

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

2008 Flutracking – how you can help track influenza

Visit www.flutracking.net and register to complete the weekly Flutracking survey to help us:

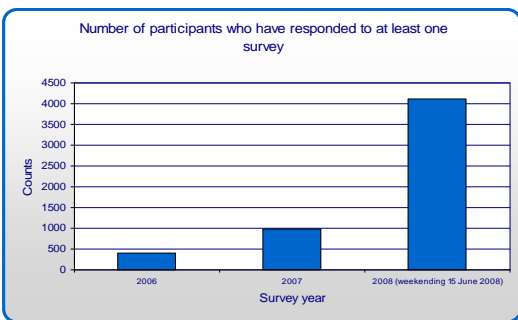
- detect early detection of influenza activity
- assess the severity of illness and attack rates of influenza
- assess the effectiveness of the influenza vaccine

Flutracking is a weekly online survey of influenza-like illness that aims to integrate syndromic information with case influenza vaccination status to enhance interpretation of current syndromic and laboratory based surveillance of influenza.

Surveillance of influenza can help detect and quantify severity of epidemics, and assist in the evaluation of control and vaccination measures against seasonal and pandemic influenza.

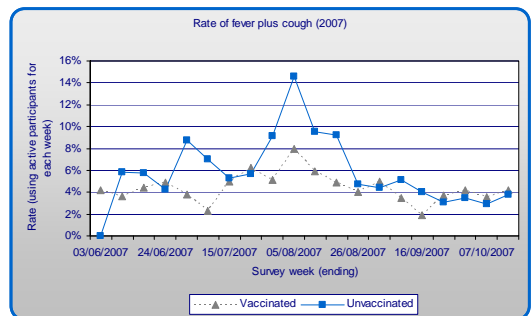
The survey takes less than 15 seconds to complete each week. Upon registration participants receive an email requesting them to complete demographic details online. For subsequent weeks during the typical flu season participants receive a weekly email containing a link to an online survey form for completion. Respondents can complete the weekly survey on behalf of other household members as well as themselves.

Participation rates for Flutracking have grown from 2006 to 2008.



The number of Flutracking participants in states and territories other than NSW has also grown in 2008, with almost a quarter of participants now being from Tasmania, and over 10% from Victoria.

Results so far have shown face validity when compared to laboratory data and emergency department data.



The influenza season of 2007 was a particularly severe one, probably the worst since 2003. While there was concern early in the season that the influenza vaccine may not have been effective, Flutracking showed quite marked differences between vaccinated and unvaccinated participants – similar to 2006 – reassuring us that the vaccine was indeed effective. Flutracking also found that unvaccinated participants had a higher rate of absence from work and normal duties in August suggesting this was when influenza hit hardest.

For more information, contact the Flutracking Team on 02 4924 6477 or at flutracking@hnehealth.nsw.gov.au

To join the survey, go to www.flutracking.net or for more information visit www.flutracking.net/info

Please also encourage your patients to visit the flutracking site.

GP Notifications

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

- | | |
|----------------|-----------------|
| J Chen | Andreas Tillman |
| Min Fang | Merlene Thrift |
| A Lavelle | S Ubeja |
| Tim Robilliard | |

Human metapneumovirus isolated in an aged care respiratory outbreak

Early in 2008 a general practitioner reported a mild respiratory illness outbreak in an aged care facility. Fifteen of 73 residents were affected. Human metapneumovirus (hMPV) was detected by PCR from a number of swabs.

The symptom profile was similar to an hMPV outbreak in an aged care facility reported in the United States.¹

It is unlikely that hMPV will be commonly reported in a laboratory viral screen of influenza-like illness, as few laboratories currently have the capacity to test for hMPV. The major reference laboratory does not currently test for hMPV during the influenza season.

However, when viral respiratory symptoms are present in institutions and influenza and respiratory syncytial virus (RSV) have been eliminated as the causative organism, infection with hMPV should be considered.

¹ Louie JK, Schnurr DP, Chao-Yang P et al. A summer outbreak of Human Metapneumovirus Infection in a Long-Term-Care Facility. JID 2007;196 (1 September); 705-708

Local GP identifies a cluster of pertussis in Tamworth

A local GP was instrumental in linking a cluster of pertussis that may otherwise have been difficult to detect using laboratory surveillance alone. The public health investigation that followed identified seven cases among two households, two workplaces and an extended family. Six cases were young adults and one a child. The cluster highlights how young adults with waning immunity can be important in the transmission of pertussis to 'at risk' groups, including young children and women in the final weeks of pregnancy. *The Australian Immunisation Handbook 9th edition* recommends booster vaccination with dTpa (diphtheria, tetanus and acellular pertussis vaccine) for adults who have regular contact with young children (including childcare and healthcare workers) and people considering parenthood.

Epidemiology of pertussis in Hunter New England Area Health Service

Pertussis remains endemic in Australia, despite good childhood vaccination coverage. Following disease immunity wanes after 4-20 years and after 4-12 years following immunisation. Many adults no longer have effective immunity despite having received childhood vaccination. In 2007 there were 264 notifications of pertussis in the Hunter New England Area Health Service with similar numbers of cases reported so far in 2008.

Findings of the cluster investigation

HNE Population Health was notified by a local GP of three cases of pertussis (two laboratory confirmed and one clinically compatible and epidemiologically linked) within their Practice in June this year. The GP was also aware of another laboratory confirmed case in another Practice in the same town that was linked to two of the cases (a household member of one and a work colleague of the other). This critical link led to the investigation.

In total seven cases of pertussis were identified as part of the cluster. Four were laboratory confirmed and three were clinically compatible cases that were epidemiologically linked to laboratory confirmed cases. One case was a child under the age of two years and the remaining six were adults aged 18-30 years. The cases were spread out over a seven week period and there were three distinct generations of transmission identified. The cluster included

two households and two separate work places. Figure 1 below describes the relationships within the cluster.

Of the many contacts identified, two were appropriate for chemoprophylaxis, including a seven week old baby and a 38 week pregnant woman. Both were appropriately managed by their GPs. It was fortunate that none of the contacts worked as healthcare or childcare workers and the child did not attend childcare.

Issues highlighted by the cluster investigation

The diagnosis of pertussis during the winter months can be challenging with many other cough illnesses prevalent. The index case had been unwell for more than six weeks before seeking medical attention. There were also diagnostic difficulties. Some clinical cases with an onset of illness of more than five weeks had nasal swabs for DNA performed and some cases who had been previously vaccinated had serological testing done, making laboratory confirmation difficult.

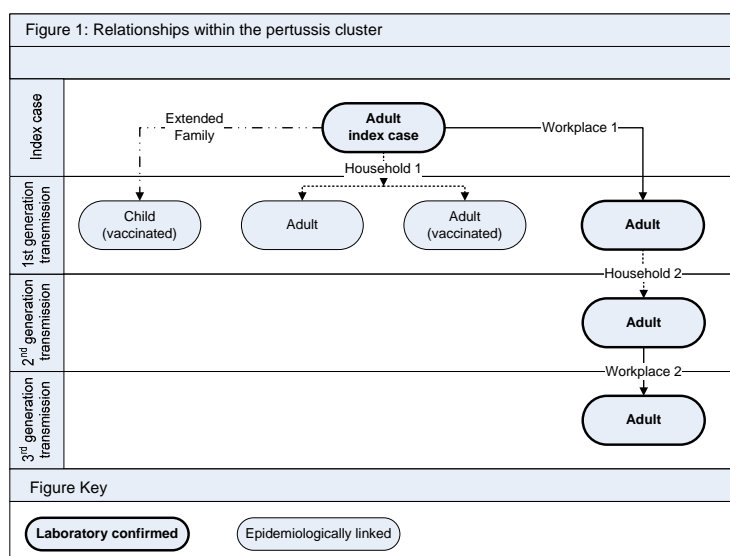
Nucleic acid testing (NAT)

- Polymerase chain reaction (PCR) is more sensitive than culture and likely to remain positive for a longer period (up to 4-5 weeks) after the onset of symptoms and for some time after commencement of treatment.

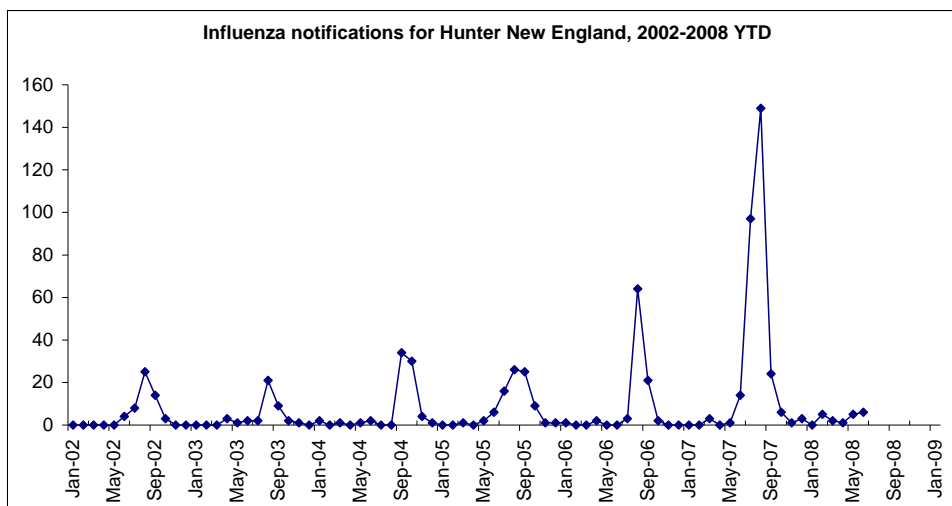
Serology

- *B. pertussis*-specific IgA is the most widely used test. Its sensitivity is quite low, especially in children <2 years old, but may be useful in persons >2 years old with a clinically compatible illness.
- IgA may be elevated for an unknown period after vaccination. Caution should be exercised in interpreting IgA results in a vaccinated person.
- Serum taken early in the illness may be falsely negative for IgA. A second serum sample taken 7 to 10 days later may be useful in confirming diagnosis.

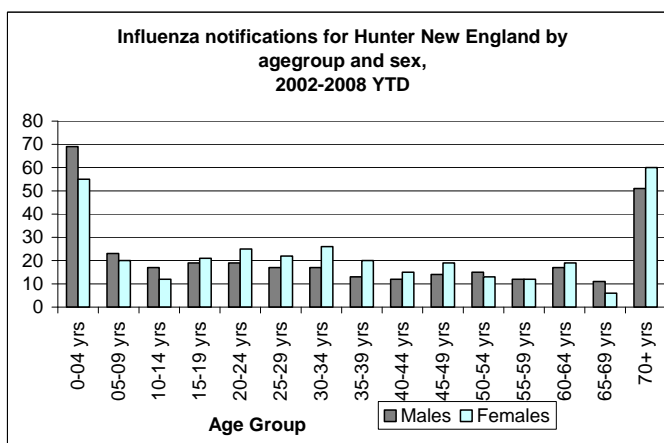
Of interest, the three adults who had not had a booster vaccination said they were unaware that pertussis was an issue for adults, nor did they realise that a booster vaccination could be obtained on request. This cluster highlights some of the difficulties involved in identifying cases of pertussis in adults and how young adults with waning immunity can be an important group for transmission of pertussis to 'at risk' groups.



Influenza



Influenza Notifications			
LGA in clusters	2008 Year to date	2007 total	2006 Total
Mehi Cluster			
Moree Plains	0	14	4
Narrabri	0	0	0
Peel cluster			
Barraba	0	3	1
Gunnedah	0	5	0
Manilla	0	0	0
Nundle	0	0	0
Parry	1	7	5
Tamworth	4	28	37
Walcha	0	0	0
Upper Hunter cluster			
Merriwa	0	3	0
Murrurundi	0	0	0
Muswellbrook	0	2	0
Scone	2	4	0
Quirindi	0	0	0
Lower Hunter cluster			
Cessnock	1	8	1
Dungog	0	4	0
Maitland	1	12	1
Singleton	2	2	2
Lower Mid North Coast cluster			
Gloucester	0	3	1
Great Lakes	1	4	0
Greater Taree	0	3	1
McIntyre cluster			
Bingara	0	0	0
Inverell	0	5	1
Yallaroi	0	1	2
Tablelands cluster			
Armidale Dumaresq	0	12	2
Glen Innes	0	1	0
Guyra	0	1	1
Severn	0	1	3
Tenterfield	0	2	0
Uralla	0	1	0
Greater Newcastle cluster			
Lake Macquarie	7	86	14
Newcastle	5	61	14
Port Stephens	0	25	3
Grand Total	24	298	93



Influenza can affect all age groups but complications are more likely to develop in the elderly, those with chronic illness or immune compromise and during pregnancy. Severe illness can occur in young children.

Annual vaccination is advised for anyone aged over 6 months wishing to avoid influenza, and is particularly recommended for people at increased risk of complications, including pregnant women, and for those who live or work with those at risk. Children under 9 years need 2 doses of influenza vaccine in the first season, separated by at least one month. The vaccine is 70-90% effective in healthy people under 65 years of age when the antigenic match between vaccine and circulating strain is close.

Patients with suspected influenza should not attend work, school or childcare and should not visit aged care facilities, hospitals or other institutions until recovered. Patients are infectious from the day before until at least 2 days after onset of symptoms.

Symptomatic patients should be encouraged to cover their mouth and nose when coughing and sneezing, promptly dispose of used tissues and frequently wash hands with soap and water or alcohol gel.

Influenza PCR is available for viral transport swabs taken from the nose and throat. PPE should be worn during collection.

These data are based on laboratory notifications and underestimate the true levels of influenza in the community. Notification numbers are influenced by the level of testing and this limits the capacity to compare counts over time.

To The Point

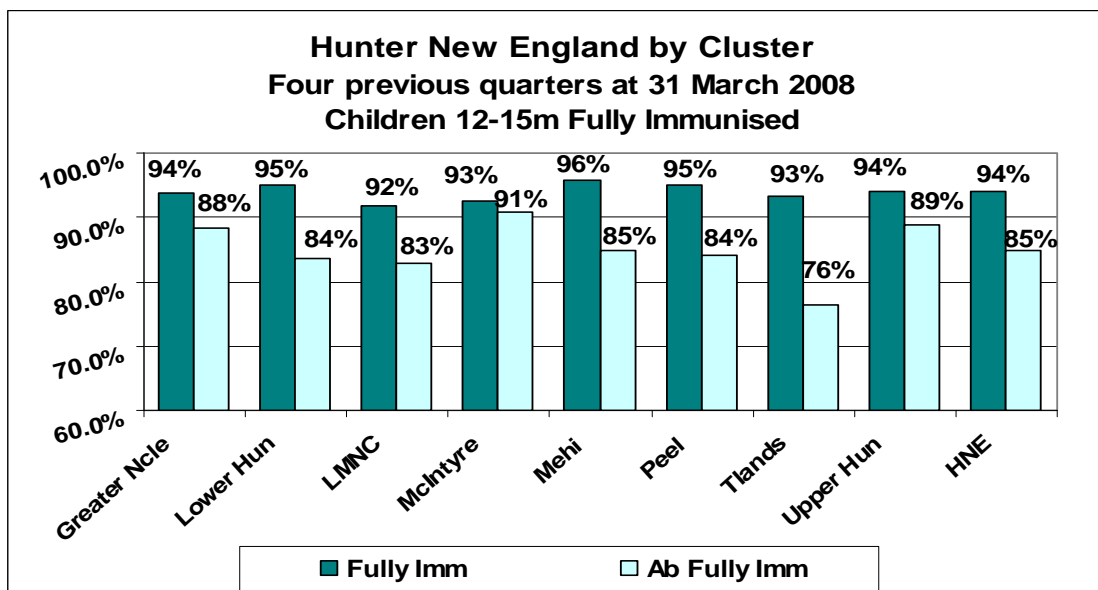
ACIR Immunisation Data as at 31 March 2008

NB: Percentages are based on children immunised within 90 days of a vaccine encounter falling due (at 2, 4, 6 and 12 months) as at 31 March 2008 and represent the previous four quarters of immunisation coverage.

Hunter New England (HNE) coverage rates are impressive overall, however immunisation service providers need to focus on improving Aboriginal coverage rates. HNE Population Health is committed to assisting and supporting immunisation service providers in this endeavour.

Figure 1 indicates that coverage rates for Aboriginal and Torres Strait Islander children at age 12-15 months are significantly lower than non-Aboriginal rates for all clusters. This data provides the opportunity for us to work together to improve immunisation rates in your area. It is important when sending immunisation administration information to the Australian Childhood Immunisation Register (ACIR) that you identify whether the child is of Aboriginal or Torres Strait Islander origin to ensure that data is correct and that extra efforts can be correctly targeted.

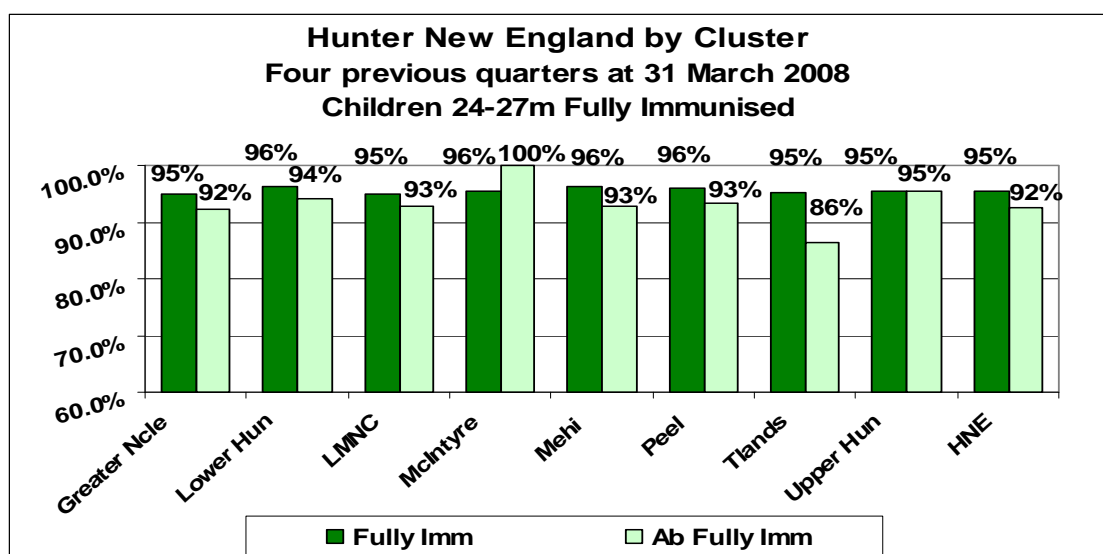
Figure 1: Coverage rates for children aged 12->15m by HNE Cluster



A comparison between rates described in Figure 1 (infants) and those for two-year-olds (Figure 2) indicates that most parents are willing to vaccinate their child, but that vaccination is delayed. Therefore, strategies need to address the delayed timing of vaccine administration, ensuring that more children are immunised at the recommended ages of 2, 4, 6 and 12 months.

Figure 2 indicates that by the age of two years coverage rates are improved for all clusters for all children, however, there is still effort required to further reduce the gap between Aboriginal and/or Torres Strait Islander children and non-Aboriginal children.

Figure 2: Coverage rates for children aged 24->27m by HNE Cluster



Please see next month's Bulletin for:

- Coverage rates for children aged 60->63m by HNE Cluster
- Coverage rates for children aged 12->15m comparing HNE with other Area Health Services, NSW and Australia