

Communicable Diseases Bulletin

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24 hour contact numbers for Hunter New England Population Health

**4924 6477 Newcastle
6767 8630 Tamworth**

Hunter New England Health Service

Increased Vigilance Required to Identify Pertussis Cases

There is an increase in notifications of pertussis in Hunter New England, NSW and Australia in 2008 compared with 2007 (see Table 1, page 4).

All adults who can be immunised, should be immunised. With the advent of an adult pertussis-containing vaccine, (dTpa Boostrix™), this includes all health care workers, child care workers, parents-to-be, grandparents-to-be, new parents and new grandparents.

Figure 1 (page 4) demonstrates that a large number of cases notified in HNE in 2008 are in the most vulnerable group - children <5 years (25/277).

Whilst a large proportion of this age group are immunised, the vaccine is not 100% protective. It is probable that the majority of young children contracted the disease from adults and older children whose immunity has waned.

Due to the increase in pertussis notifications, pertussis should be considered in ALL patients who present with a coughing illness.

Investigation

The most useful pathology test to request is determined by the duration of the cough (see Table 2, page 4).

PCR is the preferred test for pertussis diagnosis

A patient presenting with a paroxysmal cough of <4 weeks duration should always be tested for pertussis by PCR, using a nasopharyngeal swab. Some laboratories are confident that pertussis DNA can be obtained from a throat swab, so this could be an alternative specimen. Check with your preferred laboratory.

Only with a positive PCR and a supporting clinical picture as described below can an accurate diagnosis of pertussis be made.

Clinical presentation of pertussis

- A coughing illness lasting two or more weeks; and
- paroxysms of coughing; or
- inspiratory whoop; or
- post tussive vomiting

Whilst serology is included in the table it should not be considered confirmatory of pertussis unless there is a typical clinical illness and no recent history of pertussis vaccination.

Impact of immunisation on serology result

To interpret any pertussis serology, an immunisation history for adult pertussis - containing vaccine should be ascertained taking into account that in 2004 and 2005 adolescents in high school were offered the adult dTpa (Boostrix™) vaccine. The adult pertussis containing vaccine is also being promoted for all health care workers, child care workers, new parents and grandparents.

NOTE: All pertussis containing vaccines will give a positive IgA result for a period of time (Hunter Area Pathology Service (HAPS) suggest between 6 mths-2 years for adolescents/adults).

Adding clinical information to laboratory requests aids accuracy of pertussis notification data

In order for Hunter New England Population Health (HNEPH) to produce accurate data for pertussis notifications please include cough duration in the clinical notes on the laboratory request. This information is then transposed by the laboratories to the positive serology notification sent to HNEPH.

When cough duration is not reported on positive serology laboratory notifications, these are classified as suspected cases and are not included in any local, state or national data. This could underestimate the impact of the disease.

Treatment

The antibiotics recommended to treat pertussis are (see Table 3, page 4 for dosage):

- Erythromycin
- Clarithromycin
- Azithromycin

It is important to stress to patients that the purpose of antibiotics is to prevent infecting others. Whilst it is important to complete the course, cases are no longer infectious to others after 5 days of antibiotics so they may return to school/work.

Antibiotics are only required for cases with a cough of ≤ 3 weeks duration. After this time, a case is no longer infectious to others, therefore antibiotics serve no purpose.

The cough will invariably persist for longer (sometimes referred to as the "100 day cough").

Immunisation is not indicated in the treatment of pertussis. However, when treating a case take the opportunity to suggest immunisation to unimmunised contacts and to ensure infant and child contacts are up to date with scheduled vaccines.

Public health response to notifications

New national guidelines for the public health response to pertussis, commencing in NSW in November, now includes follow up of all pertussis PCR positive results, regardless of age.

Public health staff in NSW will continue to follow up any result for those in the <20 year age group, regardless of the test used.

Testing is only indicated in symptomatic patients. Testing is not applicable as a screen for pertussis or assessing immunity.

When pertussis occurs in a school age child or a child in a child care centre, HNEPH will send a letter of awareness to alert parents to observe for symptoms and check their child's immunisation status.

Who is recommended to receive prophylaxis?

National guidelines for prescribing prophylaxis for pertussis contacts are:

- all household members if there is a child aged <24 months who has had fewer than 3 doses of pertussis vaccine (the last dose given 14 days previously).
- a woman 36 weeks or more pregnant.
- non household contacts who are in the above categories.
- unvaccinated individuals who work with children, eg child care workers.
- unvaccinated health care workers.

Recommendations for child care contacts are different so if the child attends child care please contact Hunter New England Population Health on the phone number listed above.

Benefits of Ante Natal Influenza Immunisation Passed on to Infants

For a number of years, the NHMRC has recommended influenza vaccination for pregnant women¹ primarily to reduce the risk of an influenza infection in pregnancy leading to intra-uterine death.

Now, a recently published study² concurs with this recommendation and highlights benefits for the newborn.

The authors concluded that immunising the mother in the ante-natal period reduced the occurrence of proven influenza illness in infants up to six months of age by 63%. The study also showed a reduction by one third of all febrile respiratory illnesses in mothers and young infants.

This study goes some way to confirming the benefits of encouraging pregnant women and those planning pregnancy to be immunised with the seasonal influenza vaccination, particularly those who will be in the second or third trimester during the influenza season.

¹ NHMRC *The Australian Immunisation Handbook* 9th edition 2008 p 192

² Zaman K, Roy E et al. Effectiveness of Maternal Influenza Immunization in Mothers and Infants. *N Engl J Med* 359:1555-64 October 9 2008

Cases of Imported Dengue Fever on the Increase

Hunter New England Area Health has seen an increase in dengue notifications this year. Table 4 below shows the total number of dengue cases notified to HNEPH for the last five years.

Higher numbers of Dengue fever have been reported in our neighbouring countries, namely:

- Fiji
- Vietnam
- Samoa
- Thailand
- Singapore

Further afield, affected countries include India, Pakistan and Peru (Dengue/DHF update 2008 (41)(43). *ProMED-mail*. <http://www.promedmail.org>.

The countries currently experiencing an increase in dengue cases are popular Australian tourist destinations and all the dengue cases notified to HNEPH in 2008 (as at 5 November 2008), have travelled to neighbouring countries.

Table 5: Number of notifications of imported dengue fever in HNE 2003-2008 (ytd)

Year	Number of cases notified
2003	7
2004	5
2005	3
2006	2
2007	3
2008 ytd	9
Total	29

Actions

Discuss precautions with those planning travel to these areas particularly as the *Ae. Aegypti* species of mosquito (principally the vector for transmission) is a **day biting species**, with increased biting activity for 2 hours after sunrise and several hours before sunset (Heyman DL. *Control of Communicable Diseases Manual*, 8th ed. Washington, DC: American Public Health Association; 2004).

Preventative measures for travellers include travelling with and applying mosquito repellent, wearing protective clothing during the biting period mentioned above and ensuring accommodation has screened windows and doors and/or mosquito nets.

GP Notifications

HNEPH staff wish to thank the following GPs for reporting presumptive cases of notifiable diseases during September 2008.

Bronwyn Anderson	Katherine Martin
Gillian Fenton	Peter Miles
Robyn Fried	Robyn Molloy
Leonie Kirkwood	Jeffrey Regnis
Rosie Marley	Dr Wong

Confidential Fax Number for Newcastle PH Office is 4924 6048

The Newcastle office is receiving faxes from some GP practices to the old public health number. Please change your contact details for faxing communicable diseases and public health issues to our confidential fax number:

**Year to date (YTD) number of diseases notified to Population Health for residents of
Hunter New England Area – October 2008**

Disease	YTD: Number of notifications					Year Total: Number of notifications				NSW	
	Y2008	Y2007	Y2006	Y2005	Y2004	T2007	T2006	T2005	T2004	YTD	NSW2007
Blood Borne Virus											
Hepatitis B - newly acquired	5	7	5	3	8	8	8	3	9	36	55
Hepatitis B - unspecified	61	46	56	74	59	61	72	87	69	2351	2520
Hepatitis C - newly acquired	4	7	5	4	6	7	6	4	6	16	49
Hepatitis C - unspecified	431	352	353	344	369	415	428	404	454	3558	3544
Hepatitis D	0	0	0	2	0	0	0	2	0	9	11
Gastrointestinal Disease											
Cryptosporidiosis	34	46	81	70	25	106	109	146	51	391	544
Giardiasis	170	192	177	146	129	226	210	181	145	1505	1940
Haemolytic uraemic syndrome	0	4	0	1	0	6	1	2	1	9	12
Hepatitis A	1	0	2	6	7	1	2	6	8	55	65
Hepatitis E	0	0	0	0	0	0	0	0	1	10	8
Listeriosis	0	3	5	5	1	5	7	6	1	29	22
Salmonellosis	188	208	197	173	203	269	240	225	251	1739	2539
Shigellosis	1	4	2	8	12	4	3	8	12	80	70
Typhoid and paratyphoid	0	1	0	0	1	1	0	0	1	29	33
Verotoxin producing E. coli	3	5	1	5	2	13	3	10	2	10	23
Sexually Transmitted Infection											
Chlamydial infection - genital	1698	1461	1511	1388	1186	1750	1857	1670	1442	11251	12189
Chlamydial infection - congenital	9	1	8	4	6	2	10	5	9	29	30
Gonococcal infection	100	60	65	85	56	85	74	106	69	1074	1353
Syphilis	25	28	19	31	25	33	24	38	30	886	1065
Vaccine Preventable Disease											
Adverse events following immunisation	16	19	7	21	13	19	8	22	14	229	233
H. influenzae (type b) infection	1	1	1	1	1	1	1	2	1	9	7
Influenza	208	294	93	85	70	298	93	88	75	1455	1909
Measles	0	1	1	0	0	1	1	0	0	38	4
Meningococcal disease - invasive	7	8	11	11	19	12	12	13	24	69	111
Mumps	0	3	3	4	3	6	3	4	3	66	318
Pertussis	294	222	517	459	419	264	537	561	524	4599	2096
Pneumococcal disease - invasive	58	73	76	72	115	82	86	88	129	458	520
Q fever	27	47	45	35	52	68	59	51	73	124	205
Rubella	0	1	1	2	0	1	1	3	0	14	9
Vectorborne Disease											
Arboviral infection	383	331	410	243	301	406	452	292	335	1592	1497
Barmah Forest virus disease	113	115	181	102	84	135	193	120	98	464	572
Dengue fever virus disease	11	3	2	1	4	4	2	3	5	109	81
Malaria	6	14	18	25	9	17	19	30	9	92	95
Ross River virus disease	259	213	227	140	210	266	257	169	228	1015	841
Zoonoses											
Leptospirosis	3	2	9	9	18	2	10	11	20	12	9
Psittacosis	5	5	25	19	28	5	27	26	36	33	35
Other Conditions											
Creutzfeldt-Jakob disease	0	1	2	1	1	1	2	1	1	2	7
Elevated blood lead level	31	17	40	44	62	23	41	56	76	213	278
Legionnaires disease	6	7	6	4	3	9	10	4	3	66	105
Tetanus	0	0	0	0	0	0	0	0	0	1	2
Tuberculosis	8	16	12	13	9	19	12	15	13	290	461

Increased Vigilance Required to Identify Pertussis Cases – Tables and Figures *(see article page 1)*

Table 1

	2007	2008 (YTD)
Australia	5329 (25.5/100,000)	7872 (37.5/100,000)
NSW	2096 (30.3/100,000)	4230 (54.8/100,000)
HNE	264 (31.1/100,000)	277(40.5/100,000)

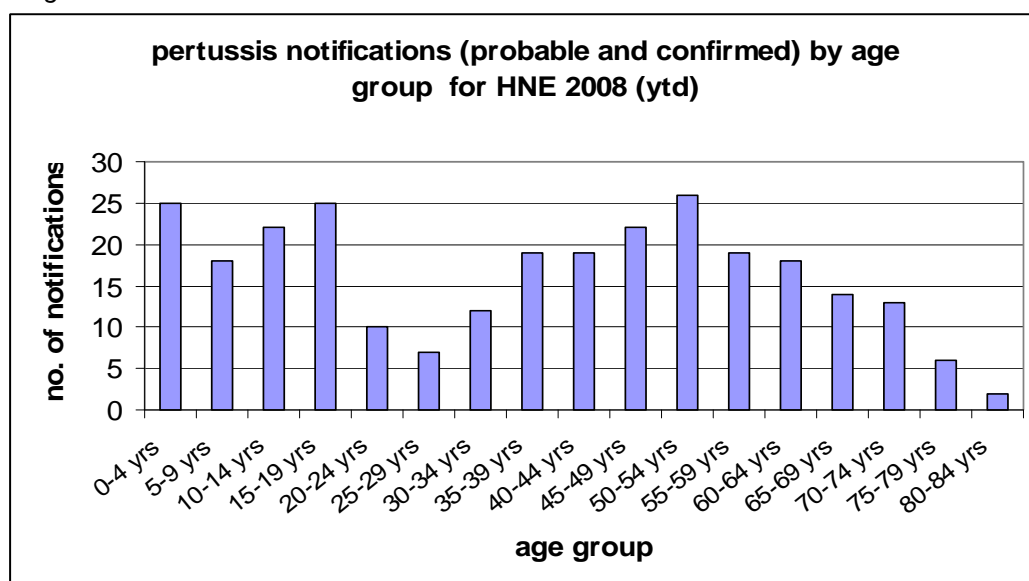
Table 2

Cough duration	Test	Specimen	Most reliable	When unreliable
< 2 weeks	Culture (gold standard)	nasopharyngeal aspirate/swab	< 2/52 from onset. Early in illness is best	> 2/52 from onset or 1 day post treatment
<4 weeks	PCR	nasopharyngeal aspirate/swab	< 4/52 from onset	> 4/52 from onset or 5 days post treatment
>3 weeks	Serology	blood	> 3/52 from onset	< 3/52 from onset of illness or < 2 years of age or within 5-10 years of pertussis containing vaccine

Table 3

Drug	Adult dose	Child dose
Azithromycin	Day 1 500mg x1 orally Day 2-5 250mg x1 orally	< 6 months 10mg/kg orally once daily for 5 days ≥ 6 months Day 1 - 10mg/kg up to 500mg as single dose orally Day 2-5 - 5mg/kg up to 250mg once daily orally
Clarithromycin	500mg BD x 7 days orally	> 1 month 7.5mg/kg up to 500mg BD for 7 days orally not recommended for children < 1 month due to unavailability of safety data
Erythromycin	250mg 6hrly x 7 days orally	>1 month 10 mg/kg up to 250mg 6 hourly for 7 days not recommended for children <1 month due to risk of causing pyloric stenosis

Figure 1



Cases of Imported Dengue Fever on the Increase, NSW, 2004-Sept 2008 *(see article page 2)*

Table 4 (see article page 2)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2004	5	2	2	2	3	1	3	3	2	2	2	1	28
2005	2	6	2	0	6	2	5	2	1	5	8	8	47
2006	7	4	3	5	0	5	10	3	3	6	4	1	51
2007	9	10	11	5	6	3	9	7	1	4	4	11	80
2008	10	12	13	2	11	15	11	10	1	.	.	.	85