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Website now live!

The National Centre for Immunisation Research and Surveillance launched its long awaited website on Tuesday February 23. As previously mentioned in the December issue, the construction of the new website was undertaken by the University of Sydney and driven by the Communication Project Group at NCIRS.

So, what's new?

The website address has been simplified to www.ncirs.edu.au. Visitors can still use the old address (www.ncirs.usyd.edu.au) to access the new website; however, this address will be phased out by March 31, 2010.

Designated staff at NCIRS will be maintaining the website on a regular basis, ensuring

visitors continually receive relevant, interesting and timely information.

You will also notice the navigational structure is now more user-friendly and information is easier to access.

Some of the new and exciting features include updated fact sheets, immunisation resources useful to GPs and immunisation providers, as well as multiple links to other relevant and useful sites. One useful item added to the website is the 'Educational tools'. This includes the new, dynamic slide presentation *Myths and Realities - Responding to arguments against immunisation* which can be readily viewed online, or downloaded for your convenience (audio required).

For interested members of the public, the updated MMR Decision Aid is also available under 'Immunisation resources'. This decision aid has been designed to help parents or caregivers decide whether to immunise their child with the measles-mumps-rubella (MMR) vaccine.

For interested health professionals, a 'Clinical studies' page is also a new feature to the website, where information about completed and currently active clinical studies is available to view. Health professionals can keep up to date with the exciting and innovative research constantly evolving.

Please take the time to look at our new website and we encourage you to provide us with any feedback or suggestions by visiting our 'contact us' page.

We also appreciate your patience over the next couple of months as we continue to develop and review some pages.

In the meantime, don't forget to add the new website to your 'favourites'.



From left to right: Jo Perkins, Donna Armstrong and Danielle Grant



Staff at NCIRS celebrated with a branded cake to mark the launch of the new website

Meet Nick Wood



Nick Wood is a senior research fellow here at NCIRS and a staff specialist in general medicine at The Children's Hospital at Westmead. Nick joined us in 2002 and has brought considerable expertise and passion to his work at NCIRS.

Prior to working at NCIRS and CHW, Nick came across many challenges and rewarding experiences during his time in China and Southern Sudan, where he spent 2 years working with his wife for Medecins Sans Frontieres. 2009 proved to be a successful and rewarding year for Nick, having completed his PhD, focusing on examining the response to pertussis vaccines administered at birth and the longevity of immunity following hepatitis B vaccination in infancy (the first study of its kind in the world.) Also in 2009, Nick obtained an NHRMC project grant to conduct a larger multi-centre newborn pertussis vaccine trial, working alongside Professor Peter McIntyre.

“One of the most enjoyable things about this job as a clinician researcher is identifying problems from clinical practice and then setting up studies to investigate further to help clinicians.”

Nick currently holds an NHMRC post doctoral health professional research fellowship (2009–2012) and looks forward to continuing research into immunisation, focusing on neonatal and maternal vaccination as well as immunisation in Indigenous communities and developing countries.

NEW STUDY

Mums and Whooping Cough Study

Written by Dr Spring Cooper



The Mums and Whooping Cough Study commenced in the maternity unit of a Sydney public hospital on 15 December 2009 and is being led by Dr John Sinn from Royal North Shore Hospital in collaboration with NCIRS staff Dr Spring Cooper, Dr Nick Wood and Dr Julie Leask.

The aims of the study are to determine the feasibility of implementing routine pertussis booster vaccination to new mothers in the maternity ward to determine which method of framing pamphlets is more effective in persuading mothers and their partners to be vaccinated; and to determine what factors (including knowledge, attitudes, intentions, and perceived susceptibility and severity of pertussis) influence uptake of pertussis booster vaccine.

The study protocol dictates that all mothers who speak English should receive the initial questionnaire (measuring factors that may be related to vaccine uptake) and receive information about the vaccine in pamphlet form. After reviewing the pamphlet, mothers decide whether or not to be vaccinated. After making their decision, women are given a follow-up questionnaire assessing the reasoning for their decision. However, in the first 6 weeks of the study (15 December – 31 January), only 46 mothers were recruited into the study, out of a possible 269. These difficulties have led to a change in the study protocol; one midwife will now be employed to talk to all

women who have recently delivered a baby, ask them to complete a questionnaire, and offer them vaccination.

To assist in our analysis of the feasibility of future pertussis booster vaccination within the maternity ward, we conducted a baseline work-place assessment with the midwives. Initial midwife questionnaires, completed by 79% of hospital midwives, suggested that midwives thought that pertussis was an important issue and that most midwives thought they could incorporate pertussis booster vaccination into their daily duties. We will complete another assessment of midwives for comparison and to assist in determining why so few mothers were approached about the study.

It is our hope that a feasible solution to the issue of pertussis booster vaccination will be reached. It is obvious from the results thus far that this will not be possible without significant input from, and consultation with, midwives. Also, with the information collected from mothers, we hope to tailor our vaccination program and messages to better meet the needs of the community.

What the public should really know

Opinions on the H1N1 2009 vaccination

Written by Professor Robert Booy

As the public clamour has risen for recouping funds spent on treating or preventing the new pandemic swine flu and interested parties have said “I told you so” in relation to the relative mildness of disease, I have become more and more concerned that the imperative of public health is being overshadowed.



The questioning of the value of H1N1 2009 vaccines by experts from different fields has undoubtedly been done in good faith but may well have dealt a body blow to the eminently achievable goal of preventing a second wave of the pandemic virus with attendant dramatic reductions in transmission, disease and deaths. Many people returned from trips to the northern hemisphere during January–February,

some bringing the swine flu virus with them, and now that children have returned to school the risk of transmission has risen greatly. Europe, the USA and Asia have already had a second wave.

The double truth that the pandemic H1N1 2009 virus was by and large innocuous in the great majority of those infected but could, in a small percentage, be severe remains the case and was predicted to be so from the outset in April 2009. A small percentage of a very large number of infected people can still lead to a sizeable and important number of seriously infected people as demonstrated by intensive care units full to capacity across developed countries beginning for example in Australia from June 2009.

These admissions to intensive care have been almost entirely in people aged below 60 years of age, a large

proportion of whom, perhaps a third, had no underlying medical risk factor. Herein lies another duality that is surprising to many. The main reason any new pandemic is predicted to cause large numbers of deaths is because all in the population are new to the virus, and the elderly, being particularly vulnerable, constitute by far the greatest proportion of fatalities. With the current virus, there is evidence from Australia, North America, Asia and Europe for cross protective immunity in the elderly which is especially strong in those aged in their 80s and 90s and likely to have been exposed for the first time in early childhood to an influenza virus similar to the 1918 (or the same) pandemic virus and perhaps boosted many times by further infections throughout their lives.

The WHO continues to assess the impact of this pandemic as moderate and emphasise that it will not be possible to have an accurate understanding of casualty rates until at least a year after it has peaked, although we know already that influenza deaths in children and young adults have been higher than in recent memory.

There are reports from countries suggesting that uptake of the new vaccine for H1N1 2009 may be somewhere between 10% and 20% of the population. Almost all are likely to be immune as a consequence. If about 20% are also immune due to infection, then we may well not have quite enough population-wide protection to prevent the next wave, particularly in high-risk settings like schools and kindergartens.

I, as a doctor, am vaccinated against H1N1 2009 so that I am protected and do not pass on the infection to vulnerable patients. The vaccine is safe and effective. My nearest and dearest have been vaccinated too. Why not you?

PANDEMIC (H1N1) 2009 INFLUENZA VACCINATION CAMPAIGN

In conjunction with NCIRS, NSW Health have developed four new fact sheets for consumers, primarily aimed at the priority groups for the vaccine. These include persons who are at high risk of exposure (such as health care workers) and persons who are more vulnerable to severe infection (including persons with underlying medical conditions). The fact sheets below are available and can be accessed at:

<http://www.emergency.health.nsw.gov.au/swineflu/vaccination/index.asp>

Vaccination fact sheet for parents of children with chronic medical conditions

Vaccination fact sheet for pregnant women

Vaccination fact sheet for health care workers

Vaccination fact sheet for people recently discharged from hospital



Recent Journal Club presentations

Pertussis immunization in a high-risk postpartum population.



Healy CM, Rench MA, Castagnini LA, Baker CJ. *Vaccine*. 2009;27(41):5599-602.

Link to abstract: <http://www.ncbi.nlm.nih.gov/pubmed/19647062?dopt=Abstract>

This US-based study indicated that maternity-ward based pertussis booster vaccination can be implemented successfully, in a timely manner, and can achieve high rates of uptake. We're conducting similar research in a few Sydney-area hospitals. In addition to feasibility, our research also measures midwives' attitudes and the impact of such a program on workload (which is important in light of this study's finding that educating nurses was pivotal in programmatic success); uses a pre/post test design to determine factors associated with uptake of vaccine; offers information to mothers in three different styles to determine how best to communicate pertussis booster information to mothers; and is evaluating whether there are differences

between implementation in a public and private hospital.

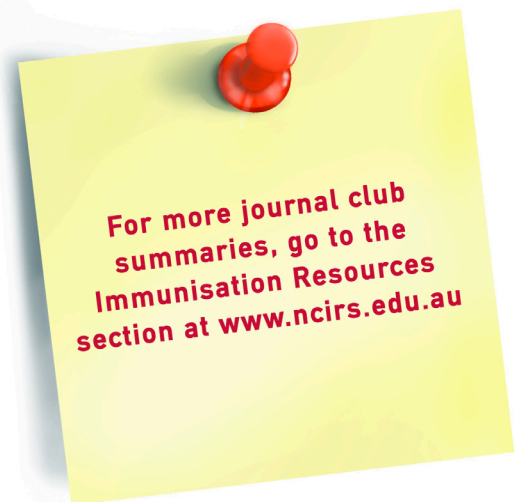
Presented by Dr Spring Cooper, Research Officer, NCIRS

Seven-valent pneumococcal conjugate vaccine in pediatric solid organ transplant recipients: a prospective study of safety and immunogenicity.

Barton M, Wasfy S, Dipchand AI, et al. *Pediatric Infectious Disease Journal*. 2009;28(8):688-92.

Link to abstract: <http://www.ncbi.nlm.nih.gov/pubmed/19633514?dopt=Abstract>

Immunocompromised individuals, including transplant recipients, experience higher rates of invasive pneumococcal disease (IPD) compared with healthy individuals. Unfortunately, sparse information exists to guide vaccination of this group. The study determined the safety and immunogenicity of the 7-valent pneumococcal conjugate vaccine (PCV7) in paediatric solid organ transplant recipients and the factors associated with attaining seroprotection. The study also explored the benefit of a dose of the 23-valent pneumococcal polysaccharide vaccine (PPV23), added after completion of a primary PCV7 series. The study was conducted at the Hospital for Sick Children, a major organ transplant centre in Toronto, Canada. Pneumococcal vaccine-naïve transplant recipients were prospectively enrolled at 4 months following transplantation and received three doses of PCV7 at 8-week intervals and a dose of PPV23 at 8 weeks after the third dose of PCV7. There were no serious adverse events following PCV7 or PPV23 in the 81 recipients who commenced the vaccine series. Overall, PCV7 was immunogenic for the majority of vaccine serotypes: serotype 19F was highly immunogenic while serotype 4 was the least immunogenic. There were some incremental benefits gained from a PPV23-boosted strategy, especially for cardiac recipients across all vaccine serotypes and for liver recipients across more immunogenic serotypes.



Presented by Dr Aditi Dey, Epidemiologist, NCIRS

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To subscribe, go to:

<http://mailman.ucc.usyd.edu.au/mailman/listinfo/ncirs-aip>

Some recent publications



Dean AS, Moffatt CR, Rosewell A, Dwyer DE, Lindley RI, Booy R, MacIntyre CR. Incompletely matched influenza vaccine still provides protection in frail elderly. *Vaccine* 2010;28:864-7.

Ridda I, MacIntyre CR, Lindley RI, Tan TC. Difficulties in recruiting older people in clinical trials: an examination of barriers and solutions. *Vaccine* 2010;28:901-6.

Seale H, Leask J, MacIntyre CR. Attitudes amongst Australian hospital health care workers towards seasonal influenza and vaccination. *Influenza and Other Respiratory Viruses* 2010;4:41-6.

Marshall H, McIntyre P, Robertson D, Dinan L, Hardt K. Primary and booster immunization with a diphtheria, tetanus, acellular pertussis, hepatitis B (DTPa-HBV) and Haemophilus influenzae type b (Hib) vaccine administered separately or together is safe and immunogenic. *International Journal of Infectious Diseases* 2010;14:e41-9.

Nolan T, McVernon J, Skeljo M, Richmond P, Wadia U, Lambert S, Nissen M, Marshall H, Booy R, Heron L, Hartel G, Lai M, Bassar R, Gittleston C, Greenberg M. Immunogenicity of a monovalent 2009 influenza A(H1N1) vaccine in infants and children: a randomized trial. *JAMA* 2010;303:37-46.

Quinn HE, McIntyre PB, Backhouse JL, Gidding HF, Brotherton J, Gilbert GL. The utility of seroepidemiology for tracking trends in pertussis infection. *Epidemiology and Infection* 2010;138:426-33.

Ladhani S, Heath PT, Aibara RJ, Ramsay ME, Slack MP, Hibberd ML, Pollard AJ, Moxon ER, Booy R. Long-term complications and risk of other serious infections following invasive Haemophilus influenzae serotype b disease in vaccinated children. *Vaccine* 2010;28:2195-2200.

Burgess MA, McIntyre PB, Hellard M, Ruff TA, Lefevre I, Bock HL. Antibody persistence six years after two doses of combined hepatitis A and B vaccine. *Vaccine* 2010;28:2222-6.

Wood N, McIntyre P, Marshall H, Robertson D. Acellular pertussis vaccine at birth and one month induces antibody responses by two months of age. *Pediatric Infectious Disease Journal* January 2010; 29:209-15.

McIntyre P. Adjunctive dexamethasone in meningitis: does value depend on clinical setting? *Lancet Neurology* 2010;9:229-31.

Gao Z, Gidding HF, Wood JG, Macintyre CR. Modelling the impact of one-dose vs. two-dose vaccination regimens on the epidemiology of varicella zoster virus in Australia. *Epidemiology and Infection* 2010;138:457-68.

Haworth E, Rashid H, Booy R. Prevention of pandemic influenza after mass gatherings – learning from Hajj. *Journal of the Royal Society of Medicine* 2010;103:79-80.

White OJ, Rowe J, Richmond P, Marshall H, McIntyre P, Wood N, Holt PG. Th2-polarisation of cellular immune memory to neonatal pertussis vaccination. *Vaccine* 2010;28:2648-52.

Seppelt IM, Webb SA, Booy R. All health professionals should receive the 2009 H1N1 influenza vaccine [editorial]. *Critical Care and Resuscitation* 2010;12:3-5.

Complete list available at www.ncirs.edu.au

For more information

National Centre for Immunisation Research & Surveillance
Kids Research Institute
Cnr Hawkesbury Rd & Hainsworth St, Westmead NSW 2145

P/ 02 9845 1433
E/ danielg1@chw.edu.au
W/ www.ncirs.edu.au

WHAT'S NEW

Immunisation Resources

The resources now available on the new NCIRS website have been developed by NCIRS for use by immunisation providers and interested members of the public.

Resources include:

- a series of detailed fact sheets designed for immunisation providers, covering both vaccine preventable diseases and vaccine safety
- the Australian Immunisation Professionals network, an email discussion group for immunisation professionals
- summaries of presentations made to the NCIRS immunisation journal club about relevant and topical aspects of immunisation and vaccine preventable diseases
- information on vaccination coverage in Australia including estimates of childhood immunisation coverage and maps showing levels of coverage in different areas of Australia
- an interactive MMR decision aid to help parents/carers decide whether to immunise their child with the measles-mumps-rubella (MMR) vaccine
- some educational tools for immunisation service providers
- links to other sources of information relating to immunisation and vaccines