

Newsletter

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"A Decisive Decade in Immunisation" NCIRS is turning 10!

The National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases (NCIRS) was established at the The Children's Hospital at Westmead by the Commonwealth Department of Health in **August 1997** to carry out research and give independent expert advice about all aspects of diseases which can be prevented by vaccination, particularly in children. It provides a national perspective on social and other issues related to immunisation.

NCIRS will celebrate 10 years in existence with a 10th Anniversary Conference at The Refectory, University of Sydney on Wednesday 18th July 2007 entitled **A Decisive Decade in Immunisation**. The Conference will coincide with the 2nd National Immunisation Workshop which will be held at the same location on Thursday 19th July 2007.

A number of renowned international and local guest speakers have agreed to take part in the Conference. Speakers include Professor Scott Halperin (Canada), Professor Heinz-Josef Schmitt (Germany), Sir Gustav Nossal, Professor Terry Nolan, Professor Margaret Burgess and Professor Lyn Gilbert, amongst others.

We'd love to see you there! Conference and Workshop programs and the Registration Form will be on our website shortly.

Draft of The Australian Immunisation Handbook, 9th Edition

The draft 9th edition of The Australian Immunisation Handbook was available for public consultation via the Immunise Australia Program website (www.immunise.health.gov.au) from 24th February - 6th April 2007. (The document can still be viewed although comments can no longer be accepted.)

NCIRS has been responsible for co-ordinating the overall update of the Handbook 9th edition over the past 18 months. This has been a mammoth task involving many NCIRS staff members as technical writers of individual Handbook chapters liaising with the Australian Technical Advisory Group on Immunisation (ATAGI) members as chapter sponsors.

The process has included literature reviews for each chapter, collection and dissemination of journal articles, systematic reviews of the literature for vaccines for newly preventable VPDs (rotavirus and human papillomavirus virus vaccines) in accordance with the NHMRC requirements, coordination of external reviewers for Handbook chapters, referencing, editing and proofing of the document at numerous stages of the process. To mark the release of the Handbook for public consultation, NCIRS had a quiet celebration! (See picture.)

Where to now?

The Handbook content approval process occurs in several stages and a number of statutory requirements guide the steps undertaken. Once the public consultation process is complete ATAGI considers each comment/suggestion and where required, changes are made in the Handbook. The Handbook then undergoes re-editing and proofing by NCIRS. Tabulated responses to public comment form part of the documentation which is then considered, in conjunction with the revised Handbook, by the National Health Council (NHC) of the NHMRC. The Handbook is likely to



Goodbye Handbook

be considered by the NHC in mid-late May 2007, and will be further be assessed by an NHMRC appointed external reviewer. It is anticipated that the Handbook will be fully approved by the NHMRC by mid year, after which it will be desk-topped for indexing, final proofing, and printing. It is anticipated that the print edition of the 9th Edition Handbook will be available in October or November of 2007.

Pre-testing a new version of "Myths & Realities: a guide for providers"

The purpose of this study was to gain provider feedback (pre-test) on the 4th edition of "Myths & Realities: A guide for providers". This edition incorporated new information related to existing myths and addressed new myths that have arisen in the past six years since the third edition was published.



Susanne Hansen

The introductory sections were re-written, and a section with the realities of the diseases was included making the 4th edition more comprehensive than earlier editions.

A visiting student from Denmark, Susanne Hansen, conducted the pre-test using in depth qualitative

interviews with 14 immunisation providers. The participants were

general practitioners and practice nurses recruited from areas with different socioeconomic backgrounds, and the interviews were done using the same interview guide with questions on the providers' experiences; issues

raised by parents; current use of publication; and feedback on the new edition.

In this study the providers reported few encounters with parents concerned about immunisation. However, most of the providers found that Myths & Realities could help them strengthen their arguments for immunisation. The new edition was seen as comprehensive and useful. Only a few believed it to be too detailed. To this extent, one GP raised the need for an additional parent-friendly version. The recruitment process indicated that more and more practice nurses are immunising, and practice nurses in particular seemed to gain confidence from reading Myths & Realities.

There were different preferences about the layout with a mix of preferences for online and printed version. GPs seemed to prefer an online version, where as PNs preferred a printed version.

All the participants were keen to receive the 4th edition of Myths & Realities. It was suggested that Myths & Realities should be issued with the Immunisation Handbook, a possibility being actively considered by the Department of Health and Ageing.

Vaccine Updates

HPV vaccine program

Following the decision late last year to fund the human papillomavirus vaccine Gardasil under the National Immunisation Program, (see

www.health.gov.au/internet/wcms/publishing.nsf/content/gardasil_hpv.htm), the National HPV vaccination program will commence in the coming months.

Starting in April 2007, the vaccine will be provided free to girls aged between 12 and 13 on an ongoing basis. There will also be a two year period where the vaccine will be provided free for girls and young women aged between 14-26 years.

- For girls in school, the program will start in April and parents will be asked to give consent for their daughters to participate in the program. By the end of 2008, all girls currently aged between 12-18 years will have had access to the vaccine in school. In some states, the vaccination program may be staggered, so that some schoolgirls are vaccinated in 2007 and the rest in 2008.
- For young women who are not in school and are still under 27 years, GPs and community immunisation clinics will provide the free vaccine from July 2007 until the end of June 2009.

More details about the program are available at www.health.gov.au/cervicalcancer.

The NCIRS fact sheet on HPV vaccines is available at www.ncirs.usyd.edu.au/facts/hpv_jan_2007.pdf.

Rotavirus Vaccine

The Australian Government recently announced that the two new oral live attenuated rotavirus vaccines, Rotarix® and RotaTeq®, will be included on the National Immunisation Program (NIP). The vaccines are given orally in either in a 2 dose schedule at ~ 2 and 4 months of age (Rotarix®) or a 3 dose schedule at ~ 2, 4, and 6 months of age (RotaTeq®). The funded program will commence in July 2007, with all babies born from May 1, 2007 eligible for free vaccine.

Rotavirus is the most common cause of severe gastroenteritis in infants and young children, causing around half of all hospitalised cases of gastroenteritis in children less than 5 years of age. Vaccination will reduce the risk of developing severe rotavirus gastroenteritis by ~85-100% and any rotavirus gastroenteritis by ~ 70%. Immunisation of older infants or children is not recommended. More information regarding rotavirus vaccines is available from the NCIRS Rotavirus fact sheet at

www.ncirs.usyd.edu.au/facts/rotavirus_vaccine_for_children_sep_2006.pdf.

Vale Aileen Plant

NCIRS extends its condolences to the family of **Professor Aileen Plant** who was a leader in communicable diseases epidemiology in Australia and globally. Professor Plant was one of the longest standing members of the NCIRS Scientific Advisory Committee (SAC) (see photo) and NCIRS Advisory Board serving on our SAC from the inception of NCIRS in 1997 until her untimely death in 2007. She will be sorely missed by NCIRS and by the public health community.



NCIRS Scientific Advisory Committee (2006)

Workshops & Conferences

International conference on infection prevention in Moslem pilgrims attending Hajj in Saudi Arabia, November 2006

In November 2006, Professor Robert Booy and Mohamad Sheikh attended an international conference on Health at Hajj and Umrah organised by Dr Shujah Shafi with support from Professor Booy and in collaboration with the Muslim Council of Britain and the Health Protection Agency, UK together with Queen Mary College, University of London.

The conference brought together nearly 150 experts with religious and public health backgrounds from the UK, Saudi Arabia, Australia and Singapore to share information on documented health risks and the provision and implementation of effective health

measures particularly for preventing meningitis and both seasonal and pandemic influenza. Influenza is a major risk particularly in winter and although authorities in Saudi do not yet require evidence of immunisation from all overseas pilgrims, discussions at the conference brought this outcome closer to fruition.

A consensus was reached at the conference to form a collaborative research group comprising of professional and community leaders from Australia, UK, Saudi Arabia and Singapore; a research program for 2008 was discussed and is being refined.

Capacity Building Grant workshop, Canberra, March 2007

NCIRS was a key contributor to the teaching workshop "Understanding Mathematical Models of Infectious Disease". Held in March as a satellite workshop to the CDNA conference, the workshop aimed to help public health practitioners in interpreting publications relying on mathematical models to generate their results. These are becoming more common in the infectious diseases field, particularly for informing pandemic preparedness. However, most professionals in this field are not mathematically trained. The workshop, supported by the Network of Infectious Diseases Modellers Australia (NIDMA) and an NHMRC capacity Building Grant in mathematical modelling, attracted around 30 attendees

from a variety of organisations in Australia and New Zealand, and consisted of interactive morning lectures and an afternoon paper discussion section. Feedback from the participants was generally good with the consensus being that it had been very helpful in developing their understanding of mathematical modelling. Particular thanks go to Jodie McVernon and Belinda Barnes for organising the program and venue/catering and to our own Jo Perkins for providing overall administrative support for the workshop. The program and a complete list of presenters are available from

www.ncirs.usyd.edu.au/cbg/docs/cdna_satellite.pdf.

Communicable Diseases Conference, Canberra, March 2007

The Communicable Diseases Control Conference 2007 was held in Canberra from 14th- 15th March 2007. The conference was well attended by experts in epidemiology, public health, clinical care, microbiology, infection control, policy and program delivery. The conference aimed to promote evidence-based discussion around communicable disease control. The conference included an outstanding panel of international and national invited speakers who presented the plenary sessions, including Dr Michelle Gayer from WHO and Dr David Fleming from the Bill and Melinda Gates Foundation. Topics covered in the plenary presentations

included; emerging infectious disease issues in Australia's region, humanitarian disasters and outbreaks of infectious diseases, international issues in infectious disease, and challenges and opportunities for disease control. Three NCIRS staff and two students presented talks at the conference, with another four staff presenting posters. Congratulations to NCIRS staff member, Ralf Itzwerth, whose poster won the prize for the "public health impact" category. A link to all posters can be found on the NCIRS website www.ncirs.usyd.edu.au/newsevents/index.html.

The IX International Symposium on Respiratory Viral Infections, Hong Kong, March 2007

NCIRS had a strong presence in the IX International Symposium on Respiratory Viral Infections. The symposium focused on cutting edge scientific information and providing guidelines and recommendations for future directives in the area of viral infections. NCIRS staff who attended the symposium were Holly Seale, Anita Heywood, Mary Iskander and Clayton Chiu.

A number of quality overviews and recent research findings were presented on a variety of respiratory viral infections, including adenoviruses, coronaviruses, rhinoviruses, enteroviruses, and respiratory syncytial viruses. A significant proportion of time was devoted to influenza research, including epidemiology, advances in diagnostics, recent developments in influenza vaccines especially adjuvant strategies, and novel therapeutics including antiviral agents. Particular attention was directed towards human H5 influenza and pandemic influenza with interesting presentations on the evolution of the influenza virus, the avian H5 situation in Asia, and studies on cross-reactive immunity and immunoglobulin therapy for pandemic influenza preparedness.

Dr Dominic Dwyer of the Centre for Infectious Diseases and Microbiology Laboratory Services, Institute of Clinical Pathology and Medical Research (ICPMR), Westmead Hospital presented a study evaluating the effectiveness of mask wearing in preventing influenza and other



Dr Dominic Dwyer

respiratory virus transmission. The study, which is led by Prof Raina MacIntyre of NCIRS, has gained national and international interest for its novelty in exploring non-pharmaceutical prevention methods of preventing influenza transmission. The study aims at recruiting families of children presenting to hospital with an

influenza-like-illness (ILI). Adults in the family are then randomised to one of three groups:

- 1) A surgical mask group
- 2) P2/N95 mask
- 3) Control group.

Outcomes measured were ILI and laboratory proven respiratory viruses in adult contacts. The study ran as a pilot in 2006 and will continue this year with a health care worker component added.

NCIRS also participated with a number of posters exploring the burden, transmission and prevention of influenza in high risk groups:

- Mary Iskander presented a *poster on the burden of influenza in children under 5 years admitted to hospital, exploring the health, social and economic impact of influenza hospitalisation in children and their families.
- Holly Seale presented a *poster on an outbreak of Influenza B which occurred in a chronic care hospital in 2005. The work focused on the outbreak investigation as well as information regarding the use of vaccination and antivirals as prophylaxis and treatment. The study concluded that a combination of both early antiviral intervention and promotion of influenza vaccination for both residents and staff members could be effective methods for preventing further outbreaks in similar facilities.
- Clayton Chiu presented a *poster on "Active surveillance and early intervention with oseltamivir for controlling influenza outbreaks in aged care facilities", which demonstrated that active surveillance in aged care facilities facilitates early detection for respiratory outbreaks, and early diagnosis enables timely institution of antivirals when influenza is the proven pathogen. These findings have potential implications on public health practice in controlling influenza outbreaks in residential care institutions.

*Visit www.ncirs.usyd.edu.au to view posters.

Recent Journal Club Presentations

- Safety and Efficacy of a Recombinant Hepatitis E Vaccine. Mrigendra Prasad Shrestha et al, March 1, 2007;356(9):895-903
- MJA Supplement Volume 185 Number 10, 20 November 2006, is titled: Preparing for an Influenza Pandemic. This edition was the subject of the presentation
- Superior relative efficacy of live attenuated influenza vaccine compared with inactivated influenza vaccine in young children with recurrent respiratory tract infections. Ashkenazi S, Vertruyen A, Aristegui J, Esposito S, et al. The

Pediatric Infectious Disease Journal
2006;25(10):870-879

- The Use of Combination Vaccines Has Improved Timeliness of Vaccination in Children. Helen Kalies, Veit Grote, Thomas Verstraeten, Luc Hessel, Heinz-Josef Schmitt, and Rudiger von Kries
The Pediatric Infectious Disease Journal
2006;25(6):507-512

To view summaries of the above presentations, go to www.ncirs.usyd.edu.au/newsevents/journal_club_summaries.htm.

Clinical Trials Update

Paediatric Active Enhanced Disease Surveillance (PAEDS)

The Paediatric Active Enhanced Disease Surveillance (PAEDS) pilot study is designed to test the value of hospital-based active surveillance for identifying and investigating childhood conditions of public health importance which are difficult to adequately capture

though current passive surveillance mechanisms. The project will target four conditions for a twelve month period in four Australian tertiary paediatric centres. The project is currently in the start-up phase with active surveillance due to commence on 1 August 2007.

Other clinical trials currently being undertaken by NCIRS

- A study on strategies to control seasonal influenza outbreaks in aged-care facilities - "Economic and Social Benefits of Treating and Preventing Influenza in Aged Care Facilities"
- A trial to evaluate the safety and effectiveness of a Combined *Haemophilus influenzae* type B (Hib) and Meningococcal C vaccine in 12 month old children with co administration of MMR vaccine
- Birth dose pertussis: Does early whooping cough (pertussis) vaccination provide earlier antibody protection for infants?
- Randomised controlled trial of a Meningococcal B vaccine: The aim of this study is to evaluate the safety, tolerability and immune response of the Wyeth investigational Meningococcal B vaccine in healthy children aged 8 - 14 years.
- A study to determine the immunogenicity of 7-valent pneumococcal conjugate vaccine (pcv-7) in vulnerable elderly populations at high risk for invasive pneumococcal disease.
- A study to assess Hepatitis B immunity in "at risk" children who received hepatitis B vaccination in infancy.
- Group A streptococcus (Gas) Antibody collection: The purpose of this study is to determine at what age children develop antibodies to (become infected with) Group A streptococcus bacteria.
- A cluster Randomised Controlled Trial of surgical and P2 masks in the community: This study aims to obtain much needed data on the efficacy of two types of face masks in preventing respiratory viral infections in households.
- A study to determine the immunogenicity of 7-valent pneumococcal conjugate vaccine (pcv-7) in bone marrow transplant patients.
- A RCT of influenza vaccine in preventing ischaemic vascular events in people aged 40-64 years - pilot study 2007, Aims: to measure the efficacy of influenza vaccine in preventing recurrent ischaemic vascular events.
- ARC Discovery project grant: Who acquires infection from whom? A study of travel patterns and emerging infections.

For further information regarding any of the above trials, please contact Annemarie Egan (AnnemarE@chw.edu.au).

Recent NCIRS Publications

- Lawrence G, Boyd I. Supplementary report: surveillance of adverse events following immunisation among children aged <7 years in Australia, 1 January to 30 June 2006. *Communicable Diseases Intelligence* 2006;30:438-42.
- Quinn HE, McIntyre PB. Tetanus in the elderly-an important preventable disease in Australia. *Vaccine* 2007;25:1304-9.
- Backhouse JL, Gidding HF, MacIntyre CR, McIntyre PB, Gilbert GL. Population-based seroprevalence of *Neisseria meningitidis* serogroup C capsular antibody before the introduction of conjugate vaccine, in Australia. *Vaccine* 2007;25:1310-5.
- Vlack S, Foster R, Menzies R, Williams G, Shannon C, Riley I. Immunisation coverage of Queensland Indigenous two year old children by cluster sampling and by register. *Australian and New Zealand Journal of Public Health* 2007;31:67-72.
- Booy R, Jelfs J, El Bashir H, Nissen MD. Impact of meningococcal C conjugate vaccine use in Australia [editorial]. *Medical Journal of Australia* 2007;186:108-9.
- Booy R, Iskander M, Viner R. Prevention of meningococcal disease [letter]. *New England Journal of Medicine* 2007;356:524-5.
- MacIntyre CR. New developments in BCG vaccine: implications for tuberculosis control [editorial]. *Epidemiology and Infection* 2007;135:177-80.
- Newall A, Beutels P, Wood J, Edmunds WJ, MacIntyre CR. Cost-effectiveness analyses of human papillomavirus vaccination. *Lancet Infectious Diseases* 2007;7
- Snelling T, Cripps T, Macartney K, Dalton D, Kesson A, Isaacs D. Nosocomial rotavirus infection in an Australian children's hospital. *Journal of Paediatrics and Child Health*. In press
- Gidding HF, Wood J, MacIntyre CR, Kelly H, Lambert SB, Gilbert GL, McIntyre PB. Sustained measles elimination in Australia and priorities for long term maintenance *Vaccine* 2007;25:3574-80.