14th Public Health Association of Australia National Immunisation Conference

The Public Health Association Australia hosted another successful National Immunisation Conference in Melbourne in June. The theme of the conference this year was “Maintaining excellence in immunisation: consolidating gains, identifying gaps”.

Several prominent international and Australian experts presented excellent plenary sessions in the areas of coverage and implementation, vaccine safety, pertussis, report cards on measles, invasive pneumococcal disease, rotavirus and HPV), and new vaccines. International speakers included Professor Walter Orenstein, Dr Marc LaForce and Associate Professor Nikki Turner.

Over 30 NCIRS staff and students attended the conference and NCIRS staff members Associate Professor Kristine Macartney, Associate Professor Julie Leask and Dr Nick Wood were invited speakers.

The full program, abstract book, and audio and video of some of the invited speakers’ presentations are available on the PHAA website (www.phaa.net.au/14thNationalImmunisationConference.php).

All the good work being reported at the conference was also
National Immunisation Conference continued

shared on Twitter, reaching far beyond the conference audience to Australian health professionals, overseas researchers, advocates and the general public.

Presentations by NCIRS staff are listed below and some of these are summarised later in this newsletter.

Presentations by NCIRS staff

Julie Leask – Vaccine acceptance and risk communication [plenary]
Kristine Macartney – Active surveillance in vaccine pharmacovigilance [plenary]
Nick Wood – Pertussis: strategies to protect our youngest infants [plenary]
Frank Beard – No booster required: systematic review of duration of hepatitis B vaccine protection
Aditi Dey – Declining rates of high-grade cervical abnormalities post HPV vaccination in Australia
Melina Georgousakis – Framework for updates to The Australian Immunisation Handbook
Melina Georgousakis – Review of the immunogeticity and efficacy of inactivated quadrivalent influenza vaccines
Bryley Hull – Trends in the percentage of vaccination objectors on the ACIR, 2002–2013
Sanjay Jayasinghe – Early impact and effectiveness of 13vPCV against invasive pneumococcal disease in children
Telphia Joseph – Aboriginal Medical Services and Aboriginal childhood immunisation in New South Wales
Brendan Kelaher – The National Aboriginal and Torres Strait Islander Immunisation Network
Brendon Kelaher – The process evaluation of hepatitis A vaccination program
Catherine King – Influenza vaccine suspension: impact on parental trust and policy implications
Julie Leask – Parental attitudes towards childhood vaccination in Australia
Peter McIntyre – Epidemiological basis for meningococcal B vaccine target age group recommendations in Australia
Vyoma Patel – Rotavirus immunisation in Australia: impact on hospitalisations in infants aged <1 year
Helen Quinn – Sustained impact on pertussis notification rates from delivery of dTpa to adolescents
Mohamed Tashani – Does carrier priming protect infants after one dose of pneumococcal conjugate vaccine?
Lieu Trinh – Febrile seizures following measles and varicella containing vaccines in young Australian children
Amy Vassallo – Is there a role for prophylactic antipyretics with immunisation?
Andre Wattiaux – Acute hepatitis B infection in Indigenous Australians: a vaccine-preventable health equity gap
Kerrie Wiley – Development of an intervention to increase immunisation rates in pregnancy
Hal Willaby – Measuring the social-cognitive determinants of vaccine acceptance: the V-ABC
Nick Wood – Febrile seizures following MMRV combination vaccine in young Australian children
Nick Wood – Safety of >1000 doses of seasonal trivalent influenza vaccines in Australian children in 2013
Nick Wood – Safety of Q fever vaccine in young Australian adults
Kevin Yin – Potential health gains of new hepatitis B immunisation policy for Indigenous Australians
Kevin Yin – Systematic review of herd protection derived from vaccinating children against seasonal influenza
Shopna Bag – The epidemiology of mumps in Australia, 2008 to 2012 [poster]
Osamah Barasheed – Influenza vaccine uptake among Australian Hajj pilgrims in 2011–2013 [poster]
Melina Georgousakis – Obesity and severe influenza: what is the evidence? [poster]
Gulam Khandaker – Mortality from herpes simplex virus (HSV) infection in Australian children, 1999–2011 [poster]
Stephanie Knox – A process evaluation of the National Human Papillomavirus Vaccination Program [poster]
Deepika Mahajan – Methodological framework for reporting of adverse events following immunisation (AEFI) [poster]
Jocelynne McRae – Paediatric Active Enhanced Disease Surveillance (PAEDS) within our hospitals: a nurse’s view of successes and challenges [poster]
Karen Orr – Clinical review of children with hypotonic hyporesponsive episodes (HHE) seen at The Children’s Hospital at Westmead [poster]
Alexis Pillsbury – Re-thinking traditional AEFI surveillance: Australian intussusception surveillance following rotavirus vaccine introduction [poster]
Mohamed Tashani – Pneumococcal vaccine uptake among Australian Hajj pilgrims in 2011–13 [poster]
Lieu Trinh and Jocelynne McRae – Paediatric Active Enhanced Disease Surveillance (PAEDS) can validate ICD-coded hospitalisation data on serious paediatric conditions [poster]
Pre-conference seminar day
A pre-conference seminar day was organised by the Australian Medicare Local Alliance. The theme of the day was "Getting the jabs done: Practical solutions to issues confronting the implementation of immunisation programs". Catherine King from NCIRS presented on Parental beliefs and information needs regarding influenza and influenza vaccination.

Presentations from the seminar day are available to view through the PHAA website (www.phaa.net.au/14thNationalImmunisationConference_SeminarDay.php).
SUMMARY OF SELECTED CONFERENCE PRESENTATIONS

Trends in the percentage of vaccination objectors on the ACIR, 2002–2013
Presenter: Brynley Hull
Co-authors: A Dey, R Menzies, P McIntyre

Media reports of increases in vaccination objection have raised interest in trends in vaccination objection in Australia. This study sought to examine trends in the prevalence and geographic distribution of vaccination objection across Australia and also the demographics of the children of objectors such as their age at objection and the vaccines they receive. The study involved analysing ACIR data for 2002–2013 using various indicators of vaccine objection based on whether or not parents had lodged an official objection to vaccination and whether or not their children had vaccinations recorded on the ACIR. Children whose parents do not officially object to vaccination but who are not fully immunised at 12 months of age, although not an objection group, were also included as they may have issues related to access to immunisation services, especially in low socioeconomic areas.

The proportion of children whose parents officially object to vaccination in Australia increased from 1.1% in 2002 to 2.0% in 2013. In 2013, there were also a further 2.3% of children whose parents didn’t officially object but who have no vaccines recorded on the ACIR. This figure began to decline from 2008. For most jurisdictions, almost 70% of parents who officially object to vaccination do so when their child is less than 2 years of age. Indigenous parents officially object less than non-Indigenous parents. However, there is a greater percentage of Indigenous children whose parents don’t object but who aren’t fully immunised at 12 months of age, suggesting greater access issues for Indigenous children. Parents of children living in the top 10% of high socioeconomic status postcodes object at higher levels than parents in low socioeconomic postcodes. The percentage of official objectors is greatest in regional areas and lowest in remote areas. Small area analysis of vaccination objection reveals some areas in Australia are experiencing objection rates as high as 8–11%.

Framework for updates to The Australian Immunisation Handbook
Presenter: Melina Georgousakis
Co-authors: D Armstrong, B Dohnt, F Beard, K Macartney, T Nolan

Melina presented a framework for regular updates to The Australian Immunisation Handbook. The Handbook is prepared by the Australian Technical Advisory Group on Immunisation (ATAGI) for the Australian Government Department of Health (Health) and approved by the National Health and Medical Research Council (NHMRC). Development of the Handbook involves multiple steps including evidence review, expert input and public consultation. Regular updating of the Handbook is complex, in part due to continually emerging information on vaccines.

As part of the proposed framework, potential updates are identified through continual review of the literature, international immunisation recommendations, vaccine registrations, local policy issues and feedback from users received by Health and NCIRS. In January 2014, 21 updates were approved by the NHMRC and made available online as the first annual update to the 10th edition of the Handbook. Additional updates are now under consideration for the 2015 annual update. In addition to the Handbook, ‘ATAGI Statements’ are made available online to provide clinical advice on specific vaccines or immunisation issues when necessary.

Measuring the social-cognitive determinants of vaccine acceptance: the V-ABC
Presenter: Hal Willaby
Co-author: J Leask

There is currently no validated means of measuring parental vaccine acceptance that comprehensively spans the known influences on vaccine acceptance, is efficient for population surveillance, and can diagnose the exact drivers of vaccine non-acceptance. In this presentation, Hal reported on a consultation process with stakeholders and experts from Australia, the USA and the UK to specify the design, development and application of a measure of Vaccine Attitudes, Beliefs and Concerns (V-ABC) that will overcome these limitations.

The V-ABC is a three-tiered measure purposefully designed to: 1) conduct surveillance of population-level vaccine acceptance (top tier); 2) identify – for either the individual or a population – key classes of attitudes, beliefs and concerns that affect vaccine acceptance (middle tier); and 3) diagnose detailed influences in order to target, pre-test and evaluate public campaigns and other interventions (lowest tier). Stakeholders agreed that the V-ABC would assist them in maintaining high vaccine coverage rates through mechanisms that correspond to each tier of the measure. Target users of the V-ABC include public health officials, immunisation service providers, market researchers who develop and implement vaccine information campaigns, and academic researchers of vaccine decision-making.
The process evaluation of the hepatitis A vaccination program
Presenter: Brendon Kelaher
Co-authors: S Knox, A Dey, R Menzies
Notifications and hospitalsisations for hepatitis A in Australia have declined markedly in recent years. However, Indigenous children remain at a greater risk than non-Indigenous children of acquiring and being hospitalised from the disease. NCIRS is conducting an evaluation of the hepatitis A vaccination program exploring the sociocultural factors influencing the delivery and implementation of this Indigenous-only program. This will include extensive consultation across jurisdictions, peak bodies and providers including Aboriginal Medical Services, Aboriginal health workers in government health services and general practice networks.

Brendon presented some preliminary findings from stakeholder surveys and interviews. Key questions covered factors related to knowledge, access, Indigenous identification, linkages, skills, language, and direct and systematic discrimination. Information about the program that has been reported in both peer-reviewed and grey literature will also be reviewed. This evaluation will provide sociocultural information for policy-makers and healthcare providers to enhance uptake of vaccines targeted to at-risk groups including Indigenous children.

Declining rates of high-grade cervical abnormalities post HPV vaccination in Australia
Presenter: Aditi Dey
Co-authors: M Chiew, A Budd, B Liu, J Brotherston, P McIntyre
Australia was the first country in the world to implement a fully funded human papillomavirus (HPV) vaccination program in 2007. This study aimed to evaluate changes in the rate of cervical high-grade abnormalities (HGAs), a precursor of cervical cancer, after program implementation. Aditi presented some comparisons of the rates of HGAs in vaccine-eligible age groups from the pre-vaccine (2004–2007) and post-vaccine (2008–2011) periods. Data on cervical screening and HGAs was obtained from the Australian Institute of Health and Welfare.

Results indicated a progressive reduction in HGAs among females under 20 years of age. These are the women with the highest vaccine coverage and lowest likelihood of pre-existing infection. In the first full year after vaccine introduction (2008), the rate of HGA detection per 1000 women screened was 10.8, an 18% reduction from the pre-vaccine period (2004–2007) rate of 13.1 per 1000. The rate further declined in 2009 and 2010 and by 2011 the rate was 46% lower than in the pre-vaccine period. There was also a 12% decline in the rate of HGAs in females aged 20–24 years in 2011 (compared to the pre-vaccine period).

Febrile seizures following MMRV combination vaccine in young Australian children
Presenter: Nick Wood
Co-authors: L Trinh, H Wang, H Gidding, J McRae, J Buttery, N Crawford, H Marshall, M Gold, P Richmond, C Blyth, M Nissen, K Macartney
Measles-mumps-rubella-varicella (MMRV) vaccine is known to increase the risk of febrile seizure if given as the first MMR-containing vaccine. It was introduced in Australia in July 2013 as the second MMR-containing dose to be given at 18 months old. Understanding the risk of febrile seizure after MMRV compared with the risk following separate MMR and varicella vaccines is important. In this presentation, Nick reported on the clinical and demographic features of children who had febrile seizures following MMRV vaccine. Emergency department and inpatient databases at five major paediatric hospitals participating in PAEDS (Paediatric Active Enhanced Disease Surveillance) were reviewed to identify presentations for febrile seizures in children under 5 years of age between May 2013 and February 2014. Demographic data and clinical features were collected via record review and parental interview.

Of 1132 febrile seizure presentations reviewed, 61 (5%) occurred within 14 days of receipt of a vaccine; 33 were after MMR vaccine and 14 were after MMRV vaccine. (The other 14 occurred after other vaccines.) The majority of febrile seizure cases had respiratory symptoms or alternate causes of fever that were potentially causal. Of the 61 ‘vaccine proximate’ cases, 40% had a family history of febrile seizure, two-thirds had respiratory symptoms at the time of the seizure, and in 6 cases (10%) an alternate cause was found.
SUMMARIES FROM OUR RECENT JOURNAL CLUB SESSIONS

Understanding vaccine hesitancy around vaccines and vaccination from a global perspective: a systematic review of published literature, 2007–2012

The Vaccine Confidence Index Group, led by Heidi Larson, conducted a systematic review of the literature on vaccine hesitancy. The review was conducted for the Strategic Advisory Group of Experts Working Group (SAGE WG), and originally presented on their website in 2013.

The SAGE WG had a prior model of hesitancy, the development of which will be informed by the results of this review. The authors identified a variety of factors associated with vaccine hesitancy but the independent and relative strength of influence of each factor is complex and context-specific, varying according to time, place and vaccine. Some determinants may be associated with both increased and decreased vaccine hesitancy. The authors noted an increasing rate of publications on vaccine hesitancy, and showed that low-income countries, despite having higher populations, are under-represented in this area of research.

Presented by Dr Hal Willaby, Research Fellow, NCIRS

Protective association between rotavirus vaccination and childhood seizures in the year following vaccination in US children

Illness due to rotavirus infection has been linked to childhood seizures, severe gastroenteritis and antigenaemia.

Rotavirus has also been isolated in cell culture from the sera of infected children, confirming the existence of viremia and the potential for systemic illness. Since rotavirus vaccine has resulted in substantial declines in severe gastroenteritis among US children, the authors investigated whether receipt of rotavirus vaccine protects children from being hospitalised or visiting the emergency department for seizures in the year after vaccination.

Data was analysed retrospectively for a cohort of children born between March 2006 and November 2009. The rate of seizures in fully vaccinated and unvaccinated children, from 4 to 55 weeks following last rotavirus vaccination, were compared.

Of the 250,601 infants in the cohort, 186,502 children (74%) were fully vaccinated and 64,099 (26%) were not vaccinated with rotavirus vaccine. Rates of seizures were found to be associated with rotavirus vaccination status. A full course of rotavirus vaccination was associated with an 18–21% reduction in the risk of seizure. The protective effect of a full course of rotavirus vaccination applied to both first-ever seizures and all seizures.

The authors equated these results to the prevention of about 1000 hospitalisations and 5000 emergency department visits for seizures per year in young children and a reduction in health care costs of over $7 million. This is in addition to the well-documented vaccine-related benefit of preventing hospitalisations due to diarrhoea.

Presented by Dr Deepika Mahajan, Senior Research Officer, NCIRS
HEARTY CONGRATULATIONS & CELEBRATIONS

DONNA ARMSTRONG

NCIRS’s Editing and Publications Officer is now an Accredited Editor. Donna sat an intense almost four hour long exam in early May to be accredited by the Australian Institute of Professional Editors (IPEd).

JULIE LEASK

Recently, Julie Leask has moved to the University of Sydney campus. Here are some words that Professor Peter McIntyre recently shared on her move:

“Yes, it is a significant change for us to farewell Julie as a face around the office – and such a significant one over this 12 years. In the early years, we struggled to identify a suitable person for what was recognised as a very important area – then badged as ‘attitudinal and qualitative research’. Julie, following her very successful PhD under Simon Chapman and Margaret Burgess which pioneered work in this area in Australia, was a logical person to approach – and I think we should all be very glad that she accepted the offer.

12 years on, it is fantastic to see all that Julie has accomplished as a state, national and international leader in the area of social research in immunisation and the recognition that she has received. One key accomplishment has been mentoring Kerrie Wiley in her PhD and Kerrie and Hal Willaby in their postdoctoral transition to this area – both are now fabulously well-positioned to continue work here – and, yes, we still retain access to Julie’s expertise in a consultative and advisory, as well as collaborative, capacity.

We look forward to this next stage in Julie’s research and professional career, and hope that NCIRS can continue to share in some reflected glory.”

Useful info on the Department of Health website

Immunisation coverage data

The Immunise Australia website now has a revised Immunisation Coverage Data page (www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/coverage-data.htm)

Information available on this page now includes:
• Coverage data from the ACIR and HPV Register
• Vaccine objection (conscientious objection) data
• Links to National Health Performance Authority (NHPA) coverage reports
• Links to NCIRS coverage reports
• Adult Vaccination Surveys
• Links to National Notifiable Diseases Surveillance System (NNDSS) and Communicable Diseases Intelligence (CDI) journal

Polio – Recommendations for Australian travellers


This page also contains information on WHO emergency recommendations, the Global Polio Eradication Programme and the status of polio in Australia.


NOW AVAILABLE ONLINE – HELPFUL RESOURCES

Now available to download from NCIRS website:

- Vaccination history tables recently updated  
- Meningococcal vaccines for Australians fact sheet updated
- Influenza vaccines for Australians fact sheet updated
- Homoeopathy and vaccination fact sheet updated

See these fact sheet updates at:  

PAEDS WEBSITE ONLINE

We are delighted to share that the PAEDS website was officially launched in May.

Paediatric Active Enhanced Disease Surveillance (PAEDS) was initiated in 2007 and is coordinated by the National Centre for Immunisation Research and Surveillance (NCIRS) and the Australian Paediatric Surveillance Unit (APSU). PAEDS conducts active, hospital-based surveillance of serious childhood conditions, particularly vaccine-preventable diseases and adverse events following immunisation.

You’ll find the latest updates, newsletters, the hospitals participating, collaborator information and much more at www.paeds.edu.au

AUSVAX SAFETY

AusVaxSafety is an enhanced surveillance system to monitor adverse events following immunisation with influenza vaccine in children under 5 years of age.

AusVaxSafety brings together information collected through two systems: Vaxtracker in New South Wales and Victoria and FAST (Follow up and Active Surveillance of Trivalent influenza vaccine) in Western Australia.

Using Vaxtracker and FAST, the parents/carers of children who have received influenza vaccine as part of good clinical care are offered participation in AusVaxSafety surveillance. If they consent, parents/carers are sent an SMS message or email 3 days after vaccination, asking them to provide information on whether their child experienced any adverse event after vaccination. Each week, data from all parent/carer reports are combined and analysed.

This information helps parents and all health professionals involved in immunisation know that the vaccines being used are safe.

For more information, please go to: www.ncirs.edu.au/surveillance/ausvаксafety/index.php

SAVE THE DATE

Vaccine Safety Seminar - to be held on Wednesday 29 October, 2014
1. WHAT DOES YOUR ROLE AT NCIRS ENTAIL?
A bit of everything. Analysis of disease surveillance data, coordinating the serosurveillance program, pertussis policy work and student supervision, with some adverse events and communication team work on the side. Somehow I do this all part-time, I’m never bored!

2. WHAT ISSUES IN IMMUNISATION CONCERN YOU THE MOST?
Control of pertussis.
Misinformation about vaccines leading to unnecessary concerns among parents.

3. WHAT IS THE MOST ENJOYABLE PART OF YOUR ROLE AT NCIRS?
Working with very talented, hard-working and friendly people.

4. DESCRIBE YOURSELF IN THREE WORDS...
Organised, happy and enthusiastic.

5. WHAT WOULD YOU SPEND YOUR LAST $5 ON...
Cheese.

6. YOUR IDEA OF HAPPINESS IS...
Holidaying with my daughter.

7. IF YOU COULD INVITE THREE PEOPLE OVER FOR DINNER, WHO WOULD THEY BE?
Chris Martin, David Attenborough and John Cleese. I must have a thing for British men!

8. IF YOU COULD HAVE ANY SUPERPOWER, WHAT WOULD IT BE AND WHY?
Teleportation. I can be a bit impatient and would love to get everywhere instantly!

9. DO YOU HAVE ANY HIDDEN TALENTS?
I am pretty good at baking cakes and other sweets.

10. IF YOU WEREN’T WORKING AT NCIRS YOU WOULD BE...
I can’t imagine where else I would work – it would probably be in immunisation but overseas. If I wasn’t working I would be on a beach or at a ski field.

THANK YOU!

NCIRS immunisation resource survey

A big thank you to all those who participated in our immunisation resource survey, either online or at the PHAA conference stall. We had 184 responses and the lucky winner of our $100 gift card prize was Georgie Lewis from SAEFVIC. We are busily analysing the survey results now and we hope that your valuable feedback will improve the resource material we have available to you in the future.