds of counsellors: public health physicians from infectious disease departments and medical microbiologists, occupational health practitioners, and HIV/AIDS specialists from hospital settings. Surveys with cases of blood exposure incidents were sent to the counsellors in The Netherlands asking questions about their risk assessment and consequent treatment. Questions were categorized for hepatitis B virus (HBV), hepatitis C virus (HCV), and HIV risks.

Results: Of the 449 surveys sent, 178 were returned, of which 158 were eligible for the study. In general, occupational health practitioners and medical microbiologists showed a more rigorous approach especially with regard to prophylactic treatment when counselling HBV risk situations, whereas public health physicians and HIV/AIDS specialists were more thorough in the handling of HCV risk accidents. In HIV counselling, HIV/AIDS specialists were far more rigorous in their treatment than the other groups. For 7 of the total of 12 cases, the risk assessment with regard to HBV, HCV, and HIV differed significantly.

Conclusion: The assessment of blood exposures significantly differs depending on the medical background of the counsellor handling the incident, leading to remarkable inconsistencies in the response to prevent the transmission of bloodborne pathogens and/or to increased costs for unnecessary diagnostic tests and preventive measures. Although national guidelines for the counselling and treatment of blood exposure incidents are essential, the assessment of blood exposure incidents should be limited to as few as possible, well-trained professionals, operating in regional or national call centers, to ensure comparable assessment and corresponding application of preventive measures for all victims.

Title: **Glove punctures in major and minor orthopaedic surgery with double gloving**

Authors: Ersozlu S, Sahin O, et al.

Date: December 2007

Source: Acta Orthopaedica Belgica 73 (6):760-4

Country: Turkey

Abstract: We assessed the frequency of glove perforation during major and minor orthopaedic surgeries, in order to determine the efficacy of double gloving. A total number of 1528 gloves (622 inner and 906 outer) used in 200 procedures (100 major-100 minor), and 100 pairs of unused gloves were examined. Glove perforation rate, incidence among surgical team, location of perforation and duration of surgery were compared. The overall perforation rate was 15.8% (242/1528). Perforation rates for major versus minor surgical procedures were 21.6% and 3.6%, respectively. The perforation rate for the unused control group was 1% (2/200). Inner-outer gloves perforation rates were 3.7% (23/622) and 22.7% (206/906), respectively. Surgeons had a higher perforation rate compared with the other staff. The right thumb and left index finger had more punctures than other fingers. Routine use of double gloving during orthopaedic procedures is recommended, because this significantly reduces the perforation of inner gloves.

Title: **Evaluation of a novel 'needlecatcher' surgical instrument designed to reduce the incidence of needle stick injuries from suture needles during skin suturing. (Letter)**

Authors: Mckenna D, McGlennon S, et al.

Date: March 2008

Source: British Journal of Dermatology 158 (3):649-51

Country: United Kingdom

Extract: SIR, The use of a 'no touch' technique has been advocated as a method to reduce the incidence of glove perforation and needle stick injury during suture needle adjustment. This involves the use of forceps held in the nondominant hand, in the reloading and

adjustment of the suture needle into the needle driver. The needle driver is held in the dominant hand. While this method avoids any direct contact between the surgeon's gloved fingers and the suture needle, it does not prevent the needle point from being exposed while the needle is held in the forceps.

The needle point is therefore still capable of causing needle stick injury to the surgeon's dominant hand, the assistant, or the patient. This could be a particular risk while extending or crossing the arms during suture knot tying. When the skin hook is used to assist with suturing, the needle is usually passed from needleholder to the surgeon's fingers during knot tying. We have been evaluating a novel device, currently in development, designed to capture the suture needle point within an enclosed barrel during knot tying and re-loading of the needle into the needle driver.

Title: Development of an observational measure of healthcare worker hand-hygiene behaviour: the hand-hygiene observation tool (HHOT)

Authors: McAteer J, Stone S, et al.

Date: March 2008

Source: Journal of Hospital Infection 68(3): 222-229

Country: United Kingdom

Summary: Previous observational measures of healthcare worker (HCW) hand-hygiene behaviour (HHB) fail to provide adequate standard operating procedures (SOPs), accounts of inter-rater agreement testing or evidence of sensitivity to change. This study reports the development of an observational tool in a way that addresses these deficiencies. Observational categories were developed systematically, guided by a clinical guideline, previous measures and pilot hand-hygiene behaviour observations (HHOs). The measure, a simpler version of the Geneva tool, consists of HHOs (before and after low-risk, high-risk or unobserved contact), HHBs (soap, alcohol hand rub, no action, unknown), and type of HCW. Inter-observer agreement for each category was assessed by observation of 298 HHOs and HHBs by two independent observers on acute elderly and intensive care units. Raw agreement (%) and

Kappa were 77% and 0.68 for HHB; 83% and 0.77 for HHO; and 90% and 0.77 for HCW. Inter-observer agreement for overall compliance of a group of HCWs was assessed by observation of 1191 HHOs and HHBs by two pairs of independent observers. Overall agreement was good (intraclass correlation coefficient = 0.79). Sensitivity to change was examined by autoregressive time-series modelling of longitudinal observations for 8 months on the intensive therapy unit during an *Acinetobacter baumannii* outbreak and subsequent strengthening of infection control measures. Sensitivity to change was demonstrated by a rise in compliance from 80 to 98% with an odds ratio of increased compliance of 7.00 (95% confidence interval: 4.02–12.2) $P < 0.001$.

Title: The national study to prevent blood exposure in paramedics: exposure reporting

Authors: Boal WL, Leiss JK, et al.

Date: March 2008

Source: American Journal of Independent Medicine 51(3):213-22

Country: USA

Abstract: *Background:* This survey was conducted to provide national incidence rates and risk factors for exposure to blood among paramedics. The present analysis assesses reporting of exposures to employers.

Methods: A questionnaire was mailed in 2002-2003 to a national sample of paramedics selected using a two-stage design. Information on exposure reporting was obtained on the two most recent exposures for each of five routes of exposure.

Results: Forty-nine percent of all exposures to blood and 72% of needlesticks were reported to employers. The main reason for under-reporting was not considering the exposure a "significant risk." Females reported significantly more total exposures than males. Reporting of needlesticks was significantly less common among respondents who believed most needlesticks were due to circumstances under the worker's control. Reporting was non-significantly more common among workers who believed reporting exposures helps management prevent future

exposures. Reporting may have been positively associated with workplace safety culture.

Conclusions: This survey indicates there is need to improve the reporting of blood exposures by paramedics to their employers, and more work is needed to understand the reasons for under-reporting. Gender, safety culture, perception of risk, and other personal attitudes may all affect reporting behavior.

Title: **Laboratory-acquired vaccinia exposures and infections--United States, 2005-2007**

Authors: Centers for Disease Control and Prevention (CDC).

Date: April 2008

Source: Morbidity and Mortality Weekly Report (MMWR)18;57(15):401-4

Country: USA

Abstract: The last case of naturally acquired smallpox disease, caused by the orthopoxvirus variola virus (VARV), occurred in 1977, and the last laboratory-acquired case occurred in 1978. Smallpox was eradicated largely as the result of a worldwide vaccination campaign that used the related orthopoxvirus, vaccinia virus (VACV), as a live virus vaccine. Routine childhood vaccination for smallpox in the United States was terminated by 1972, but vaccination continues or has been re-introduced for specific groups, including laboratory workers who may be exposed to orthopoxviruses, members of the military, selected health-care workers, and first responders. Severe complications of VACV infection can occur, particularly in persons with underlying risk factors, and secondary transmission of VACV also can occur. VACV is used in numerous institutions for various research purposes, including fundamental studies of orthopoxviruses and use as a vector for the expression of foreign proteins (often antigens or immunomodulators) in eukaryotic cells and animal models. The widespread use of VACV for research has resulted in laboratory-acquired VACV infections, some requiring hospitalization. The current Advisory Committee on Immunization Practices (ACIP) guidelines recommend VACV vaccination for laboratory workers who handle cultures or animals contaminated or infected with non-highly attenuated VACV strains or other

orthopoxviruses that infect humans. This report describes five recent occurrences of laboratory-acquired VACV infections and exposure and underscores the need for proper vaccination, laboratory safety, infection-control practices, and rapid medical evaluation of exposures in the context of orthopoxvirus research.

Title: **Blunt suture needle use in laceration and episiotomy repair at vaginal delivery**

Authors: Mornar SJ, Perlow JH.

Date: January 4th 2008

Source: American Journal of Obstetrics and Gynecology [Epub ahead of print]

Country: USA

Abstract:

Objective: By surveying obstetricians regarding the use of blunt suture needles for laceration and episiotomy repair, the purpose of this study was to determine whether blunt suture needles represent a safe and effective alternative to sharp needles.

Study Design: Blunt suture needles were made available at our institution for repairs at vaginal delivery. Participating physicians indicated their personal history of needlestick injuries and rated the blunt suture needle after completing the repair. Categorical variables were analyzed using Fisher's exact test and a 2-tailed $P < .05$ was considered significant.

Results: Attending and resident physicians completed 80 surveys, and 83% reported previous needlestick injuries. Blunt suture needles were rated as excellent or good by 92.5% (95% confidence interval 84.6 to 96.5%). No needlestick injuries occurred.

Conclusion: In an effort to reduce needlestick injuries, the use of blunt suture needles is safe and effective for repairs at vaginal delivery.

Title: **Needlesticks and surgical residents: who is most at risk?**

Authors: Brasel K, Mol C, et al.

Date: November-December 2007

Source: Journal of Surgical Education 64 (6):395-8.

Country: USA

Abstract:

Objective: Exposure to blood-borne diseases remains an occupational risk. Mandates have improved training in how to report exposures for all health-care workers. How exposure rates of surgical residents correlate with experience and mandatory training to reduce risk is not known. It was hypothesized that enhanced training would result in an increased reporting of exposures by surgical trainees and that risk would be greater in the first years of training.

Design: Retrospective review of occupational health records and operative case logs, prospective survey.

Methods: Occupational Health Services provides both initial and annual training to General Surgery house staff at the Medical College of Wisconsin. Initial training consists of a blood-borne pathogen review and a detailed explanation of exposure reporting. Mandatory annual training is provided during Surgical Grand Rounds. Training was enhanced beginning June 2005 using a videotape outlining surgical risks and specific counter-measures. The numbers of reported exposures per year before and after enhanced training were compared. Exposures were self-reported. As most exposures occurred in the operating room, rate of exposure was calculated for each year of training using the total number of cases done each year reported by the general surgical residents.

RESULTS: Surgical residents reported 118 needlestick injuries over 6 years. Senior and chief residents demonstrated a significantly lower exposure rate than junior residents (nonparametric Mood's median test, $p < 0.0001$). No significant difference in the injury rate was found per 1000 cases after enhanced training.

Conclusions: Increasing surgical experience

lowered the needlestick injury rate. Assuming no change in self-reporting rates by year, enhanced training and reporting guidelines did not seem to change risk. More specific training for junior residents, as well as passive prevention solutions, may be necessary to positively impact their exposure risk.

Title: **Impact of wearable alcohol gel dispensers on hand hygiene in an emergency department**

Authors: Haas J, Larson E.

Date: April 2008

Source: Academic Emergency Medicine 15 (4):393-6

Country: USA

Abstract:

Objectives: Compliance with hand hygiene (HH) by health care workers is widely recognized as the most effective way to decrease transmission of infection among patients. However, compliance remains poor, averaging about 40%. A potential barrier to compliance is convenience and accessibility of sinks or alcohol hand sanitizer dispensers. The purpose of this study was to assess the use of a personal alcohol gel dispensing system, compared with the traditional wall-mounted alcohol gel dispenser and sinks in an urban hospital's emergency department (ED).

Methods: This was a quasi-experimental trial of a personal wearable alcohol hand sanitizer dispenser. Observations of ED staff HH were performed in the month before intervention and during three intervention phases over a 2.5-month period.

RESULTS: A total of 757 HH opportunities were observed: 112 before and 432 after patient contact, 72 after contact with the patient's environment, 24 before invasive procedures, and 117 after body fluid contact. HH compliance improved during the first intervention period, but improvement was not sustained. There was no significant improvement in HH from baseline to the final intervention period. The wearable alcohol gel dispenser was used for 9% of HH episodes.

Conclusions: Availability of a wearable dispenser was not associated with a significant

improvement in use of alcohol products for HH. These results support other studies in which only transient success was reported with a single intervention; greater success in sustaining increased HH compliance has been reported with use of multimodal approaches in which increased availability of products may be a part of the intervention.

Title: **Effects of policy options for human resources for health: an analysis of systematic reviews**

Authors: Chopra M, Munro S, et al.

Date: 23rd February 2008

Source: The Lancet 371(9613):668-674

Country: Global

Abstract:

Background: Policy makers face challenges to ensure an appropriate supply and distribution of trained health workers and to manage their performance in delivery of services, especially in countries with low and middle incomes. We aimed to identify all available policy options to address human resources for health in such countries, and to assess the effectiveness of these policy options.

Methods: We searched Medline and Embase from 1979 to September, 2006, the Cochrane Library, and the Human Resources for Health Global Resource Center database. We also searched up to 10 years of archives from five relevant journals, and consulted experts. We included systematic reviews in English which assessed the effects of policy options that could affect the training, distribution, regulation, financing, management, organisation, or performance of health workers. Two reviewers independently assessed each review for eligibility and quality, and systematically extracted data about main effects. We also assessed whether the policy options were equitable in their effects; suitable for scaling up; and applicable to countries with low and middle incomes.

Findings: 28 of the 759 systematic reviews of effects that we identified were eligible according to our criteria. Of these, only a few included studies from countries with low and middle incomes, and some reviews were of low quality. Most evidence focused on

organisational mechanisms for human resources, such as substitution or shifting tasks between different types of health workers, or extension of their roles; performance-enhancing strategies such as quality improvement or continuing education strategies; promotion of teamwork; and changes to workflow. Of all policy options, the use of lay health workers had the greatest proportion of reviews in countries with a range of incomes, from high to low.

Interpretation: We have identified a need for more systematic reviews on the effects of policy options to improve human resources for health in countries with low and middle incomes, for assessments of any interventions that policy makers introduce to plan and manage human resources for health, and for other research to aid policy makers in these countries

Title: **Nosocomial HIV infection: epidemiology and prevention - a global perspective**

Authors: Ganczak M, Barss P.

Date: January-March 2008

Source: AIDS Reviews10(1):47-61

Country: Global

Abstract; Because, globally, HIV is transmitted mainly by sexual practices and intravenous drug use and because of a long asymptomatic period, healthcare-associated HIV transmission receives little attention even though an estimated 5.4% of global HIV infections result from contaminated injections alone. It is an important personal issue for healthcare workers, especially those who work with unsafe equipment or have insufficient training. They may acquire HIV occupationally or find themselves before courts, facing severe penalties for causing HIV infections. Prevention of blood-borne nosocomial infections such as HIV differs from traditional infection control measures such as hand washing and isolation and requires a multi-disciplinary approach. Since there has not been a review of healthcare-associated HIV contrasting circumstances in poor and rich regions of the world, the aim of this article is to review and compare the epidemiology of HIV in healthcare facilities in such settings, followed by a consideration of general

approaches to prevention, specific counter-measures, and a synthesis of approaches used in infection control, injury prevention, and occupational safety. These actions concentrated on identifying research on specific modes of healthcare-associated HIV transmission and on methods of prevention. Searches included studies in English and Russian cited in PubMed and citations in Google Scholar in any language. MeSH keywords such as nosocomial, hospital-acquired, iatrogenic, healthcare associated, occupationally acquired infection and HIV were used together with mode of transmission, such as "HIV and hemodialysis". References of relevant articles were also reviewed. The evidence indicates that while occasional incidents of healthcare-related HIV infection in high-income countries continue to be reported, the situation in many low-income countries is alarming, with transmission ranging from frequent to endemic. Viral transmission in health facilities occurs by unexpected and unusual as well as more frequent modes. HIV can be transmitted to patients and to donors of blood products by specific vehicles and vectors during blood transfusion, plasma donation, and artificial insemination, by improperly sterilized sharps, by medical equipment during activities such as dialysis and organ transplantation, and by healthcare workers infected by occupational exposure to hazards such as blood-contaminated sharps. Personal, equipment, and environmental factors predispose to acquisition of nosocomial HIV and all are pertinent for prevention. For infection and injury control, poverty is often an underlying determinant. While sophisticated new tests offer improved HIV detection, increasingly higher marginal costs limit their feasibility in many settings. Modest investment in safer equipment and appropriate integrated training in infection control, injury prevention, and occupational safety should provide greater benefit.

World Health Organization

WHO 60th anniversary: our health, our future
<http://www.who.int/who60/en/>

From the website: "This year marks the 60th anniversary of WHO. This special occasion presents WHO with an opportunity to celebrate achievements in global public health over the last 60 years, demonstrate the impact of WHO's work and address challenges for the future.

WHO's 60th anniversary celebrations (WHO60) will consist of a variety of activities and events that will take place throughout the year, covering a range of public health issues and particularly emphasizing issues linked to WHO's six-point agenda."

The website features a photo exhibition of public health over the last 60 years
 (<http://www.who.int/features/history/en/index.html>)

and a chronology of public health milestones
 (http://www.who.int/features/history/WHO_60th_anniversary_chronology.pdf).

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*

XVII International AIDS Conference 3 - 8 August, 2008 Mexico City, Mexico

"AIDS 2008 will be the first International AIDS Conference ever held in Latin America" and "will provide many opportunities for the presentation of important new scientific research and for productive, structured dialogue on the major challenges facing the global response to AIDS. Conference organizers are developing a wide variety of session types that meet the needs of various participants and support collective efforts to expand delivery of HIV prevention and treatment to communities worldwide. Central to many of these sessions will be the transfer of knowledge and sharing of best practices.

In addition to the conference sessions there are a number of activities, including satellite meetings, exhibitions, the Global Village and the Cultural Programme, that are integral to delegates' experience at the conference."

"Key issues the AIDS 2008 Programme (sessions and activities) will explore/address include:

- Health systems strengthening, service models, integration with TB, SRH, co-infections, maternal health, long-term care,

mental health, palliative care, drug resistance, harm reduction, primary health care, hepatitis C, etc.

- Specific regional issues e.g. stigma; setting regional policy agendas; using what is gained and expanding to other regions (south-south)
- Synergy of treatment and prevention; treatment as a tool for prevention (reducing viral load and infectivity)
- Respect and promotion of human rights and gender equality as a framework for all aspects of the response.“

Abstract submission closed 19 February

For more information visit the website:
<http://www.aids2008.org>

Hong Kong Infection Control Nurses' Association: 3rd International Infection Control Conference
30 August – 1 September, 2008
Hong Kong SAR, China

“The theme of this conference is “Breakthrough in Infection Control”. We have invited renowned speakers locally and from overseas to review the latest evidence and cutting edge information on infection control. Local researchers would be presenting their research work with indigenous essence. You are cordially invited to share your valuable experiences with us. Our conference manager has also organized some lovely social events and hope that all of you will have an enjoyable experience with us in Hong Kong.”

Abstract submission deadline 15 June

For more information visit the website:
<http://www.hkicna.org/education.html>

Asian Association of Occupational Health, 19th Asia Conference on Occupational Health
17 – 19 September, 2008
Singapore

“The conference will provide opportunities for learning and sharing of information on the latest developments in occupational health in the face of new technology and globalization.”

Abstract deadline closed 30 April

For more information visit the website:
<http://www.acoh2008.com/home.html>

Australasian Society of HIV Medicine 20th Annual Conference
17- 20 September, 2008
Perth, Australia

Abstract submission closed 23 May

For more information visit the website:
<http://www.ashm.org.au/conference>

International Federation of Infection Control, 9th International Congress
14 – 17 October, 2008
Santiago, Chile

“The International Federation of Infection Control (IFIC) is an umbrella organization of societies and associations of healthcare professionals in infection control and related fields worldwide. The goal of IFIC is to minimize the risk of infection within the healthcare setting world-wide through development of a network of infection control organizations for communication, consensus building, education and sharing expertise and the IFIC mission is provides the essential tools, education materials and communication that unite the existing Infection Control societies and foster development of Infection Control organizations where they are needed.

For the first time in its history, IFIC will hold its annual congress in a Latin American country with Santiago in Chile chosen as the host venue. This summit will be held in parallel with the Chilean and Pan American congresses in infection control, making it possible to exchange experiences and information among the different delegates taking part in all these events.

IFIC and the Chilean Society of Infection Control and Hospital Epidemiology extend an invitation to all the professionals involved in the fields of infection control, hospital epidemiology and quality improvement to gather in Santiago in 2008. Together we will build a better future for infection control and patient safety everywhere. International experts will give keynote lectures and participate in symposia.”

Abstract submission deadline 11 July

For more information visit the website:
<http://www.ific2008.cl>

**South Asian Association of Regional Co-operation (SAARC), Second Conference on TB, HIV/AIDS and Respiratory Diseases
15 – 18 December, 2008
Kathmandu, Nepal**

Theme: Working together to fight against TB, HIV/AIDS and respiratory diseases.

Abstract submission deadline 30 June

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

**7th International Infection Control Conference, Infection Control Society
17 – 18 December, 2008
Pakistan**

For more information visit the website:
<http://www.infectioncontrolsociety.org/index2.html>

**Asia Pacific Society of Infection Control, 4th International Congress
5 – 9 July, 2009
Macau SAR, China**

For more information visit the website:
<http://www.apsic2009.org>

Recently got email access?

Changed your email address?

If you received this newsletter in the post, it means you have not supplied your email address or the one you gave us is not working.

Please help to keep our costs down by letting us know if you get access to email or if your address changes.

Email access means your copy of the newsletter is available the day it is published.

The print version of the newsletter may also be smaller than the email version.

More importantly, you can join in email discussions with other members and receive up to date information by email.

Just email us at:
safehands@sesiahs.health.nsw.gov.au