



From the Director's desk

Welcome to the first edition of *Disease WAtch* for 2010. In this edition we are introducing a new regular section called 'Disease Update'. A notifiable disease of interest to public health and general practitioners will be profiled - the epidemiology and other salient facts of the disease will be described and a fact sheet for patients included. Also featured in this edition is an evaluation of the program to improve the accessibility of hepatitis A and B vaccination to patients with hepatitis C, and an update on the situation with rabies in Bali.

We are always keen to make improvements to *Disease WAtch* to ensure it remains as relevant as possible to its readership. To this end, we would appreciate any feedback you have on how we might go about this, or suggestions for articles for future editions.

I hope you find the February edition of *Disease WAtch* informative.

Dr Paul Armstrong
February 2010

Update: Rabies in Bali

Doctors are reminded that, contrary to information in the current 9th Edition of the Australian Immunisation Handbook, Bali is **no longer rabies free**.

At least 27 people have now been confirmed to have died from rabies infections in Bali. The first known victim is reported to have been bitten by a dog in July 2008, and cases continue to occur. Unknown numbers of dogs have been infected despite efforts to control spread by culling and vaccination. Rabies cases in both dogs and humans have occurred across Bali, with many cases in the southern tourist areas (Kuta and environs) which are frequented by Australian travellers. To date, we are not aware of any cases of rabies in tourists to Bali.

Please recommend rabies post-exposure prophylaxis (PEP) for all persons with risky animal bites or scratches sustained anywhere in Bali (as for other parts of Indonesia, South-East Asia and other parts of the world where rabies is endemic). While we are not aware, as yet, of reports of rabies in other animals, any mammal in Bali, including dogs, monkeys, cats and bats, should be considered potentially rabid. Risky exposures include bites, scratches and mucous membrane exposure to animal saliva.

Many Western Australians return from holidays in Bali and report monkey bites and scratches, typically sustained while visiting certain temples and the "monkey forest" near Ubud. A smaller proportion report unprovoked bites by dogs. Some, but not all exposed travellers, seek medical attention at a clinic in Bali before returning home and therefore may have already had one or more doses of rabies vaccine. Human rabies immunoglobulin (HRIG) is generally not available in Bali, and provided patients are seen within 7 days of the first dose of rabies vaccine given overseas, it is recommended that HRIG is still given, and the remaining doses of the rabies vaccine schedule (five doses over 28 days) should be completed. For people who have had risky animal exposures in Bali dating back to July 2008, and who have not received PEP, it should still be given.

For advice and for arranging rabies PEP, please call your local public health unit during office hours. After hours, the on-call public health physician from CDCD can be contacted via the Department of Health duty officer on 9328 0553. Public health staff, via any of these contact mechanisms, can authorise release and delivery of rabies vaccine and HRIG to a GP surgery or hospital emergency department, as appropriate.

Disease Update: Pertussis in Western Australia

Introduction

Pertussis is a vaccine-preventable respiratory illness caused by *Bordetella pertussis* that is characterised by a paroxysmal cough that can last for many weeks. It is highly contagious and has an estimated 80% attack rate in susceptible household contacts.

Pertussis is a seasonal disease occurring most commonly in the spring and summer months. Typically, epidemics occur every three to four years, even in highly immunised populations, although in WA epidemic peaks have occurred less frequently in the past two decades.

Pertussis vaccines do not confer life-long immunity. Since the 1990s, there have been reports worldwide of an increasing incidence of pertussis, particularly in the adolescent and adult age groups. The increases have been attributed to waning vaccine-induced immunity, refinements in the diagnosis of pertussis and increased awareness.

Non-immunised infants are most vulnerable to severe disease, complicated by pneumonia and hypoxic encephalopathy. Symptoms are usually milder in older children and adults, among whom pertussis is often manifested as a prolonged coughing illness. Adolescent and adult household contacts are significant sources of infection for infants.

The current national immunisation schedule provides free pertussis vaccinations for children at two, four and six months of age, with

booster doses at four years of age and, since 2004, in adolescents. The second booster dose was implemented as a statewide school-based vaccination program in Year 7 children, with an additional catch-up program targeting all high-school aged children in the final school term of that year. The catch-up was in response to a pertussis epidemic in WA in 2004, which had high notification rates in teenagers.

Australian Childhood Immunisation Register (ACIR) data consistently show high vaccination coverage in WA, although rates tend to be lower than other States and Territories. In WA, 90% of children aged 12 - 15 months, 94% of children aged two years, and 82% of children aged five years were appropriately vaccinated against pertussis in 2009. Vaccine coverage among Aboriginal children is approximately 10% lower than non-Aboriginal children, highlighting the need for health care providers to target this group for vaccination.

Epidemiology - Australia and WA

Figure 1 shows the occurrence of epidemics approximately every three to four years at a national level (1994, 1997, 2001, 2005 and 2009), while in WA (figure 2), they have occurred less frequently (3 to 7 years) (1994, 1997 and 2004). Figure 1 also shows that nationally, there has

Figure 1. Number and rate of pertussis cases, and the occurrence of epidemics in WA and Australia 1991 to 2009.

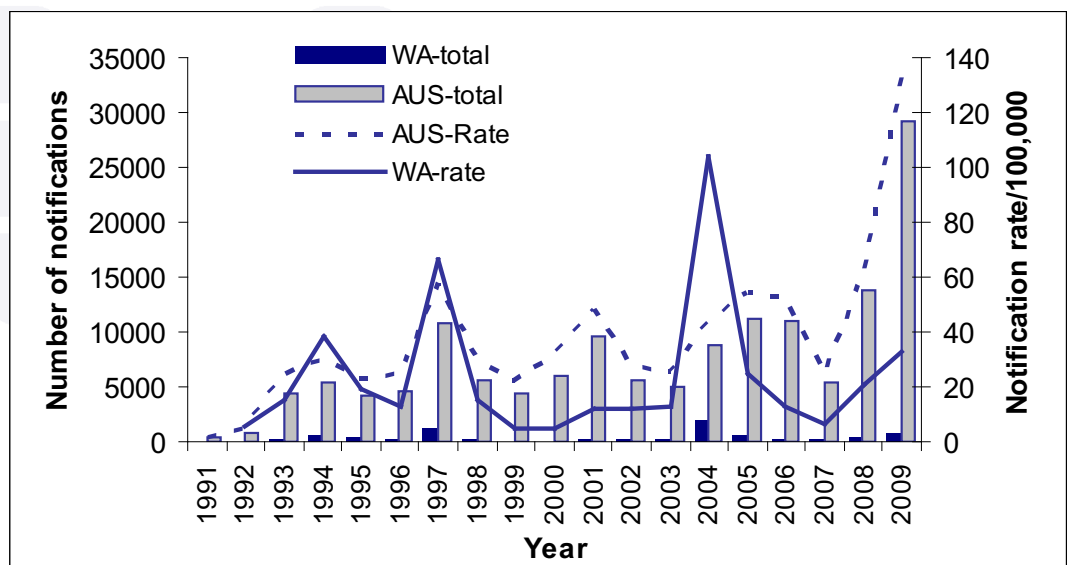
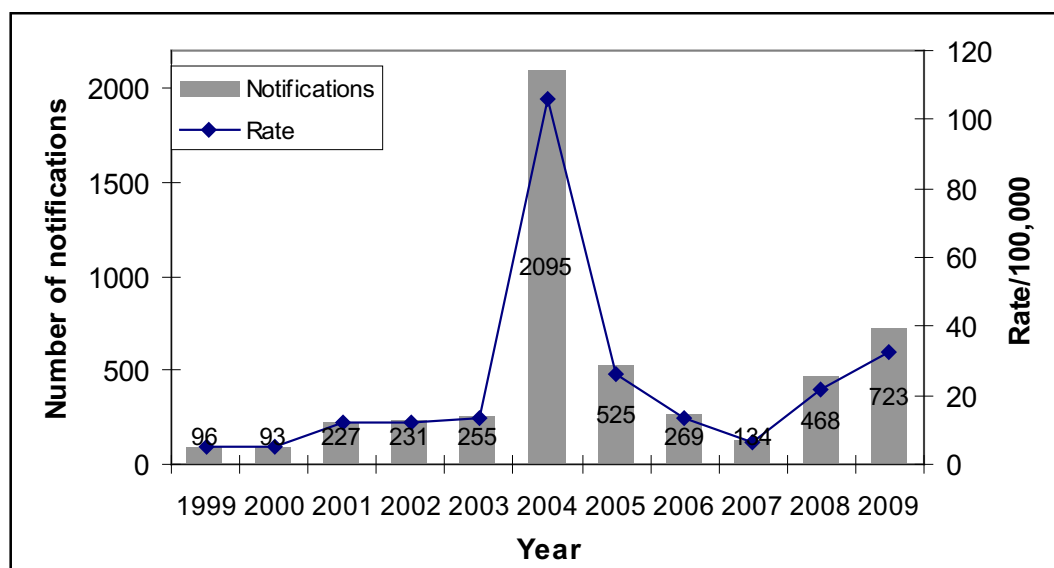


Figure 2. Number and rate of pertussis cases in WA, 1999 to 2009



however, these declined following the acellular pertussis vaccination campaign in secondary schools in 2004. From 2005, there was an increase in the notification rate among adults over 40 years, and more recently in 2008 and 2009, among younger children aged between one and nine years.

Aboriginality.

Aboriginal cases comprised between

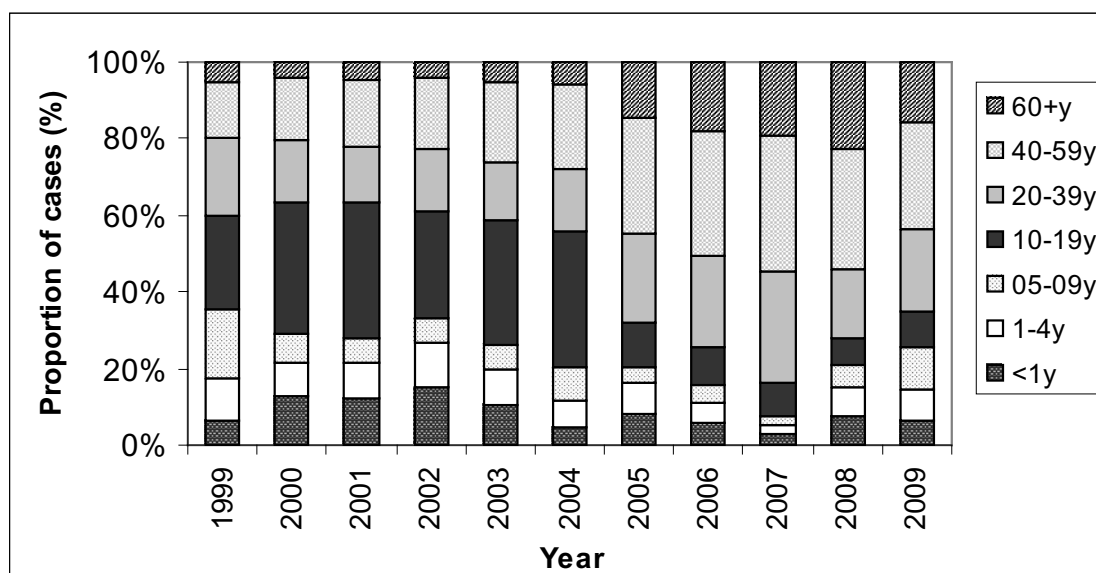
been an increasing trend in the number and rate of pertussis notifications from a low of 318 cases (rate = 2/100,000 population) in 1991 to a record high of 29,137 cases (133/100,000 population) in 2009. Adults aged 20 years and over currently comprise over 80% of pertussis notifications in Australia.

1.5 to 7.5% of notifications annually. Whilst a little over-represented relative to their contribution to the population, the disparity in rates between Aboriginal and non-Aboriginal people is considerably less than is seen for most infectious diseases.

Age distribution. The age distribution of notified cases in WA has shifted with time towards older age groups. The median age increased from 16 years in the period 1999 - 2004 to 36 years during the period 2005 - 2009. Prior to 2005, 50% of cases were under 15 years, whereas in the period since then, this group has comprised approximately 20% of cases. The converse applies to cases aged 40 years and older (Figure 3).

Mortality. Data are incomplete for earlier years, but two deaths associated with pertussis were recorded in children under one year of age in 2008 and 2009. Routine public health follow-up of all pertussis cases under two years of age has revealed that pertussis infection in babies and young children commonly follows a coughing illness in a family member, often in a parent.

Figure 3: Proportion of pertussis notifications by age group and year in WA, 1999 - 2009.



As shown in Table 1, notification rates are consistently highest in infants under one year of age, usually followed by children in the 1 - 4 year age group. Prior to 2005, rates were also elevated among the 10 - 19 year age group,

Conclusion

Despite relatively high vaccination coverage, pertussis notification rates have increased nationally and in WA in recent years. A higher proportion of cases are now seen in adults, although rates are still highest among infants under one year old, where the risk of serious complications is greatest.

WA experienced its last epidemic pertussis season in 2004. Given the long period of low-to-moderate rates since then, along with epidemic activity in other states and territories in 2009, WA is poised for an epidemic within the next two years.

Vaccination remains the most effective intervention to reduce the burden of pertussis. As a consequence of increasing rates in older age groups, booster doses for adults are now recommended (although not yet funded by Government) in addition to the standard childhood immunisations.

Australian Immunisation Handbook¹ recommends the following groups be offered an adult booster dose of diphtheria-tetanus-pertussis vaccine (dTpa):

- parents planning a pregnancy, or both parents as soon as possible after delivery of an infant
- other household members and carers, including grandparents
- those working with young children, such as child-care workers
- health care workers
- any adult expressing an interest in receiving a diphtheria-tetanus booster.

References

1. National Health and Medical Research Council. Australian immunisation handbook, 9th ed. Canberra: Australian Government Department of Health and Ageing, 2008.

Table 1: Age-specific notification rates of Pertussis in WA by year, 1999 - 2009 (rate per 100,000 population).

The

	<1y	1-4y	5-9y	10-19y	20-39y	40-59y	60+y	Total crude rate
1999	24.5	9.7	12.6	8.5	3.4	2.9	1.9	5.1
2000	48.8	7.8	5.2	11.6	2.7	3.0	1.4	5.0
2001	113.5	20.6	10.4	29.0	5.9	7.6	3.8	11.9
2002	142.5	26.6	10.4	23.1	6.6	8.4	3.0	12.0
2003	109.9	23.7	11.2	29.6	6.7	9.8	4.6	13.1
2004	413.5	138.2	141.2	258.5	59.7	83.4	39.4	105.7
2005	169.0	41.1	16.3	21.9	21.2	28.1	23.0	26.0
2006	58.5	13.4	10.3	9.0	10.9	15.2	14.2	13.1
2007	14.7	2.8	2.2	4.1	6.5	8.0	7.4	6.4
2008	118.3	30.8	20.9	10.4	13.7	24.3	29.1	21.6
2009	152.8	49.6	59.5	21.9	24.6	33.0	30.2	32.8
1999-2009	123.3	33.0	27.3	38.8	14.8	20.9	15.3	23.2



Summary of clinical and public health management for cases of pertussis

For further details see “*Information for GPs and other Health Care Providers on the Clinical and Public Health Management of Pertussis*” and “*National guidelines for the public health management of pertussis*” at www.public.health.wa.gov.au/3/343/3/pertussis_whooping_cough.pm

- 1 **Verify diagnosis:** PCR on a nasopharyngeal (aspirate or swab) specimen preferred in cases presenting within 21 days of onset. Dry nose or throat swabs are acceptable. Serum IgA testing (acute and convalescent) is an option, particularly for late presenting cases.
- 2 **Antibiotic treatment of cases:** Commence prior to result if reasonable index of suspicion that patient has pertussis, and if less than 21 days since onset of cough. Clarithromycin, azithromycin, erythromycin or trimethoprim/sulfamethoxazole are recommended. See *Therapeutic guidelines: antibiotic* for dosage.¹
- 3 **Notify:** Communicable Disease Control Directorate (Perth metropolitan area) or your rural Public Health Unit of confirmed cases. Public Health Units will assist with contact management.
- 4 **Contact management:**
 - Make sure other children in household are up-to-date with recommended pertussis vaccines for age.
 - **Antibiotic prophylaxis** is recommended only for high risk contacts or in high risk settings, including: households and child-care settings with young children who have not had 3 doses of pertussis vaccine; women in last month of pregnancy; and maternity wards and neonatal nurseries. Prophylaxis is not recommended in settings such as primary schools, high schools, tertiary education facilities or work-places
 - **Exclusion:** Only for child contacts who attend child-care or pre-school and who have received less than 3 doses of pertussis vaccine.

References

1. Antibiotic Expert Group. *Therapeutic guidelines: antibiotic*. Version 13. Melbourne: Therapeutic Guidelines Limited, 2006.

Further information contact your local public health unit on the number below

Public Health Units	Telephone
Metropolitan:	
North Metropolitan (Perth)	9380 7700
South Metropolitan (Fremantle)	9431 0200
Country:	
Great Southern (Albany)	9842 7500
Kimberley (Broome)	9194 1630
Southwest (Bunbury)	9781 2350
Gascoyne (Carnarvon)	9941 0560
Midwest (Geraldton)	9956 1985
Goldfields (Kalgoorlie)	9080 8200
Wheatbelt (Northam)	9622 4320
Pilbara (Port Hedland)	9172 8333

Vaccination against Hepatitis A and Hepatitis B in Patients with Hepatitis C

Background

The *Australian Immunisation Handbook* recommends hepatitis A and B vaccination for patients with hepatitis C to prevent complications associated with co-infections.¹

In 2005, WA Health established a program to increase the accessibility of hepatitis A and B vaccines to those at risk of acquiring these infections by sexual transmission and injecting drug use.² This program allows general practitioners and primary care providers to order WA Health funded hepatitis A and B vaccines for patients newly notified with hepatitis C on, or after, 1 September 2005. On receipt of a new hepatitis C notification, WA Health sends the notifying doctor a personalised vaccine order form for that patient.

Methods

We reviewed hepatitis C notifications and hepatitis A and B vaccine orders received in 2007 and 2008 to determine the rate of vaccine uptake and course completion among patients newly notified with hepatitis C in WA.

Results

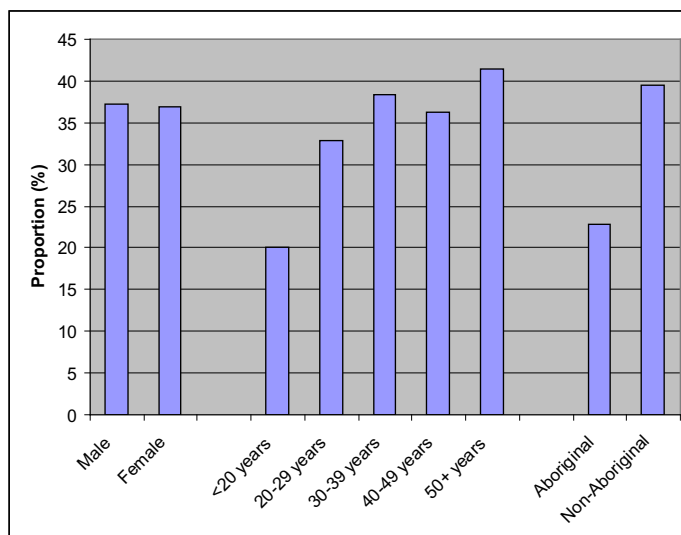
In 2007 and 2008, WA Health sent vaccine order forms to the notifying doctors of 1702 patients notified with hepatitis C. The vast majority (71%) of these patients were notified by a general practitioner (this includes doctors affiliated with an aboriginal medical service or other primary care provider). Of the remaining 493 patients, 446 (26%) were diagnosed by doctors who were not primary care providers (e.g. Australian Red Cross Blood Service) and 47 (3%) were diagnosed by a doctor of unknown affiliation.

GPs had the highest vaccination order rate (37%), followed by the other doctors group (4%) and unknown doctors group (4%). Among patients notified by a GP, age and non-Aboriginality were positively associated with a significant increase in vaccination order rate (see figure 1).

However, completion of vaccination orders among patients for whom an initial vaccine order had been received was low, with final vaccination doses being ordered for only 30% of patients

notified by a GP and 20% of patients notified by doctors who were not primary care providers.

Figure 1. Proportion of patients notified by a GP for whom initial vaccine orders were received, by sex, age group and Aboriginality.



Discussion

The provision of free hepatitis A and hepatitis B vaccines to patients diagnosed with hepatitis C in WA was associated with higher vaccination rates among patients notified by a GP than those previously reported. This included a recent retrospective study of 243 HCV-infected patients at Veteran Affairs medical centres across South Texas where only 8% and 9% of patients diagnosed from 2000 to 2005 received hepatitis A or hepatitis B vaccination respectively.³

The low vaccination order completion rate is comparable with a 21% completion rate among “at risk” adults treated at primary health care centres in Sydney and indicates that doctors need to emphasise the importance of vaccine course completion to their patients.⁴

References

1. Commonwealth of Australia, Australian Immunisation Handbook, 9th Edition, 2008. Available from: <http://immunise.health.gov.au/internet/immunise/publishing.nsf/Content/handbook-home> last accessed 15 February 2010.
2. Western Australian Department of Health. Operational Directive: Guidelines for the Provision of Hepatitis A and B Vaccine to Adults in Western Australia at Risk of Acquiring these Infections by Sexual Transmission and Injecting Drug Use. Available from: www.health.wa.gov.au/circularsnew/circular.cfm?Circ_ID=12421 last accessed 15 February 2010.
3. Hachem CY, Kramer JR, Kanwals F, El-Serag HB. Hepatitis vaccination in patients with hepatitis C: practice and validation of codes at a large veteran's administration medical centre. *Alimentary Pharmacology and Therapeutics* 2008; 28: 1078 – 1087.
4. Macdonald V, Dore GJ, Amin J, van Beek I. Predictors of completion of hepatitis B vaccination in attendees at a primary health care centre. *Sexual Health* 2007; 4: 27 – 30.



Immunisation Update

General Practice - Registered / Enrolled Nurses Training Course 2010

The Communicable Disease Control Directorate (CDCD) offers all registered and enrolled nurses who work in general practice and provide immunisations, the opportunity to complete the Department of Health's accredited immunisation training certification course.

Enrolled and registered nurses working within general practices are encouraged to enrol in this specific immunisation training program to ensure that they are up-to-date with current vaccine administration recommendations.

In addition, a two hour "Cold Chain" course is also available to general practice staff. This course will provide participants with the knowledge and skills necessary to perform daily monitoring of their cold chain system in order to maintain vaccine efficacy and reduce cold chain breaches. Cold chain breach forms should be completed and forwarded to your local public health unit when a breach occurs.

Registration forms for the immunisation training certification course must be received at CDCD by the 17th of each month, from February to November inclusive, to commence the course on the 1st Monday of each month following registration. Late registration forms will not be accepted.

Please note - closure for processing of registration forms is not the commencement date of the course.

For further information, general practice staff can contact:

Lorelle Wadley, Immunisation Officer
telephone: 9472 2922
email: lwadley@wagpnetwork.com.au

Vaccine alerts!

Hepatitis A vaccine

- There has been an exceptionally high distribution of hepatitis A vaccine to GPs in the 2008/09 period. Please note that the Commonwealth funded hepatitis A vaccine is only available to Indigenous children. This vaccine is a two-dose course given at one year and eighteen months of age.
- GPs can access hepatitis A and hepatitis B vaccine for their hepatitis C-positive

clients through the Sexual Health and Blood-borne Virus (SHBBV) program. This vaccine is automatically offered to GPs on receipt of a hepatitis C disease notification form.

H1N1 Panvax vaccine

- The H1N1 Panvax National Immunisation Program (NIP) vaccine is still available to GPs in single dose vials for children six months to three years and in multi-dose vials for anyone over the age of three years. GPs are encouraged to continue to offer their patients the Commonwealth-funded H1N1 Panvax vaccine.
- Please note that the pandemic (H1N1) 2009 strain will be included in the 2010 seasonal influenza vaccine.

Seasonal influenza vaccine

- The WA Department of Health will again provide free seasonal influenza vaccine to children aged six months to four years of age.
- From 2010, the Commonwealth Government is offering under the National Immunisation Program (NIP) free seasonal influenza vaccine to people at increased risk of complications from influenza infection (pages 190 - 192 in the Australian Immunisation Handbook, 2008), which include:
 - 1 all individuals over the age of sixty-five (65) years
 - 2 all Indigenous Australians aged 15 and over
 - 3 individuals aged six months and over with medical conditions predisposing to severe influenza, namely:
 - cardiac disease
 - chronic respiratory conditions
 - individuals with chronic illnesses requiring regular medical follow-up or hospitalisation in the preceding year
 - chronic neurological conditions
 - people with impaired immunity
 - children aged six months to ten years receiving long term aspirin therapy
 - pregnant women.



- Orders can be placed immediately for the seasonal influenza vaccine using the standard vaccine ordering form. The 0.5 ml dose of vaccine is available. However, the 0.25 ml dose (for those children six months to three years) is unlikely to be available until mid-April. In the event that the 0.25 ml dose is required, 0.25 ml of the 0.5 ml dose will need to be discarded.
- The Australian Technical Advisory Group (ATAGI) has released its recommended protocol for the use of seasonal influenza vaccines in children less than ten years of age. This document can be found on the Department of Health web site: www.public.health.wa.gov.au

Vaccine order forms

- Vaccine order forms have been amended to include reporting of your existing stock in general practices. This information is necessary to manage distribution of Commonwealth-funded vaccines.

Pertussis pre-school booster

- Pertussis disease is on the increase in WA (refer to pertussis article on page 2). The ATAGI has recommended that the four year old pre-school booster DTPa-IPV can be offered to children from three years and six months of age in order to accelerate protection against pertussis in young children.

Online Chlamydia Testing

CDCD, in partnership with Fremantle Hospital and Pathwest, has launched an innovative program to increase screening for chlamydia in young people within WA. Improved access to testing and treatment will act to prevent the onward transmission of chlamydia and reduce the pool of infection within the community.

The program is an online chlamydia testing service hosted on the WA Department of Health's youth targeted website:

www.getthefacts.health.wa.gov.au

The program will provide young people with easy access to testing and referral for treatment by simply completing an on-line self risk assessment and downloading a Pathwest pathology request form.

It is anticipated that the online testing program will relieve pressure on general practices to increase chlamydia testing in the 16 - 25 year old age group. However, people with a positive test result will be encouraged to see their own GP for ongoing management.

People using the program will be required to complete a brief self risk assessment and enter personal contact details, including a mobile telephone number, before downloading the pathology request form. The request form can be taken to a Pathwest collection site within WA. All test results will be reported to the B2 Clinic, Fremantle Hospital whereupon the clinic nurses will actively follow-up participants with positive test results via the provided mobile telephone number. An 1800 number is available to participants to contact the clinic.

Participants with a positive chlamydia result will be advised over the phone about treatment options, partner notification, safe sex education and then referred to their preferred GP for treatment. With permission, participants will also be emailed a letter of referral to the GP explaining the result and the program, so that GPs do not have to repeat the test to initiate treatment.

For further information about the program contact Dr Lewis Marshall at Fremantle Hospital on 9431 2376.

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