

Newsletter

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The Australian Immunisation Handbook, 9th Edition



The 9th Edition of *The Australian Immunisation Handbook* was officially launched on Tuesday 8 April 2008 in Canberra at 11.30 am by the Hon. Nicola Roxon, MP, Minister for Health and Ageing. A PDF of the *Handbook* and the 4th Edition of *Myths and Realities* is now available from the Immunise Australia website <http://www.immunise.health.gov.au>.

NCIRS held a quiet celebration to toast the launch of the *Handbook* and to also thank all of the NCIRS staff for their contribution and forbearance during the *Handbook* revision process. The 9th edition *Handbook* contains a number of new chapters, human papillomavirus, rotavirus and herpes zoster, as well as an extensive review of the remaining chapters. We hope that immunisation service providers continue to find the *Handbook* a valuable resource.

The NCIRS Evidence Based Policy Support team produced an educational slide set for immunisation

service educators, which covers "What's New" in the 9th Edition *Australian Immunisation Handbook*. This slide set has been available on the NCIRS website www.ncirs.usyd.edu.au since 28 February 2008 and is freely downloadable and printable (but cannot be edited or altered).

The two downloadable files consist of 1) the presentation and 2) accompanying slide notes, which can be used by speakers as discussion points. During March 2008 there have been 11,700 hits to this site, and positive feedback from around the country. NCIRS hope that immunisation service educators are finding this presentation helpful.

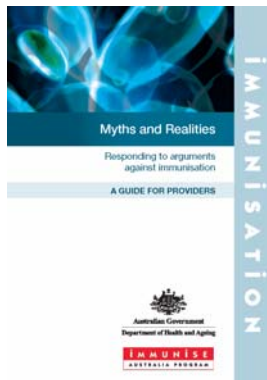
Donna Armstrong, Anita Heywood, Peter McIntyre, Jane Jelfs, Kristine Macartney and David Isaacs



Fact Sheets

NCIRS has placed revised versions of the "Quadrivalent HPV vaccine - FAQ" and "HPV vaccines for Australians" fact sheets and a new fact sheet, entitled "Vaccine components", on the NCIRS website www.ncirs.usyd.edu.au/facts/f-fact_sheets. The new vaccine components fact sheet provides information about vaccine components including why they are present in vaccines, and what, if any, effects these components may be associated with in vaccine recipients. New NCIRS fact sheets on influenza vaccines and herpes zoster vaccine will be coming up in the next few months.

Myths and Realities



Myths and Realities was recently updated by the NCIRS Evidence Based Policy Support team and was published to coincide with the release of the 9th edition of *The Australian Immunisation Handbook*. The 4th edition of *Myths and Realities* is an educational resource designed for use by immunisation service providers as an aid when discussing concerns raised by parents or patients during a vaccination encounter. The publication is divided into several subsections dealing with the manufacture and testing of vaccines, the immune response to vaccination, the need for immunisation, general safety queries, information about vaccine preventable diseases, and the vaccine components.

NIDMA Workshop - Modelling Infectious Diseases

25-27 February 2008



NCIRS hosted a workshop on infectious disease modelling in late February which attracted around 50 modellers and other interested participants from Sydney and interstate. The conference featured three international invited speakers - Simon Cauchemez from Imperial College London, Philippe Beutels from the University of Antwerp, and the well-known American modeller, Ira Longini (the latter presenting two studies on pandemic influenza).

The major themes of the conference were modelling the effect of control measures for respiratory infections (in particular influenza) and for sexually transmitted infections (STIs). New studies estimating the effect of school holidays on influenza transmission and the transmissibility of H5N1 influenza between humans in Indonesia were highlights of the respiratory infection section. Changes in the epidemiology of HIV in Australia and new developments in the control and in-host behaviour of both HIV and chlamydia were among the presentations in the STI section.

The workshop also had a focus on the intersection between modelling and clinical studies, with presentations of both new and existing studies generating discussion on data collection and techniques for analysing that data. Aside from the inclement weather, informal feedback on the workshop was very positive and research collaborations have already been generated as a result. The next workshop is currently being planned for March 2009.

Recent Journal Club Presentations

Varicella disease among vaccinated persons: clinical and epidemiological characteristics, 1997-2005.

Chaves, Zhang, Civen, Watson, et al. *Journal of Infectious Diseases*. 2008;197(Suppl 2):S127-31.

In the USA, varicella vaccination has been recommended since 1995. At this time the Varicella Active Surveillance Project also commenced to monitor trends in varicella and zoster disease and varicella vaccination coverage. This paper describes the clinical and epidemiological results of the data collections of two sites of all reported varicella disease in 1-14 year olds between 1997 and 2005, comparing disease in vaccinated and unvaccinated individuals.

During the study period, 7,380 cases of varicella were reported. Of those, 1,671 were cases of breakthrough varicella (varicella in a vaccinated person), with the proportion of cases vaccinated increasing over time (1997, 3.5% of cases; 2005, 72% of cases). Results were reported by vaccination status and also by age groups 1-7 years and 8-14 years. In all ages, varicella in a vaccinated child was significantly milder disease with 75% of cases resulting in <50 lesions (mild disease) and only 1.1% with >500 lesions (severe disease) compared to unvaccinated with 34% <50 lesions and 10.6% >500 lesions ($P < .01$). Disease severity (based on lesion numbers) was

associated with the presence of complications (7% mild disease, 10% moderate disease and 28% in severe disease). Milder disease was seen in 1-7 year olds compared to 8-14 year olds, irrespective of vaccination status.

The paper reported the adjusted odds ratios for specific clinical characteristics of varicella disease by vaccination status (adjusted for age and presence of immunosuppressive conditions). Compared with unvaccinated case patients, vaccinated case patients were 3.5 times less likely to report fever (aOR, 0.28; 95% CI 0.25-0.31), and duration of illness was half as long (aOR, 0.53; 95% CI 0.43-0.66). Vaccinated patients were more likely to have a maculopapular rash, while unvaccinated were more likely to have a vesicular rash. Rates of common complications (diarrhoea, skin infections, otitis media, and pharyngitis) were statistically significantly lower in vaccinated patients.

Although there are some limitations to the data collection, this paper describes a population-based study of varicella in both vaccinated and unvaccinated children and confirms the atypical disease presentation in vaccinated children. Although breakthrough varicella is usually a mild disease, complications and severe disease can occur. **Presented by Anita Heywood, Research Assistant, NCIRS**

Effectiveness of previous mumps vaccination during a summer camp outbreak.

Schaffzin, Pollock, Schulte, et al. *Pediatrics* 2007;120(4):e862-8.

Mumps is a vaccine preventable disease that may cause outbreaks. This paper describes a retrospective cohort study undertaken to investigate an outbreak among participants at a children's summer camp in the USA during 2005. As part of their investigation the authors sought to evaluate the effectiveness of the mumps vaccine using standard methods. Secondary vaccine failure was also assessed using linear regression.

Investigators actively sought out mumps cases, in addition to reviewing infirmary medical notes to retrospectively identify other cases. Mumps immunity and vaccination status was validated by checking of pre-camp health screen data and direct follow-up with medical care providers where data was unavailable. Exclusions for the study were made on the basis of having a prior history of mumps or if vaccination status could not be determined. Patient or parental recollection was not accepted for validation purposes.

In total, 31 of 541 camp participants (including staff) were classified as confirmed mumps cases (attack rate AR 5.7%). Of the 507 participants (including 29 cases) with available immunisation history, 440 were 2-dose recipients of mumps

vaccine, 46 were 1-dose recipients and 21 were unvaccinated. Of 368 children attending the camp, nearly all were fully vaccinated, with only two not having received their second dose. Vaccine coverage was less in staff with 21 of 139 staff not vaccinated and a further 44 only having had a single dose. Vaccine effectiveness was 92% for 2 doses of mumps vaccine and 80% for 1 dose. ARs were nearly 2.5 fold greater among single dose recipients compared with 2-dose recipients (8.7% versus 3.6%). ARs were lowest for those immunised within 5 years of the camp outbreak (0/72), increasing for those vaccinated within 6-10 yrs (12/308) 3.9% and 11-15 yrs (4/57) 7.0%. However, linear regression showed no trend for increasing AR by years since last vaccination, indicating this was not indicative of waning immunity.

The authors conclude that, despite high levels of vaccination, mumps outbreaks are able to persist. This is in part due to variable uptake among certain age groups. Vaccine effectiveness for 2 mumps vaccinations was greater than vaccine effectiveness for 1 mumps vaccination, reinforcing the need for a broad vaccination policy that recommends 2 mumps vaccinations. **Presented by Cameron Moffatt, Research Fellow, NCIRS**

Recent NCIRS Publications

- Andre FE, Booy R, Bock HL, Clemens J, Datta SK, John TJ, Lee BW, Lolekha S, Peltola H, Ruff TA, Santosham M, Schmitt HJ. Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bulletin of the World Health Organization* 2008;86:140-6.
- Brotherton JML. How much cervical cancer in Australia is vaccine preventable? A meta-analysis. *Vaccine* 2008;26:250-6.
- Ridda I, Motbey C, Lam L, Lindley IR, McIntyre PB, MacIntyre CR. Factors associated with pneumococcal immunization among hospitalised elderly persons: a survey of patient's perception, attitude, and knowledge. *Vaccine* 2008;26:234-40.
- MacIntyre P, Leask J. Improving uptake of MMR vaccine [editorial]. *BMJ* 2008;336:729-30.
- Macartney KK, Burgess MA. Varicella vaccination in Australia and New Zealand. *Journal of Infectious Diseases* 2008;197(Suppl 2):S191-S195.
- Newall AT, Scuffham PA, Kelly H, Harsley S, MacIntyre CR. The cost-effectiveness of a universal influenza vaccination program for adults aged 50-64 years in Australia. *Vaccine* 2008;26:2142-2153.
- Newall AT, Wood JG, MacIntyre CR. Influenza-related hospitalisation and death in Australians aged 50 years and older. *Vaccine* 2008;26:2135-2141.
- Cunningham AL, Breuer J, Dwyer DE, Gronow DW, Helme RD, Litt JC, Levin MJ, MacIntyre CR. The prevention and management of herpes zoster. *Medical Journal of Australia* 2008;188:171-6.

Upcoming Events

Prior to the 11th PHAA National Immunisation Conference, on Monday, 15 September 2008, the Public Health Association & Australian General Practice Network are running an Immunisation Pre-conference Seminar Day "Immunisation: the inside story" at the Surfers Paradise Marriott - Gold Coast. Details & registration forms are available from www.phaa.net.au.

The 11th PHAA National Immunisation Conference will be held at the Surfers Paradise Marriott Resort & Spa, Surfers Paradise, Queensland, from 16 to 18 September 2008. Registration & full conference program details may be found at www.phaa.net.au. The conference offers participants a lively & informative program. Overseas speakers include Dr Jane Seward, Deputy Director, Division of Viral Diseases, National Center for Immunizations & Respiratory Diseases, US CDC; Professor Kathryn Edwards, Professor of Pediatrics, Vanderbilt University School of Medicine; Professor David Salisbury, Director of Immunisation, Department of Health, London; Professor Paul-Henri Lambert, Centre of Vaccinology, Departments of Immunology, Pathology & Pediatrics, University of Geneva; Professor Charles Helms, Carver College of Medicine, University of Iowa; & Dr Nikki Turner, Director, Immunisation Advisory Centre, New Zealand. Australian speakers include Professor Ian Gust, Department of Microbiology & Immunology, University of Melbourne; Professor Peter McIntyre, Director, National Centre for Immunisation Research & Surveillance; Professor David Isaacs, Senior Specialist, Immunology & Infectious Diseases, The Children's

Hospital at Westmead; Professor Terry Nolan, Head, School of Population Health, University of Melbourne; Emeritus Professor Lloyd Sansom, Chairman, Pharmaceutical Benefits Advisory Committee; Dr Peter Richmond, Head, Vaccine Trials Group; Dr Julie Leask, Research Fellow, National Centre for Immunisation Research & Surveillance; Professor Richard Lindley, Department of Medicine, Western Clinical School, Westmead Hospital & University of Sydney; Dr Georgie Paxton, Paediatrician, Department of General Medicine, Royal Children's Hospital, Melbourne; Dr Joanne Molloy, GP, Medical Officer of Health for the City of Greater Geelong; Dr Rachel Skinner, Adolescent Physician, The Children's Hospital at Westmead; & Dr Ngiare Brown, Research & Policy, Menzies School of Health Research, Darwin. Plenary sessions currently include: Immunisation coverage - achievements & challenges; Adult vaccination - generation Y & beyond; Program delivery - talking, doing & targeting; Debate: Immunisation for health care workers should be compulsory; Paediatric influenza - where to from here; & New vaccines - from bench to clinic.

The concurrent program will include sessions covering: Program impact; Indigenous & Island populations; New vaccines; Knowledge, attitudes & practices; Influenza; Pneumococcal disease; Service delivery; Influenza pandemic; Adverse events; International issues; Human papillomavirus; & Immunisation coverage.

Come along & meet up with the NCIRS team at our stand during the conference.