Needle and Syringe Programs: A sound public health strategy

To mark the 20th anniversary of the establishment, in Sydney, of probably the first Australian needle and syringe program (NSP), it is timely to reflect on the public health significance of NSPs. The availability of sterile injecting equipment through NSPs is crucial in limiting the spread of hepatitis C and other blood-borne viruses, including HIV. The Department of Health and Ageing’s 2002 ‘Return on Investment in Needle and Syringe Programs in Australia’ study found that, during the period 1991 to 2000, $141m was spent on NSPs across Australia, saving an estimated $7025m and $783m in HIV and hepatitis C treatment costs respectively.

In Australia, approximately 90% of new hepatitis C infections are estimated to be due to unsafe injecting practices, and for HIV, between 1995 and 2004, approximately 8% of HIV diagnoses were in people with a history of injecting drug use (of whom more than half were men with a reported history of homosexual contact). In Australia, hepatitis C has been more difficult to contain amongst people who inject drugs because the virus was already well established amongst injecting drug users before the introduction of NSP, and also as it is more easily transmitted through blood-to-blood contact than HIV.

There has been a general upward trend in the number of needles and syringes distributed annually in Western Australia (WA) since 1992, with 3.9 million needles and syringes distributed in 2005. Sterile injecting equipment is available from:

- most pharmacies on a commercial basis;
- a vending machine located at Kalgoorlie Regional Hospital;
- emergency departments of regional and rural health services where needles and syringes are provided after hours at no cost to clients;
- non-government organisations such as the WA AIDS Council and the WA Substance Users’ Association, on an exchange basis (one used needle and syringe for one sterile unit).

These services also provide preventative information.

Through the 1990s, around two-thirds of needles and syringes distributed in WA were sold through pharmacies on a ‘user-pays’ basis. The remainder were provided at no cost to consumers, the equipment cost being met by WA Health. Since 2000, the proportion of needles and syringes sold through pharmacies has been steadily decreasing. Correspondingly, an increasing proportion of needles and syringes distributed are WA Health funded. In 2005, pharmacies accounted for only 40% of distribution.

WA Health is implementing a range of strategies to address increased costs associated with NSPs while aiming to maintain their significant disease prevention role. Strategies include commissioning a review of NSP state-wide which will identify gaps in services with a view to improving the accessibility, quality and effectiveness of services. Further, additional needle and syringe vending machines will be set up in selected locations.

We will update you on the implementation and outcomes of these and other strategies in future editions of Disease WAWatch.

Dr Paul Van Buynder
STI contact tracing for busy GPs

Contact tracing of all patients with an STI is an essential part of best practice clinical care to:

- sustain the beneficial effects of your clinical management. If you don’t contact trace, the patient is likely to get re-infected again from their sexual partner(s).
- stop the spread of infection in the community from untreated, infected contacts.

Of the 575 GPs who responded to the Chlamydia and Sexual Health survey, sent out prior to the 2005 Chlamydia Campaign, fewer than 25% considered contact tracing to be always or mostly their responsibility.

Unlike other infectious diseases such as meningococcal disease, hepatitis A or TB, where contact tracing is required and is routinely performed by WA Health staff, STI contact tracing is most effective when the sexual contact history is elicited by the GP. Most patients with an STI would prefer to disclose their sexual contacts to their GP, with whom they have considerable rapport, rather than to an unknown contact tracer at the end of a telephone. The patient can then decide which contacts he/she would like to follow up, and which contacts require follow up by the GP or Department.

Contact tracing tips for busy GPs

- Tell the patient why contact tracing is important (see above), reminding them that it is voluntary and confidential.
- Ask the patient to provide a list of their sexual contacts (full names, age, address, phone number).
- Taking a contact history can be time-consuming and confronting (for both doctors and patients). Put the patient at ease and jog their memory:
  - start with the most recent contacts and work backwards
  - link sexual encounters to significant events such as birthdays, Easter, Christmas
  - don’t assume the gender of sexual partners
  - use plain English – avoid medical jargon, and ambiguous words
  - be non-judgemental both in your verbal and non-verbal communication.
- Ask the patient which contacts they are willing to inform themselves, and which ones they would prefer you or the Department to follow-up.
- If you don’t have time to trace the patient’s contacts yourself, refer the list of contacts to communicable disease control nurses at North Metropolitan Population Health Unit, tel 9224 1603 (Perth metropolitan area) or your regional Population Health Unit (Broome, Port Hedland, Carnarvon, Geraldton, Kalgoorlie, Albany, Bunbury, Northam) who will trace the named contacts. You can do this by telephone or by attaching the list to your infectious disease notification form.
- Remember to tick the appropriate box in the Follow-up/contact tracing section of the notification form.
  - Tick the Client informed that DOH may investigate possible contacts/sources box if you need assistance with contact tracing and you have informed the patient that population health staff may contact them.
  - Tick the All contacts have been/will be tested and treated by me box if you have completed the contact tracing yourself.

More information

- Contact Tracing (HP1182), a patient information card on STI contact tracing can be downloaded or ordered from WA Health at www.population.health.wa.gov.au/ordering or by phoning 1300 135 030.
- Guide to Testing contains a standard letter for patients who want to follow-up their own contacts, and is available at www.couldihaveit.com/campaign.asp.
Community MRSA update

Background
Methicillin-resistant Staphylococcus aureus (MRSA) resistant to all beta-lactam antibiotics (penicillins, cephalosporins, carbapenems, etc.) was first described as a pathogen affecting hospital inpatients in the 1960s. Since the 1990s, new MRSA strains have emerged, causing infections in people without healthcare contact – so-called community-acquired MRSA (CMRSA, or non-epidemic MRSA).

Unlike the less virulent CMRSA strains that have been spreading throughout WA for over 15 years, these new strains have been associated with a severe disease presentation, particularly skin and soft tissue infections, and necrotising pneumonia, in otherwise healthy adults and children. A number of fatal outcomes have been reported in Australia.

This additional virulence is associated with the production of additional toxins, particularly Panton-Valentine leukocidin (PVL). PVL production is also found in some methicillin-sensitive S. aureus, and can be transferred between strains.

Outbreaks of CMRSA infections have been reported in community and healthcare settings. In a prevalence study of adults presenting to 11 US Emergency Departments in 2004, a single clone of CMRSA caused 59% of all 422 skin and soft tissue infections, demonstrating the extremely efficient spread of this clone by direct contact with other infected or colonised individuals in the community (Moran et al. 2006).

MRSA in Western Australia (WA)
MRSA is a notifiable disease in WA, and isolates are routinely subject to detailed laboratory analysis. The introduction of virulent clones into WA, as well as the PVL production in a minority of WA CMRSA isolates has been detected recently.

There are 2 possible future scenarios for WA. Firstly, larger numbers of CMRSA that are already circulating in WA may acquire these virulence genes. Secondly, the newly introduced virulent clones may spread as successfully here as they have elsewhere, evident as an increase in severe, often multifocal and progressive skin and soft tissue infections in previously healthy individuals, and possible clusters of cases in close contacts.

Implications for WA clinicians
Clinicians have an important role in detecting and limiting the emergence of CMRSA in WA, and its presence in WA has important clinical implications.

1. Reduce spread:
   • Separation of infected patients where possible
   • Routine cleaning of shared equipment
   • Appropriate hand hygiene by healthcare workers
   • Adherence to standard infection control precautions, particularly before invasive procedures

2. Review clinical management of suspected staphylococcal infections:
   • Renewed focus on obtaining cultures for bacterial identification and susceptibility testing
   • Incision and drainage may be only treatment required for skin and soft tissue infections
   • For mild infections requiring antibiotics,
     ○ prescribe a beta-lactam antibiotic initially (such as flucloxacillin, cephalaxin) unless allergy or previous MRSA
     ○ review the patient and check culture result
     ○ If MRSA is identified, check the sensitivity pattern – clindamycin, doxycycline or trimethoprim-sulfamethoxazole may be effective
   • For severe suspected staphylococcal infection:
     ○ Obtain cultures and commence empiric IV flucloxacillin
     ○ Add vancomycin if patient critically ill or has risk factors for MRSA
     ○ Cease vancomycin if MRSA is excluded – flucloxacillin is more effective than vancomycin for susceptible staphylococcal infections.

Bibliography

Sexual Health Forum
The Sexual Health & Blood Borne Virus Program invites you to their quarterly Sexual Health Forum which showcases projects in prevention, education and clinical practice, and provides epidemiological information to stakeholders.

The next forum will be held on Wednesday 6th December 2006, at Grace Vaughan House, 227 Stubbs Tce, Shenton Park, from 9.00 am to 12 noon; (video conferencing available).
For more information call 9388 4865 or email Vinny.Valentine@health.wa.gov.au.
Human Papilloma Virus (HPV)

Human Papilloma Virus (HPV) is a common, sexually transmitted virus. Most sexually active women have been infected by 1 or more genital HPV at some point in their life. Over 100 different HPV types have been identified, more than 30 of which infect the human anogenital tract.

Often, HPV infections do not cause any symptoms, and are subclinical and transient, with the immune system clearing detectable virus over time. In healthy individuals, more than 75% of incident infections are cleared within 30 months of infection. Evidence suggests that persistent infection of the cervix with high risk oncogenic HPV is the primary risk factor for the development of cervical cancer. Research has identified up to 15 HPV types (including HPV types 16, 18, 31, 33, 35, 45, 51, 52, 56, 58, 59, 68, 73 and 82) which may be considered high oncogenic risk. In most countries, HPV types 16 and 18 cause more than 70% of cervical cancers. Though HPV infection is an important precursor for cervical cancer development, it does not inevitably lead to cervical cancer. However, persistent infections of the cervix with high risk HPV types for more than 3 years are unlikely to resolve spontaneously, and convey a significant risk of development of severe dysplasia, high-grade squamous intraepithelial lesions (HSIL), or ultimately, cervical cancer.

Cervical cancer in Australia

In Australia, cervical cancer is the 13th most common occurring cancer in women and the 18th most common cause of cancer mortality in women. There is a disproportionate burden of cervical cancer in Indigenous women and some ethnic groups within Australia; in these groups cervical cancer is responsible for mortality rates 5 times higher than for other Australian women. On a global scale, cervical cancer is the second most common cancer in women; almost 80% of all cervical cancers occur in the developing world.

HPV Vaccines

The development of a prophylactic HPV vaccine offers new hope for the primary prevention of cervical cancer.

A quadrivalent HPV vaccine Gardasil™ (Merck/CSL) has recently been licensed in Australia for females aged 9 to 26 years in the private market. The vaccine is made from non-infectious HPV-like particles (VLP), composed of the L1 major capsid protein. Gardasil protects against 4 types of HPV (6, 11, 16, and 18), HPV types 16 and 18 that cause 70% of cervical cancers, and types 6 and 11 that cause 90% of genital warts. A bivalent HPV vaccine Cervarix™ (GlaxoSmithKline) will soon be registered for use in Australia. The Cervarix vaccine will protect against HPV types 16, 18. The HPV vaccine is administered in a 3 dose schedule. The second and third doses should be administered 2 and 6 months after the first.

It is important to note that although HPV vaccine is effective in the prevention of genital HPV, the vaccine will not protect against all HPV strains, therefore HPV vaccination will not replace other prevention strategies. Cervical cancer screening recommendations have not changed for females who receive the HPV vaccine.

For further information

An information sheet for Australian GPs and immunisation providers about HPV vaccines is available at www.ncirs.usyd.edu.au/facts/f-fact_sheets.html.

Operation Cumpston and Operation Perinthus

A large number of disease control staff including population health units combined to conduct a national exercise (Operation Cumpston) to trial health responses, at the time of arrival into the country, to an avian influenza strain capable of human-to-human transmission.

Western Australia (WA) had 2 positive cases during the exercise to manage, including one on an oil rig off the Pilbara coast, as well as dozens of contacts off aeroplanes and other suspect cases.

Locally, WA Health, in conjunction with the City of Subiaco, community nurses, GPs and St John Ambulance conducted a fever clinic trial at Rosalie Park (Operation Perinthus).

If a pandemic strain of avian influenza arrives in Australia, assessing and managing patients at fever clinics will be an important early strategy. These clinics have the ability to reduce transmission in hospital and community medical practices, reduce the demand on primary health care services, and decrease community transmission through early management of infectious cases.

The exercise involved staff in full personal protective equipment, assessing and managing 200 ‘ill’ volunteers. The volunteers were cohorted on the basis of their infectivity into separate clinics, and treatment was organised, including ambulance transfer where indicated. In addition, details of contacts were collected and transferred to CDCD and metropolitan Population Health Units for tracing and provision of oseltamivir (jelly beans this time).

The exercise identified some key infection control, and staffing issues which will be addressed. A training video was also developed which will aid Areas develop their own fever clinics when the virus arrives.

(Perinthus was the town in ancient Greece where Hippocrates in 412 BC described what is thought to be the first pandemic flu outbreak in Roman soldiers camped in the town.)