Disease WAtch the Western Australian Communicable Diseases Bulletin

Department of Health

www.public.health.wa.gov.au

March 2008 Volume 12 No. 2 ISSN 1441-015X

From the Director's Desk

Influenza Vaccine Supply

General practitioners would be aware that influenza vaccine production for 2008 has been somewhat delayed this year. For the first time in many years, the trivalent inactivated vaccine this year contains three new components. Both vaccine manufacturers have experienced yield difficulties with production of a component of the vaccine and this has delayed the arrival of stock at the Department of Health warehouse.

The projected availability of vaccine this year is as follows:

- Sufficient vaccine for the elderly and high risk group free vaccine program has arrived and is being distributed to general practitioner surgeries. This should ensure that the group at highest risk can access vaccine at the time of their annual influenza appointments.

- Vaccine for the private market will be arriving around the end of March and should be available at general practitioner surgeries in early April.

- Vaccine for the paediatric efficacy study in the Perth metropolitan area, for children aged at least six months and born after 1 April 2003, will arrive in stages. Some vaccine is expected by early April. Once this stock arrives we will advise providers with a detailed letter regarding the ordering process.

Many doctors will have seen reports about influenza virus oseltamivir resistance in the Northern Hemisphere flu season and the poor match of vaccine there to some circulating influenza A variants. The vaccine produced for the Southern Hemisphere winter is different and is a good match to the circulating strains currently in the Northern Hemisphere and is likely to be highly efficacious if the same viruses arrive here this winter.

Influenza vaccination remains a key protective activity for the elderly, people with chronic diseases and for young children. It is also effective for healthy adults wishing to reduce their risk of illness over winter.

The Department of Health has delayed its marketing campaign for the winter flu strategy in an attempt to reduce demand for vaccine until such time as vaccine stocks have arrived in general practioner surgeries. This year a two-pronged marketing approach will take place with early messages supporting vaccination and later messages emphasising the importance of respiratory hygiene, avoiding work attendance whilst ill and other mechanisms to reduce transmission.

Paediatric Influenza Immunisation: Update on the 2008 Metropolitan Trial

Detailed information on accessing vaccine through general practitioner surgeries and the schedule is being sent out to all general practitioners with the arrival of the paediatric vaccine. Additionally, detailed information with regard to the surveillance of influenza in general practitioner surgeries will be sent out via direct mail. This will include instructions on swab collection and transfer of specimens.
GPs are encouraged to test children meeting the case definition and to assist the research team with the identification of contacts if an influenza case in the target age group is diagnosed in their practice.

Disease WAtch is the newsletter of the Communicable Disease Control Directorate.
To subscribe or contribute, contact the editor, Andy Parnell, at cdc@health.wa.gov.au or 9388 4878.

The United States CDC has just announced a 75 per cent efficacy in their childhood vaccination program for influenza where children received two doses of vaccine. These data were for the age group 6 months to 2 years where the vaccine is thought to be least immunogenic and were collected across two US winters.

This is a very strong result and a repeat of this in the Western Australian study would be strong support for adding childhood influenza vaccine to the National program.

The United States has also upgraded its guideline to include the provision of influenza vaccination for all children up to the age of 18 years, having previously only vaccinated children up to the age of five. In addition to reducing disease in this age group significantly, vaccinating children has the additional impact of decreasing infection rates in the group most likely to share it with others in the community, including elderly grandparents at highest risk.

Detailed information with regard to the trial will be mailed closer to the availability of vaccine, but in the meantime general practitioners with questions are requested to email me at paul.vanbuynder@health.wa.gov.au with any specific queries. ■

Paul Van Buynder

Dengue Fever Risk in Bali

Dengue fever is an acute mosquito-borne viral infection characterised by sudden onset, fever for 2 – 7 days, intense headache, arthralgia, myalgia, retro-orbital pain, anorexia, nausea, vomiting and rash. A generalised erythema occurs early in some cases and a maculo-papular rash may develop as the fever declines. Lymphadenopathy and leucopaenia with relative lymphocytosis is common. The differential diagnosis in a returned traveller includes malaria, typhoid, measles, rubella, leptospirosis, scrub typhus and other relevant arthropod-borne viral infections, such as chikungunya.

There was a significant increase in notifications of Dengue fever in WA in 2007, with 54 cases reported, 3 to 4 times the usual annual number (see Table 1). The trend has continued into 2008, with 16 cases notified to the end of January. Significantly, a high proportion of cases over the past year acquired their infection in Bali. Official data on the incidence of Dengue in Bali is elusive but it is clear that there is significant transmission of the disease there from reports in Indonesian newspapers.

Between 1st January 2007 and 1st February 2008, a total of 70 cases of Dengue were notified in WA, with 41 (59%) associated with travel to Indonesia. Of the 41 "Indonesian" cases, 31 (44% overall) were confirmed to have occurred in people who had travelled to Bali. Another 3 "Indonesian" cases had no further specification of their area of travel, and at least some of these are likely to be "Bali cases". The Bali-associated cases were reported throughout 2007 and in January 2008.

The next most frequently reported country of acquisition was Thailand, with 8 cases (11%)—while 2 or 3 cases were associated with each of Singapore, India, Vietnam and the Philippines—and single cases were associated with a range of other mostly South-East Asian countries.

Laboratory data from the WA cases show that at least two serotypes of Dengue virus do circulate in Bali, and hence the risk of Dengue haemorrhagic fever occurring in WA travellers with earlier infections (from Bali or elsewhere) is a distinct possibility.

The Bali-associated cases were recently interviewed. Of these cases, 16 (53%) were not aware of the risk of Dengue in Bali prior to travel; 13 (43%) did not know how Dengue is transmitted; and only 14 (47%) used any form of insect repellant while in Bali. Most had stayed in resort hotels in well known tourist areas and had not travelled "off-the-beaten track". Eighteen (60%) recalled being bitten by mosquitoes while in Bali and 7 (23%) were hospitalised.

It is clear that there is a paucity of knowledge amongst West Australian travellers about Dengue fever and its occurrence in Bali. Many people contacted were dissatisfied by the lack of information provided to them by doctors and/or travel agents. They expressed the opinion that they would have taken precautions against mosquito bites, had they been aware of the risk.

Given the large numbers of Western Australians travelling to Bali, it is important that doctors advise people consulting them for advice prior to travel to Bali about the risk of mosquito-borne diseases, including Dengue fever. Similarly, Dengue fever should be considered and tested for in persons returning from Bali with febrile illnesses. ■

China Collaboration

The Communicable Disease Control Directorate (CDCD) has entered into a sister-state collaboration relationship with Zhejiang Province in China. This arrangement mirrors the Western Australian state arrangement which recently celebrated its 20th anniversary of close ties.

The Director of CDCD recently visited Hangzhou in Zhejiang Province for the celebrations of the opening of the new Zhejiang CDCD building and for discussions on future collaborative projects between the two states.

A number of training and educational exchanges are planned over the next 12 months and discussions are underway to investigate collaborative research projects, particularly in the fields of emerging infectious diseases and enhancing surveillance programs.

This year's exchanges will involve:

- A team of 10 visitors from Zhejiang with an interest in surveillance processes visiting Perth to learn about sentinel and other surveillance programs within Western Australia and then to move onto the National Centre to investigate national activities.
- A team of two laboratory experts visiting for six weeks to look particularly at the diagnosis and identification of avian strains of influenza A as part of Chinese pandemic response processes.
- A team of Western Australians from the Sexual Health and Blood-borne Virus Program and associated non-government organisations to visit Zhejiang late in 2008 to provide advice on prevention strategies with regard to the HIV epidemic in China. Zhejiang Province has recently introduced needle/syringe exchange programmes as a response to information from Australia about the success of these programs and is looking to further expand its dialogue with key target groups within China.

CDCD is currently part of a medical and academic consortium looking at the development of a submission for the continuation of the Australian Biosecurity Cooperative Research Centre (ABCRC). This work will focus on emerging infectious diseases, climate change, the introduction of new vectors and new viruses (particularly into the north of Western Australia) and enhancements to pathology services and surveillance systems in northern areas.

The work with our sister-state parties in China and the Biosecurity CRC is part of an over arching integrated program designed to better understand and provide early warning for emerging infectious diseases and changing patterns of existing diseases, such as community MRSA. This will enable early changes in control programs as a response to changing disease profiles in the community. ■

Dr. Paul Van Buynder (Director of CDCD, Western Australia) &
Dr. Cong Liming (Director of Zhejiang CDC) Zhejiang Province, China

Review of Notifiable Diseases, 2007

(refer to Tables 1, 2 and 3 for data)

Overview

There was a record 19,815 communicable disease notifications in WA in 2007, 25% higher than in 2006. A number of factors contributed to the increase, including this being the first full year of mandatory reporting by pathology laboratories, the first full year of rotavirus and varicella notifications; higher than usual influenza and cryptosporidiosis activity and a continuing increase in notifications of genital Chlamydia infection. The most frequently notified diseases in 2007 were genital Chlamydia (7,241 cases), *Campylobacter* infection (2,086), gonorrhoea (1,737) and hepatitis C (1,207).

Several conditions – Amoebiasis, Amoebic meningitis, Giardiasis, Hydatid disease and Scarlet fever – were removed from the list of notifiable diseases during the year, and are not included in this report.

Enteric Diseases

As in previous years, campylobacteriosis and salmonellosis were the most frequently notified enteric pathogens. However, whilst ***Campylobacter*** notifications have remained relatively constant in recent years, there has been a stepwise 60% increase in notifications of ***Salmonella*** over the last five years to a level similar to that last seen in 2000. There were five food-borne or suspected food-borne *Salmonella* outbreaks identified during 2007, due to a range of organism serotypes and associated with restaurants, a take-away facility and a community camp. Notifications of ***Shigella*** infection were at their lowest level since 2001, although the highest notification rates were recorded in the Kimberley, Pilbara and Goldfields, reflecting the usual association of this disease with poor hygiene and transmission in Aboriginal communities.

Cryptosporidiosis notifications increased from an average of 186 cases per annum over the previous three years, to 601 cases in 2007. The increase was attributable to a community-wide outbreak during the first few months of the year, mainly in metropolitan Perth, although the highest notification rate, as in previous years, was recorded in the Kimberley region. While 53% of cases during the outbreak were aged 0-9 years, this was in fact a smaller proportion than that observed for the same period over the previous three years (67%). No specific causes for the increase in notifications were determined, although there were anecdotal associations with attendance at public swimming pools. Several pools that were identified by three or more cases were inspected and most of these pools did not have adequate faecal accident protocols in place. Notifications for all other enteric diseases remained stable.

The introduction in late 2005 of **hepatitis A** vaccine for indigenous children at 12 months of age, with a booster dose at 18 months (along with a catch-up program for children up to 5 years of age) has had a dramatic effect on notifications of this disease. Notifications of hepatitis A reached an historic low in 2007 (21 cases), with no cases being reported in Aboriginal people and only 2 cases from regions outside the south-west corner of the state. Among the notified cases, 37% had acquired their infection overseas.

Notes on Tables 1, 2 and 3

1. Data extracted from WA Notifiable Infectious Diseases Database (WANIDD) on 1st February 2008. Data are subject to change.
2. All data analysed on basis of the earliest available date reflecting date of onset of disease ("optimal date of onset" in WANIDD), except those chronic diseases marked with * - which were analysed by date of receipt of the notification.
3. Data for Methicillin Resistant *Staphylococcus aureus* (MRSA) are not shown, as these are better subject to laboratory surveillance and a high proportion of cases are detected by screening and represent carriage only, rather than disease.
4. Crude rates per 100,000 population were calculated using the Rates Calculator Version 9.3.1 (Department of Health).
5. Total cases in Tables 2 and 3 also include cases with interstate or overseas residential addresses, or where no postcode was specified.
6. NN= not notifiable. These diseases became notifiable on 28th July 2006.
7. HIV notifications (Table 1) include WA residents and overseas students living in WA, but exclude overseas visitors, interstate residents and cases that have been previously notified in other States/ Territories.
8. General Practice Divisions defined by postcodes as per information provided by WA GP Network. Where a postcode was shared by more than one Division, cases were apportioned to Divisions (and rounded) on the basis of estimated population distribution for that postcode.

Table 1. Number of Notifications in WA, by Year, 2003 to 2007 (see page 4 for notes).

	Year (population)				
	2003	2004	2005	2006	2007
Disease	(n=1,952,238)	(n=1,982,204)	(n=2,010,113)	(n=2,036,443)	(n=2,0805,390)
Enteric diseases					
Campylobacteriosis	1,977	1,939	2,450	1,943	2,086
Cholera	0	0	1	0	0
Cryptosporidiosis	438	125	183	250	601
Hepatitis A	95	57	54	70	21
Hepatitis E	0	3	2	1	0
Listeriosis	6	9	4	13	2
Paratyphoid fever	0	13	4	1	3
Rotavirus	NN	NN	NN	161	723
Salmonellosis	615	622	798	798	985
Shigellosis	111	111	155	128	103
Shiga/Vero-toxin producing *E. coli*	3	0	12	3	2
Typhoid fever	10	5	8	11	9
Vibrio parahaemolyticus	3	3	0	3	7
Yersiniosis	2	1	2	3	5
Vaccine preventable diseases					
H.influenzae type b	1	0	2	0	2
Influenza	615	187	466	213	1,039
Measles	0	9	1	30	1
Mumps	13	10	23	17	107
Pertussis	255	2,096	525	269	125
Pneumococcal infection	150	197	140	130	123
Rubella	3	3	6	2	3
Varicella (chickenpox)	NN	NN	NN	246	322
Varicella (Shingles)	NN	NN	NN	164	377
Varicella (unspecified)	NN	NN	NN	129	663
Vector-borne diseases					
Arboviral encephalitis	0	0	0	3	0
Barmah Forest virus	22	72	84	167	87
Dengue fever	17	7	19	16	54
Malaria	56	36	85	115	82
Ross River virus	664	1,101	311	820	510
Schistosomiasis	82	92	403	272	357
Typhus (Rickettsial infection)	8	9	10	21	7
Zoonotic diseases					
Brucellosis	0	0	0	1	1
Leptospirosis	6	5	5	3	5
Psittacosis	4	0	4	4	3
Q fever	19	9	6	5	6
Blood-borne viral diseases					
Hepatitis B (newly acquired)	45	28	35	50	41
Hepatitis B (unspecified)*	400	397	382	559	607
Hepatitis C (newly acquired)	178	139	107	109	76
Hepatitis C (unspecified)*	1,097	1,053	971	1,042	1,207
Hepatitis D	0	0	2	1	4
Sexually transmissible infections					
Chancroid (soft sore)	0	0	1	0	0
Chlamydia (genital)	3,769	4,337	5,451	5,908	7,241
Donovanosis	1	1	2	0	0
Gonorrhoea	1,456	1,416	1,580	1,667	1,737
HIV	51	51	64	72	74
Syphilis (infectious)	17	50	19	49	98
Syphilis (non-infectious)*	142	157	183	140	131
Other diseases					
Haemolytic Uraemic Syndrome	0	0	0	0	0
Creutzfeldt-Jakob disease	0	3	1	1	3
Legionellosis	65	50	71	94	79
Leprosy	1	0	3	2	2
Melioidosis	3	4	1	5	4
Meningococcal infection	46	40	47	21	20
Tuberculosis*	64	81	61	113	70
Total	**12,510**	**14,528**	**14,744**	**15,845**	**19,815**

Table 2. Number and Rate (per 100,000 population) of Notifications in WA by Region, 2007

Disease	North Metropolitan (n=843,157)		South Metropolitan (n=762,019)		Central (n=73,086)		Goldfields (n=56,904)	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Enteric diseases								
Campylobacteriosis	863	102.4	668	87.7	78	106.7	49	86.1
Cholera	0	0.0	0	0.0	0	0.0	0	0.0
Cryptosporidiosis	240	28.5	160	21.0	12	16.4	28	49.2
Hepatitis A	14	1.7	4	0.5	0	0.0	0	0.0
Hepatitis E	0	0.0	0	0.0	0	0.0	0	0.0
Listeriosis	1	0.1	1	0.1	0	0.0	0	0.0
Paratyphoid fever	2	0.2	1	0.1	0	0.0	0	0.0
Rotavirus	368	43.6	212	27.8	13	17.8	17	29.9
Salmonellosis	365	43.3	289	37.9	36	49.3	20	35.1
Shigellosis	21	2.5	7	0.9	4	5.5	17	29.9
Shiga/Vero-toxin producing *E. coli*	0	0.0	0	0.0	1	1.4	1	1.8
Typhoid fever	5	0.6	3	0.4	0	0.0	0	0.0
Vibrio parahaemolyticus	3	0.4	2	0.3	0	0.0	0	0.0
Yersiniosis	4	0.5	1	0.1	0	0.0	0	0.0
Vaccine preventable diseases								
H.influenzae type b	1	0.1	1	0.1	0	0.0	0	0.0
Influenza	418	49.6	326	42.8	18	24.6	27	47.4
Measles	0	0.0	0	0.0	0	0.0	0	0.0
Mumps	7	0.8	8	1.0	1	1.4	1	1.8
Pertussis	40	4.7	55	7.2	3	4.1	3	5.3
Pneumococcal infection	38	4.5	37	4.9	2	2.7	10	17.6
Rubella	2	0.2	1	0.1	0	0.0	0	0.0
Varicella (Chickenpox)	105	12.5	109	14.3	7	9.6	55	96.7
Varicella (Shingles)	200	23.7	117	15.4	26	35.6	2	3.5
Varicella (unspecified)	262	31.1	209	27.4	24	32.8	19	33.4
Vector-borne diseases								
Arboviral encephalitis	0	0.0	0	0.0	0	0.0	0	0.0
Barmah Forest virus	15	1.8	38	5.0	2	2.7	7	12.3
Dengue fever	15	1.8	25	3.3	1	1.4	1	1.8
Malaria	56	6.6	19	2.5	0	0.0	1	1.8
Ross River virus	92	10.9	181	23.8	16	21.9	19	33.4
Schistosomiasis	268	31.8	81	10.6	1	1.4	0	0.0
Typhus (Rickettsial infection)	2	0.2	2	0.3	1	1.4	0	0.0
Zoonotic diseases								
Brucellosis	1	0.1	0	0.0	0	0.0	0	0.0
Leptospirosis	1	0.1	1	0.1	1	1.4	0	0.0
Psittacosis	1	0.1	0	0.0	0	0.0	1	1.8
Q fever	2	0.2	1	0.1	0	0.0	0	0.0
Blood-borne viral diseases								
Hepatitis B (newly acquired)	19	2.3	21	2.8	1	1.4	0	0.0
Hepatitis B (unspecified)*	319	37.8	182	23.9	8	10.9	24	42.2
Hepatitis C (newly acquired)	33	3.9	37	4.9	0	0.0	0	0.0
Hepatitis C (unspecified)*	451	53.5	422	55.4	31	42.4	26	45.7
Hepatitis D	0	0.0	3	0.4	0	0.0	0	0.0
Sexually transmissible infections								
Chancroid (soft sore)	0	0.0	0	0.0	0	0.0	0	0.0
Chlamydia (genital)	2,644	313.6	2,383	312.7	125	171.0	372	653.7
Donovanosis	0	0.0	0	0.0	0	0.0	0	0.0
Gonorrhoea	228	27.0	237	31.1	22	30.1	166	291.7
Syphilis (infectious)	58	6.9	12	1.6	0	0.0	9	15.8
Syphilis (non-infectious)*	37	4.4	18	2.4	0	0.0	7	12.3
Other diseases								
Creutzfeldt-Jakob disease	2	0.2	1	0.1	0	0.0	0	0.0
Haemolytic Uraemic Syndrome	0	0.0	0	0.0	0	0.0	0	0.0
Legionellosis	30	3.6	31	4.1	4	5.5	2	3.5
Leprosy	0	0.0	1	0.1	0	0.0	0	0.0
Melioidosis	0	0.0	0	0.0	0	0.0	1	1.8
Meningococcal infection	10	1.2	6	0.8	1	1.4	0	0.0
Tuberculosis*	41	4.9	22	2.9	0	0.0	1	1.8
Total	**7,284**	**863.9**	**5,935**	**778.9**	**439**	**600.7**	**886**	**1,557.0**

(see page 4 for notes).

Region											
Great Southern (n=55,440)		Kimberley (n=39,896)		Midwest (n=62,778)		Pilbara (n=43,412)		Southwest (n=143,847)		Total (n=2,080,539)	
Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
67	117.7	44	110.3	65	103.5	52	119.8	171	118.9	2,086	100.3
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
7	12.3	70	175.5	19	30.3	20	46.1	37	25.7	601	28.9
0	0.0	0	0.0	0	0.0	2	4.6	1	0.7	21	1.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
15	26.4	22	55.1	5	8.0	31	71.4	35	24.3	723	34.8
12	21.1	120	300.8	25	39.8	47	108.3	59	41.0	985	47.3
0	0.0	29	72.7	6	9.6	16	36.9	0	0.0	103	5.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
0	0.0	0	0.0	0	0.0	1	2.3	0	0.0	9	0.4
0	0.0	0	0.0	1	1.6	1	2.3	0	0.0	7	0.3
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.2
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.1
65	114.2	46	115.3	9	14.3	59	135.9	66	45.9	1,039	49.9
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
0	0.0	85	213.1	0	0.0	0	0.0	5	3.5	107	5.1
2	3.5	1	2.5	2	3.2	1	2.3	16	11.1	125	6.0
1	1.8	7	17.5	10	15.9	7	16.1	10	7.0	123	5.9
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
3	5.3	1	2.5	1	1.6	1	2.3	39	27.1	322	15.5
5	8.8	0	0.0	3	4.8	1	2.3	18	12.5	377	18.1
24	42.2	16	40.1	26	41.4	13	29.9	63	43.8	663	31.9
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
4	7.0	9	22.6	1	1.6	5	11.5	6	4.2	87	4.2
1	1.8	1	2.5	1	1.6	2	4.6	5	3.5	54	2.6
0	0.0	1	2.5	2	3.2	0	0.0	1	0.7	82	3.9
14	24.6	96	240.6	21	33.5	10	23.0	39	27.1	510	24.5
0	0.0	2	5.0	1	1.6	1	2.3	3	2.1	357	17.2
2	3.5	0	0.0	0	0.0	0	0.0	0	0.0	7	0.3
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.0
0	0.0	1	2.5	0	0.0	0	0.0	1	0.7	5	0.2
1	1.8	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
0	0.0	1	2.5	1	1.6	0	0.0	1	0.7	6	0.3
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	41	2.0
1	1.8	29	72.7	13	20.7	10	23.0	13	9.0	607	29.2
3	5.3	0	0.0	0	0.0	0	0.0	3	2.1	76	3.7
25	43.9	32	80.2	33	52.6	26	59.9	93	64.7	1,207	58.0
0	0.0	1	2.5	0	0.0	0	0.0	0	0.0	4	0.2
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
139	244.3	492	1,233.2	279	444.4	291	670.3	416	289.2	7,241	348.0
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
14	24.6	624	1,564.1	105	167.3	302	695.7	15	10.4	1,737	83.5
0	0.0	15	37.6	1	1.6	2	4.6	0	0.0	98	4.7
1	1.8	62	155.4	1	1.6	3	6.9	1	0.7	131	6.3
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.1
0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
3	5.3	0	0.0	1	1.6	1	2.3	6	4.2	79	3.8
0	0.0	0	0.0	0	0.0	1	2.3	0	0.0	2	0.1
0	0.0	3	7.5	0	0.0	0	0.0	0	0.0	4	0.2
0	0.0	0	0.0	0	0.0	0	0.0	3	2.1	20	1.0
1	1.8	2	5.0	1	1.6	0	0.0	0	0.0	70	3.4
410	720.5	1,812	4,541.8	633	1,008.3	906	2,087.0	1,126	782.8	19,741	948.9

Table 3. Number of Notifications in WA by General Practice Division, 2007 (see page 4 for notes).

Disease	General Practice Division														
	Canning	Fremantle	Coastal	Rockingham Kwinana	Osborne	Perth and Hills	Down South	Eastern Goldfields	Greater Bunbury	Great Southern	Kimberley	Midwest	Pilbara	Wheatbelt	Grand Total
Enteric diseases															
Campylobacteriosis	247	224	153	133	390	302	170	48	63	85	43	65	52	57	2,086
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	40	78	44	23	119	75	38	28	20	12	69	20	19	7	601
Hepatitis A	3	1	2	0	4	8	1	0	0	0	0	0	2	0	21
Hepatitis E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Listeriosis	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
Paratyphoid fever	1	0	0	0	1	1	0	0	0	0	0	0	0	0	3
Rotavirus	85	73	50	39	197	118	31	19	19	17	22	5	31	8	723
Salmonellosis	138	87	61	40	170	127	57	21	26	23	119	29	44	22	985
Shigellosis	5	1	4	0	11	6	1	17	0	1	29	6	16	3	103
Shiga/Vero-toxin producing *E. coli*	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Typhoid fever	2	2	1	0	3	1	0	0	0	0	0	0	1	0	9
Vibrio parahaemolyticus	1	0	0	0	1	2	1	0	0	0	0	1	1	0	7
Yersinosis	1	0	1	0	1	2	0	0	0	0	0	0	0	0	5
Vaccine preventable diseases															
H.influenzae type b	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
Influenza	107	119	50	71	188	175	74	25	22	71	43	9	58	14	1,039
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Mumps	3	3	1	0	2	4	4	1	3	1	85	0	0	0	107
Pertussis	18	18	8	11	24	7	11	3	13	2	0	2	1	3	125
Pneumococcal infection	13	13	8	11	16	14	5	10	5	1	7	10	7	2	123
Rubella	1	0	0	0	0	2	0	0	0	0	0	0	0	0	3
Varicella (Chickenpox)	63	32	12	9	59	35	23	55	21	5	1	1	1	5	322
Varicella (Shingles)	50	39	29	18	105	62	17	2	12	8	0	4	1	21	377
Varicella (unspecified)	88	84	46	22	119	95	52	20	26	30	16	28	13	14	663
Vector-borne diseases															
Arboviral encephalitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barmah Forest virus	9	7	3	3	4	8	20	7	5	5	9	1	5	3	89
Dengue fever	10	11	2	4	6	7	2	1	3	1	1	1	2	1	54
Malaria	13	5	6	2	23	26	1	1	0	0	1	2	0	0	82
Ross River virus	37	39	9	24	34	48	91	17	29	22	93	21	10	10	510
Schistosomiasis	65	10	5	7	166	87	2	0	1	0	2	1	1	1	357
Typhus	1	1	1	1	1	0	0	0	0	2	0	0	0	1	7
Zoonotic diseases															
Brucellosis	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Leptospirosis	1	1	0	0	0	1	0	0	1	1	1	0	0	0	5
Psittacosis	0	0	0	0	1	0	0	1	0	1	0	0	0	0	3
Q fever	0	0	0	1	1	1	0	0	1	0	1	1	0	0	6
Blood-borne viral diseases															
Hepatitis B (newly acquired)	9	3	5	2	7	8	7	0	0	1	0	0	0	0	41
Hepatitis B (unspecified)*	118	52	30	8	145	135	11	24	9	3	27	13	10	6	607
Hepatitis C (newly acquired)	13	12	3	10	9	20	3	0	2	3	0	0	0	0	76
Hepatitis C (unspecified)*	183	118	70	79	161	213	92	27	43	34	30	33	26	18	1,207
Hepatitis D	1	1	0	1	0	0	0	0	0	0	1	0	0	0	4
Sexually transmissible infections															
Chancroid (soft sore)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chlamydia (genital)	1,069	757	441	343	1,082	1,062	345	369	246	184	479	280	288	72	7,241
Donovanosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gonorrhoea	121	75	19	23	84	115	16	166	6	23	624	112	296	10	1,737
Syphilis (infectious)	10	2	18	1	10	30	0	9	0	0	15	1	2	0	98
Syphilis (non-infectious)*	11	2	1	4	21	16	2	7	0	1	62	1	3	0	131
Other diseases															
Creutzfeldt-Jakob disease	0	1	0	0	1	1	0	0	0	0	0	0	0	0	3
Haemolytic Uraemic Syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Legionellosis	12	9	7	6	14	8	9	2	2	3	0	1	1	4	79
Leprosy	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
Melioidosis	0	0	0	0	0	0	0	1	0	0	3	0	0	0	4
Meningococcal infection	0	4	4	1	1	6	2	0	2	1	0	0	0	0	20
Tuberculosis*	11	10	8	1	15	17	0	1	0	1	2	1	0	0	70
Total	**2,554**	**1,886**	**1,094**	**899**	**3,191**	**2,845**	**1,086**	**883**	**578**	**543**	**1,785**	**649**	**892**	**282**	**19,743**

Vaccine Preventable Diseases

There was only one case of confirmed **measles** notified in 2007, in a 13 year-old visiting Japanese student. With the exception of 2006, when there were 30 notified cases, mostly attributable to an outbreak amongst unvaccinated children associated with the AMMA religious group, measles remains a rare imported disease in WA. Similarly, there were only 3 confirmed cases of **rubella** in 2007, all in men who had been infected overseas (Thailand, Vietnam and Tanzania). By contrast, a sustained outbreak of **mumps** commenced in mid-2007, predominantly in teenage and young adult Aboriginal people in the Kimberley region, having originated in the Northern Territory. More cases were notified (107) than in any year since the disease became notifiable in 1993. Almost half the reported cases had received at least two doses of mumps vaccine. The outbreak has continued into 2008.

There were two cases of invasive ***Haemophilus influenzae*** **type b** (Hib) disease notified in 2007, both in Aboriginal children, one an unvaccinated 4 month-old, and the other an 18 month-old who had received only one dose.

There were 123 notifications of invasive **pneumococcal disease** in 2007, representing a 41% reduction in cases since it became a notifiable disease in 2001, with most of the decline occurring in the past 3 years, corresponding to the introduction in 2005 of universal vaccination of children with pneumococcal conjugate vaccine. Notification rates for pneumococcal disease are highest in the Goldfields, Pilbara and Kimberley regions, reflecting the higher incidence in Aboriginal people.

There has been a progressive decline in notifications of **pertussis** since the large epidemic of 2004. Only 125 cases were notified in 2007, the smallest number of cases since the year 2000.

After a relatively light season in 2006, when only 213 cases were notified, **influenza** activity increased in 2007, with over 1,000 notifications, predominantly influenza A. The increase probably in part reflects an increase in presentations and testing in the wake of media coverage related to the influenza-associated deaths of 3 young children in July.

2007 was the first complete year of reporting of **Varicella-zoster** infections. There were 1362 cases notified, of which 24% were chickenpox, 28% shingles, and the remainder unspecified. The Goldfields region had the highest rate of reporting of chickenpox, with a significant outbreak in young children in the latter part of the year.

Vector-Borne Diseases

Notifications of **Ross River virus** and **Barmah Forest virus** infection were significantly lower in 2007 compared to the previous year. The Kimberley region recorded the highest notification rate for each of these arboviruses, with the notification rate for Ross River virus infection being around 10-fold that of other regions of the State. There were no notifications of **Murray Valley encephalitis virus** infection in 2007. However, notifications of **Dengue fever** were around three-fold higher than the level experienced in previous years. These infections were all acquired overseas, mainly in South-East Asia, with Bali contributing over 40% of the cases (see separate article in this issue). **Schistosomiasis** notifications have been high for the past three years, reflecting increased migration under humanitarian programs from a number of African countries, particularly including Sudan, Liberia, Burundi and the Congo. Of the 357 cases notified in 2007, only 14 were in Australian-born persons, mostly travellers returning from Africa.

Zoonotic Diseases

Notifications of each of Brucellosis, Leptospirosis, Q fever and Psittacosis have remained very low and stable over the past five years. The single case of **Brucellosis** notified in 2007 was acquired in Bosnia-Herzegovina and two of five cases of **Leptospirosis** were acquired overseas.

Blood-Borne Viral Diseases

Overall notifications of **hepatitis B** infection have increased over the past five years, although reported numbers of "newly acquired" infection have remained relatively constant. Information on country of birth was available for 81% of hepatitis B cases notified in 2007 – of these, 79% were born overseas.

Notwithstanding this, the notification rate for hepatitis B was 2.7 times higher in Aboriginal compared to non-Aboriginal West Australians. Overall notifications of **hepatitis C** have been relatively constant over the past five years, with an apparent decline in both the number and proportion of "newly acquired" infections. In 2007, the notification rate for hepatitis C was 3.8 times higher in Aboriginal people and males out-numbered females by a ratio of 1.8:1. Notification rates for both hepatitis B and C were highest in the Kimberley region.

There were 74 cases of **HIV** infection notified in 2007, similar to 2006 but increased significantly compared to the number of cases notified in

2003. The median age of notified cases in 2007 was 37.5 years, 79% were male; and of all cases, 45% were men who have sex with men, 28% were heterosexual men, 20% were heterosexual women and none had injecting drug use as their major risk category.

Sexually Transmissible Infections

There has been a near doubling in notifications of **genital Chlamydia** over the last five years. This is thought to reflect a mixture of more testing, more complete notification and a real increase. In 2007, 65% of notified cases were aged 15 - 24 years and females outnumbered males by 1.4:1.

There has been a more modest 19% increase in **gonorrhoea** notifications over the same period, and 54% of cases notified in 2007 were aged 15 - 24 years and there was a male preponderance (ratio 1.3:1).

Notifications of **infectious syphilis** (primary and secondary disease) doubled in 2007 to 98 cases. The increase was largely due to an outbreak amongst men who have sex with men, which commenced in the metropolitan area towards the end of 2006. By contrast, notifications of non-infectious syphilis have declined.

Other Diseases

There has been a dramatic, albeit gradual, decrease in the incidence of **meningococcal infection** in WA. Only 20 cases were notified in 2007, down from a peak of 86 cases in each of 1999 and 2000, representing the lowest number of notifications in any year since the 1980's. Whilst serogroup C disease has effectively been eliminated since the introduction of the conjugate group C vaccine as part of the childhood vaccination program in 2003, the bulk of the decline in incidence of the disease in WA has been in serogroup B disease and would appear to reflect natural variation in the incidence of this enigmatic disease. There were no deaths from meningococcal infection in WA in either 2006 or 2007.

Notifications of **tuberculosis** declined to more usual levels in 2007, after a spike in 2006. Tuberculosis in WA remains almost exclusively a disease of those born overseas. Notifications of **legionellosis** declined in 2007 from 94 to 79 cases. Of these, 87% were due to *L. longbeachae* infection and there were two deaths amongst the latter cases. ■

Funded Vaccines for Refugee Catch Up

In WA, refugees who missed out on routine scheduled childhood vaccines in their country of origin are eligible for free catch up vaccines according to age and current immunisation status. This is funded by the Australian Government. The catch up schedule for older children and adults is found in the Australian Immunisation Handbook, 8th Edition, 2003 (soon to be replaced by the 9th Edition Handbook).

The process for accessing these funded vaccines is as follows:

- For refugees seen initially at the Migrant Health Unit, the first doses of vaccines are given at the unit and the discharge letter will include a form outlining the further scheduled vaccines required. This form can be faxed to the vaccine distribution centre as an authority to access funded vaccine. Copies of discharge letters can be requested from Migrant Health Unit on 9219 3256.
- For refuges who present at your service with no record of a visit to the Migrant Health Unit, you can contact the Cental Immunisation Clinic (CIC) – on 9321 1312 for authority to access funded vaccine. An authority form will be faxed directly from the CIC to the vaccine distribution centre. ■

Sexual Health Training for GPs - April 2008

The Sexual Health and Blood-borne Virus Program has funded the Australasian Chapter of Sexual Health Medicine (ACSHM) to conduct an interactive case-based Sexual Health Workshop for GPs from 4th - 6th April 2008 at the Duxton Hotel, Perth.

Topics covered will include: herpes, warts, discharges, sexual history taking, counselling techniques and contact tracing.

For more information, please contact Suzanne Marks at ACSHM:

Tel: 02 9256 9643
Fax: 02 9256 9693
Email: sexualhealthmed@racp.edu.au

Places are limited.

Doctors, Laboratories and Requirements to Notify Infectious Diseases

This is a reminder that doctors who diagnose notifiable diseases are required by law to notify these cases to the Department of Health. This has been enshrined in law since the early part of the 20th century via the *Health Act 1911*. In mid-2006 the *Health Amendment Act 2006* was passed, which further clarified the details that should be notified and also mandated notification by nurse practitioners and by pathology laboratories that identified notifiable diseases in testing. That is, WA maintains a dual notification system, with both diagnosing clinicians and laboratories required to report the case. For those interested, the *Health Amendment Act 2006* can be accessed at:

www.slp.wa.gov.au/statutes/YrByYr.nsf/2c010fb704a430a348256865002a4868/d51707833e3aea004825718b002db065?OpenDocument

Dual notification is important because doctors and laboratories provide complementary information. Critically, doctors can provide details on the notification form that are not available from laboratories, such as: date of onset; occupation; school or child-care attended; overseas travel history; a view on whether disease was acquired locally, interstate or overseas; indigenous status; vaccination status and other comments on clinical history. These details are of crucial importance for public health staff in following-up cases to prevent further transmission; and/or for epidemiological purposes in better understanding patterns of disease occurrence and for planning and evaluation of prevention and control programs.

Laboratories usually provide clinicians with a reminder of their obligations to notify diseases by printing a message on result forms. The message varies somewhat between laboratories, but generally takes a form such as:

In accordance with Health Act requirements, the laboratory will provide the Department of Health WA with this result. Please complete the Notification Form as further clinical information is required. See: (*www.public.health.wa.gov.au/2/245/3/notifications.pm)*

In addition, some laboratories are currently printing (or soon will print) a different message on results forms indicating a diagnosis of **genital Chlamydia** infection. Given the increasing incidence of Chlamydia and the pivotal role diagnosing doctors play in contact tracing/partner notification for this disease, this additional message directs the notifying doctor to helpful treatment and contact tracing guidelines for Chlamydia, at:

www.couldihaveit.com.au/professionals.asp or www.public.health.wa.gov.au/2/465/3/sexual_health_a.pm

The Department very much appreciates the cooperation and interest of diagnosing clinicians and laboratories in ensuring complete notification of infectious diseases of public health interest. ■

Change in WA Vaccination Schedule due to Pedvax Shortage

There is currently an international supply shortage of Pedvax and Comvax (containing the PRP-OMP *Haemophilus influenzae* type B – Hib). However, This is expected to be resolved by the end of 2008. In the interim limited stocks of Pedvax will be used to provide primary schedule vaccine to Aboriginal children in WA for the 2 and 4 month scheduled encounter.

Epidemiological studies in WA showed higher rates of invasive Hib disease in Aboriginal children at an earlier age of onset, particularly for meningitis. For this reason the Australian Technical Advisory Group on Immunisation (ATAGI) has recommended PRP-OMP Hib vaccines for Aboriginal children in WA as there is a good antibody response after the first dose at 2 months of age.

Hence, from 1st April 2008 the schedule to protect against Hib disease in WA will be:

- Pedvax for indigenous children at 2 and 4 months (unchanged)
- Infranrix Hexa for non indigenous children at 2, 4 and 6 months (unchanged)
- Hiberix booster dose at 12 months of age for all children - NEW.

A letter will be sent to all immunisation providers in WA with further information, an updated WA Vaccination Schedule and a new order form. ■

Typhoid: A Traveller's Infection

Typhoid fever is systemic infection caused by *Salmonella* Typhi. Transmission occurs through ingestion of food or water contaminated with the faeces or urine of infected persons. The incubation period ranges from 3 to 60 days with a mean of 8 – 14 days. The clinical picture varies from inapparent or mild illness (low-grade fever and diarrhoea) to severe clinical disease with abdominal pain, sepsis and multiple complications. Up to 20% of patients relapse following recovery and 2 – 5% become permanent carriers. Blood culture is the diagnostic mainstay for typhoid fever.

In the 5 year period 2003 to 2007, 43 typhoid cases were notified in WA (range: 5 to 11 cases per year). Twenty-one were male and 22 were female, with an age range of 4 to 87 years (mean age 30-years). Eighty-one percent of notifications (35/43) were in metropolitan residents, 14% in regional residents and 2 were non-WA residents. Thirty four (79%) cases had clearly acquired their infection overseas during recent travel, 1 (2.3%) was a secondary case related to a carrier from overseas and 3 (7%) had travelled to endemic countries in the previous few years and/or had ongoing links with family members from endemic countries. There were 5 notifications (11.6%) in Australian-born persons with no recent travel history, in whom the source of infection remained obscure. The most common regions of acquisition were South-East Asia (17/43, 13 of which were from Indonesia), the Indian sub-continent (9/43) and Africa (4/43). Nearly three-quarters (31/43) of cases were born overseas, mostly in Asia (21/31) and Africa (5/31). One death from typhoid occurred in a middle-aged male with leukaemia.

Information about typhoid fever is available on the Public Health website for:

Health professionals

(*www.public.health.wa.gov.au/2/243/3/diseases_az.pm*)
and the **general public**
(*www.public.health.wa.gov.au/1/10/2/infectious_dise.pm*)

Health professionals should be aware that:

- Typhoid fever is a notifiable disease requiring **urgent telephone notification** by the diagnosing doctor to their local Population Health Unit (www.public.health.wa.gov.au/3/280/3/contact_details.pm).
- Cases should be **excluded from low risk work, primary school and high school settings** (in which the risk of disease transmission is normally considered to be low) until they have been asymptomatic for 24 hours and they have formed stools.
- Cases should be **excluded from high risk settings** until they are asymptomatic and have had three negative faecal specimens collected at least 24 hours apart, commencing at least 48 hours after cessation of antibiotic therapy and at least one month after onset of illness. High risk settings/occupations include: food handlers; health care workers; children under 5 years of age attending child-care, kindergarten, etc; and older children and adults who are unable to maintain good standards of personal hygiene (e.g. those with learning disabilities).
- **Close contacts** (e.g. travelling companions or household members) of confirmed cases may also need microbiological clearance if they belong to the high risk groups defined above. Close contacts belonging to high risk groups are normally excluded from such settings until they have two consecutive negative faecal specimens, collected at least 24 hours apart.
- Staff from Population Health Units will provide advice on exclusion and clearance requirements for cases and contacts.
- Enteric precautions are required for hospitalised and institutionalised patients. ■