NCIRS National Centre For Immunisation Research and Surveillance

Newsletter

Contents

November 2005

Hot Topic 1

Capacity Building Grant for Modelling of Infectious Diseases

The Capacity Building Grant (CBG) for Modelling of Infectious Diseases commenced in June 2005 and workshops were held in Sydney and Melbourne in August. The workshops covered an extensive range of topics from the influenza virus to data sources, and of course, the nuts and bolts of modelling infectious diseases. Aside from the intensive programs of talks, these workshops provided the opportunity for the six Team Investigators (TIs) to meet and get comfortable with each other before beginning work on the modelling projects detailed in the grant. The CBG has also held two teleconferences, in July and September, to discuss the recent and future workshops and collaborative projects.

The NCIRS TI, Dr James Wood, began work in June, before travelling to the UK in July to attend a two-week modelling course at the London School of Hygiene and Tropical Medicine, and meet with European modelling groups. TIs have also been appointed in the National Centre for Epidemiology and Population Health (NCEPH) at the Australian National University (ANU); the School of Population Health at the University of Melbourne; The Victorian Infectious Diseases Service; the National Centre for HIV Epidemiology and Clinical Research (in Sydney) and Curtin University in Perth.

The first major collaborative project for the CBG will use mathematical models to tackle the subject of pandemic flu. In particular, the models will be aimed at providing projections to the federal government on the effectiveness of a range of interventions, including border control and anti-virals. This project involves TIs from the University of Melbourne, NCIRS and NCEPH, ANU, under the guidance of Professor Niels Becker.

NCIRS Fact Sheets

NCIRS has developed two new fact sheets for immunisation providers regarding changes to the Australian National Immunisation Program that are to occur from November 2005.

From 1st November 2005, the varicella vaccine will be provided free under the National Immunisation Program (NIP) for all children at 18 months of age who do not have a reliable history of previously having had chickenpox. The program will also include a catch-up component for children aged 10-13 years who have not had the vaccine or chickenpox previously (this will be administered by each State and Territory). Information regarding the varicella vaccine and links to the program details can be found at our website: http://www.ncirs.usyd.edu.au/facts/varicella_zoster_for_children_sep_05.pdf.

Also from 1st November 2005, IPV (inactivated polio vaccine) will be funded through the National Immunisation Program and will replace OPV (oral polio vaccine) as the polio vaccine to be used at the currently existing time points in the vaccination schedule. In most circumstances (such as immunisation at 2, 4, and 6 months of age), IPV will be given in the form of a combination vaccine, reducing the number of injections the child would otherwise have needed if IPV had been given separately. Information regarding the change from OPV to IPV and links to the program details can be found at our website: http://www.ncirs.usyd.edu.au/facts/polio_oct_2005.pdf.

The Children's Hospital at Westmead
Cnr Hawkesbury Rd & Hainsworth St., Westmead
Locked Bag 4001, Westmead NSW 2145
www.ncirs.usyd.edu.au

Telephone +61 2 9845 1433
Facsimile +61 2 9845 1418
Email karynp@chw.edu.au
Please note our new phone and fax numbers

NCIRS-AIP (Australian Immunisation Professionals) Email Discussion List

The NCIRS-AIP has been up and running since 2003 and there are now over 218 Australian immunisation professionals subscribed to the NCIRS-AIP email discussion list.

NCIRS-AIP is an electronic email discussion group that has been set up for Australian immunisation professionals to facilitate communication between Australian immunisation practitioners, policy makers and researchers.

If you are interested in subscribing to this group, please log on at http://mailman.ucc.usyd.edu.au/mailman/listinfo/ncirs-aip and follow the instructions located there.

VPD Report figures available as PowerPoint slides

In December 2004, NCIRS published a report titled "Vaccine Preventable Diseases and Vaccination Coverage in Australia, 2001 to 2002" (Communicable Diseases Intelligence 2004;28(Suppl 2)). The report is available at http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/cda-pubs-cdi-cdi2004.htm#supp2.

The report includes figures showing disease and vaccination coverage trends and historical charts. These figures have been made available (with permission) as downloadable PowerPoint slides both on the CDI website http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/cda-pubs-cdi-cdi2004.htm#supp2 and on the NCIRS website http://www.ncirs.usyd.edu.au/facts/facts.html.

Recent Journal Club topics

Acute otitis media due to penicillin-nonsusceptible *Streptococcus pneumoniae* before and after the introduction of the pneumococcal conjugate vaccine. McEllistrem C et al *Clinical Infectious Diseases* 2005;40:1738-1744

Background: The impact of the 7-valent pneumococcal conjugate vaccine (PCV7 [Prevnar]) on penicillin-nonsusceptible *Streptococcus pneumoniae* (PNSP) recovered from children with acute otitis media (AOM) is unclear.
Methods: At 5 hospitals, 505 pneumococcal isolates were collected from children with AOM between 1 January 1999 and 31 December 2002. Isolates were collected from spontaneously draining ears (related to acute otitis media) or at insertion of tympanostomy tubes. Molecular subtyping was performed on 158 isolates.
Results: Overall, the number of pneumococcal middle ear isolates decreased over time, while the percentage of AOM cases due to non-PCV7 serogroups (including serotype 3) increased over time (from 12% in 1999 to 32% in 2002; P < .01). The percentage of cases due to vaccine-related serotypes (including serotype 19A) increased according to the number of PCV7 doses received, the precentage of cases due to serotypes contained in PCV7 significantly decreased for serotypes 6B, 14 and 23F whereas the percentage of cases due to serotype 19F remained unchanged both over time and according to the number of PCV7 doses received. The frequency of penicillin nonsusceptibility among PCV7 serotypes (range, 65%-75%) and non-PCV7 serogroups (range, 11%-27%) did not significantly change overall.
Conclusions Among children with AOM, the proportion of cases due to non-PCV7 serogroups increased, as expected, vaccine-related serotypes increased, and serotype 19F remained unchanged. Although a decrease in the proportion of cases due to PNSP occurred among children who required myringotomy and/or tympanostomy tube placement, the proportion of PNSP remained unchanged overall and among children with spontaneous drainage. The authors commented that "because future trends in the susceptibility patterns of pneumococcal isolates recovered from children with AOM are not easy to predict, continued surveillance is essential." A major limitation was that one hospital did not participate in the collection of samples in 2002 and we cannot extrapolate the results from these samples collected at grommet insertion or from spontaneously draining ears to all cases of acute otitis media.

Understanding and predicting parental decisions about early childhood immunizations Wroe AL, Turner N, Salkovskis PM *Health Psychology* 2004;23:33-41

This research investigated the factors that influence decisions about immunisations. Women in the third trimester of pregnancy (N=195) rated their likelihood of immunising their child; stated their reasons for and against immunising; and rated their perceptions of the benefits and risks of immunisation, feelings of responsibility, and anticipated regret if harm occurred. Immunisation status was determined at follow-up. Respondents wanted more detailed information about immunisation risks and benefits in the antenatal period. The survey found that 67% would definitely immunise and 5% would definitely not. There was a strong association between antenatal ratings of likelihood and actual immunisation at 8 weeks and 88% made immunisation decision antenatally. The strongest predictor of likelihood of immunising was anticipated regret if harm occurred after not immunising. In general, emotional factors were more predictive of immunisation decision than objective weighing of risks and benefits. The study supports antenatal interventions to aid decision making and more detailed information.

Hot Topic 2
NCIRS - An update

In late 2004, NCIRS underwent an external review and the results were available in early 2005. Following the positive review, NCIRS has been assessing its strategic direction with input from relevant people and organisations throughout Australia. The final strategic plan has yet to be finalised, however, the Centre has developed the following Mission Statement:

The purpose of NCIRS is to promote the optimum control of vaccine preventable diseases in Australia through research, surveillance and evaluation of scientific evidence.

Six strategic objectives are being developed: analysis and interpretation of national surveillance data, research relevant to control of vaccine-preventable diseases, national and international collaborations for the Centre, evidence-based policy and practice in immunisation, communication and educational resources for immunisation, and the overall management and governance of the Centre.

NCIRS has recently finalised a new funding agreement with the Australian Government Department of Health and Ageing. This agreement will see NCIRS continue and enhance its activities in the following areas:

- Evaluation of immunisation programs;
- Policy support including scientific support of the Australian Technical Advisory Group on Immunisation (ATAGI);
- Analysis and reporting on the Australian Childhood Immunisation Register (ACIR);
- A leading role in surveillance methodology and reporting of immunisation coverage;
- Support education in research and surveillance relevant to immunisation programs;
- Analysis and reporting on adverse vaccine events;
- Research in areas of epidemiology and sero-epidemiology;
- Research in areas of social and behavioural factors relating to immunisation and the prevention of VPDs.

The NCIRS Team - August 2005

Recent NCIRS Publications

- Brotherton JML, Hull BP, Hayen A, Gidding HF, Burgess MA. Probability of coincident vaccination in the 24 or 48 hours preceding sudden infant death syndrome death in Australia. *Pediatrics* 2005;115:643-6.
- Isaacs D, McIntyre P. Influenza vaccines in healthy children [letter]. *Lancet* 2005;365:2086.
- Cagney M, MacIntyre CR, McIntyre P, Torvaldsen S, Melot V. Cough symptoms in children aged 5-14 years in Sydney, Australia: non-specific cough or unrecognised pertussis? *Respirology* 2005;10:359-64.
- Burgess M, Forrest J, Jones CA. Congenital rubella. In: Elliott E, Cronin P, Rose D, Zurynski Y, editors. Australian Paediatric Surveillance Unit Surveillance Report 2002-2003. Sydney: APSU; 2005. p.26-7.
- Jones CA, Isaacs D, McIntyre P, Cunningham T, Garland S. Neonatal herpes simplex virus infection (HSV). In: Elliott E, Cronin P, Rose D, Zurynski Y, editors. Australian Paediatric Surveillance Unit Surveillance Report 2002-2003. Sydney: APSU; 2005. p.41-3.
- Macartney K, McIntyre P. Universal varicella vaccination [letter]. *Medical Journal of Australia* 2005;183:278-9.
- Gidding HF, Backhouse JL, Burgess MA, Gilbert GL. Immunity to diphtheria and tetanus in Australia: a national serosurvey. *Medical Journal of Australia* 2005;183:301-4.
- Lawrence GL, Boyd I, McIntyre PB, Isaacs D. Annual report: surveillance of adverse events following immunisation in Australia, 2004. *Communicable Diseases Intelligence* 2005;29:248-62.
- Andrews RM, Skull SA, Byrnes GB, Campbell DA, Turner JL, McIntyre PB, Kelly HA. Influenza and pneumococcal vaccine coverage among a random sample of hospitalised persons aged 65 years or more, Victoria. *Communicable Diseases Intelligence* 2005;29:283-8.
- Wood N, Backhouse J, Gidding HF, Gilbert GL, Lum G, McIntyre PB. Estimates of chronic hepatitis B virus infection in the Northern Territory. *Communicable Diseases Intelligence* 2005;29:289-90.
- Menzies R, Williams K, McIntyre P. Measuring vaccination coverage in Aboriginal and Torres Strait Islander children. In: Jackson-Pulver L, McDermott D (eds). Djiadi 1.1. Revised monograph of the inaugural Indigenous Health Research Day. Sydney: University of NSW Indigenous Health Unit; 2005.

Hot Topic 3
MMR and Autism - ABC Four Corners

On 12th September 2005, the ABC's Four Corners television program aired "Does the MMR jab cause autism?" This UK documentary looked at the science surrounding an alleged association between the MMR vaccine, inflammatory bowel disease and autism. It considered evidence for and against a causal link by interviewing parents, doctors and government officials.

NCIRS was alerted to the documentary a week before its broadcast and was able to inform its networks via the Australian Immunisation Professionals (AIP) email list so they could equip their providers with the inevitable questions they would face.

An online forum after the program included over 1100 email posts from people making their comments about the debate. It also included four panellists: Peter McIntyre (NCIRS), Natalie Silove (Children's Hospital Westmead), Anthony Warren (Autism Spectrum Australia) and Meryl Dorey (Australian Vaccination Network). The contributors represented a range of views about immunisation from those clearly opposed, to those supportive of MMR immunisation. Many were parents of autistic children seeking answers about their child's own condition and others were sceptical of vaccines in general. There were sometimes heated exchanges, making reading the forum's postings afterwards like walking over a battleground.

NCIRS has developed a fact sheet and decision aid for parents and providers seeking more information about the risks and benefits of MMR immunisation. We informed people of these resources on the Four Corners website and online forum. Following the programme, there was a large peak in visitors to the NCIRS website on 13th September 2005. NCIRS normally averaged between 3000-4000 hits on a working day. On the Tuesday following the story, there were 11,000 hits, and 5000+ hits have been maintained since.

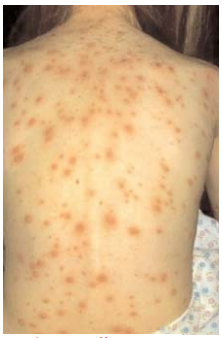
The BBC documentary closed the book on the theory that MMR causes autism by concluding with the numerous studies that have indicated no association between the vaccine and autism. Future research should address other areas that may lead to a better understanding of the causes of autism/ASD.

Commonly asked immunisation questions (and answers!)

In this newsletter feature, we share some of the commonly asked questions we receive. If you have any "common questions" that you'd like to see addressed in this format, please e-mail us (karynp@chw.edu.au) & we'll publish the answer in an upcoming newsletter.

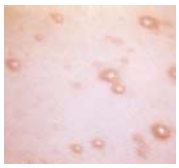
At what age should varicella (chickenpox) vaccine be given to young children?

From 1st November 2005, varicella vaccine will be provided free under the National Immunisation Program (NIP) for all children at 18 months of age who do not have a reliable history of previously having had chickenpox. Children born on or after 1st May 2004 will be eligible to receive free vaccine from November. The program will also include a catch-up component for children aged 10-13 years who have not had the vaccine or chickenpox previously (this will be administered by each State and Territory). Children born before 1 May 2004 who are not yet eligible for the free catch-up program for a one year age group between 10 and 13 years, can be vaccinated earlier by their immunisation provider but will have to pay for the vaccine.



Varicella

The age of 18 months has been recommended for vaccine administration for practical reasons including the availability of a time point in the immunisation schedule, and in part because data from studies done in the United States suggest that varicella vaccine is more effective when given around this age as compared with at an earlier age. According to the manufacturer's product information regarding the two available vaccines, Varilrix can be given as young as 9 months, and Varivax Refrigerated may be given from 12 months of age. However, the Australian Immunisation Handbook states that one dose of vaccine may be given between age 12 months and 13 years of age. It is suggested that children who have received privately purchased chickenpox vaccine before 12 months of age should receive free vaccine at 18 months of age, as the vaccine is not as effective when given to children younger than 12 months (see the brochure "National Varicella Vaccination Program Some Common Questions and Answers" at http://immunise.health.gov.au/varicella/varicella_public_dl.pdf). No additional dose is recommended for children who received varicella vaccine between the ages of 12 and 18 months.



Varicella lesions

Further information regarding varicella vaccine can be found on our NCIRS website fact sheet at:
http://www.ncirs.usyd.edu.au/facts/varicella_zoster_for_children_sep_05.pdf
Further information regarding the National Varicella Vaccination Program can be found at:
http://immunise.health.gov.au/varicella/index.htm

**Images courtesy of CDC public image library*