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The NCIRS-AIP is an interactive discussion forum and a source of reliable information for professionals working in the area of immunisation. **Subscribers to the NCIRS-AIP receive the NCIRS “Weekly Jab” newsletter** – a weekly dose of immunisation news and NCIRS quarterly newsletters. For more information and to subscribe to the NCIRS-AIP [click here](#).

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### Updated NCIRS Factsheets and FAQs July – September 2018

A new FAQ [Pneumococcal vaccines – frequently asked questions](#) was added to provide answers to some frequently asked questions about pneumococcal vaccines and vaccination schedules.

The [Meningococcal vaccines for Australians fact sheet](#) and [Meningococcal vaccines – frequently asked questions](#) were updated.

These and other NCIRS fact sheets are available on the [NCIRS factsheets webpage](#).

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### Updated NCIRS Vaccination history tables July – September 2018

NCIRS Vaccination history tables provide a summary of the significant events in vaccination practice in Australia, particularly for vaccines used in population-based immunisation programs.

The following tables were updated. [View them here](#).

- Immunisation policy and practice
- Diphtheria, tetanus, pertussis
- *Haemophilus influenzae* type b
- Hepatitis A
- Hepatitis B
- Human papillomavirus (HPV)
- Influenza
- Meningococcal
- Pneumococcal
- Polio
- Q fever
- Varicella



### SmartVax reaches 1 million vaccination encounters

[SmartVax](#) has reached a milestone of 1 million vaccination encounters. SmartVax currently has over 270 surveillance sites across Australia and provides over 97% of all active surveillance data analysed and reported on by [AusVaxSafety](#).



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## NCIRS Seminars/Webinars July – September 2018

### [National Immunisation Program Schedule changes - Your questions answered](#)

In this webinar, Professor Kristine Macartney, NCIRS Director, and Associate Professor Nicholas Wood, Staff specialist paediatrician and NSW Immunisation Specialist Service, provided an outline of the 1 July 2018 changes to the NIP schedule, the rationale behind the changes and answers to common questions.

[Watch the webinar here...](#)

### [Vaccine safety and adverse events following immunisation: a practical approach](#)

This webinar recording gives an overview of common expected and rarer serious adverse reactions following immunisation, and the management and reporting of these adverse events. Speakers: Associate Professor Nigel Crawford, Director of SAEFVIC (Surveillance of Adverse Events Following Vaccination in the Community, Victoria) and Dr Lucy Deng, Staff Specialist, NSW Immunisation Specialist Service, NCIRS.

[Watch the webinar here...](#)

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### **PAEDS-FluCAN collaboration – Influenza epidemiology, vaccine coverage and vaccine effectiveness in children admitted to sentinel Australian hospitals in 2017**

Research investigating the devastating impact of the 2017 flu season by PAEDS-FluCAN confirmed it was time to take action after thousands of children were hospitalised with the virus last year.

“Influenza is a highly contagious disease that can lead to life-threatening complications such as pneumonia, inflammation of the heart, brain, or muscle tissues, and multi-organ failure,” said study co-author Dr Chris Blyth from the [Wesfarmers Centre of Vaccines and Infectious Diseases](#) at Telethon Kids Institute.

Published in [Clinical Infectious Diseases](#), the results from the PAEDS-FLuCAN collaboration contributed to the decision by all Australian states and territories to provide free flu vaccine for children aged under five years in 2018.

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**PHN IMMUNISATION  
SUPPORT PROGRAM**



The PHN Immunisation Support Program continues to engage with public health networks (PHNs) and jurisdictional health department staff across the country to support their knowledge and sharing of information to keep themselves and the immunisation providers they support up to date. Four webinars have been delivered covering topics such as the NIP schedule changes, submitting data and accessing reports on the Australian Immunisation Register and high-risk groups and vaccines. The program continues to categorise resources to share, identify gaps and build engagement across stakeholders through a series of topic-based working groups and enhancements to the digital platform, including a discussion forum and a news alert function.

Staff working at PHNs, state and territory health departments, public health units and other key stakeholders are encouraged to register for access to the online community, which allows them to share information and resources with their colleagues across Australia, and hear about relevant news and upcoming events.

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## Australian Government Department of Health resources supported by NCIRS



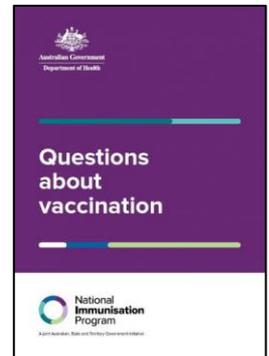
### [The Australian Immunisation Handbook](#)

NCIRS technical staff provided content support for the digitisation of the Australian Immunisation Handbook. The Australian Immunisation Handbook has the most up-to-date recommendations for the use of vaccines in Australia. The team at NCIRS was led by Dr Helen Quinn, Senior Research Fellow and Technical Editor of the Australian Immunisation Handbook.

### [Questions about vaccination](#)

The Questions about vaccination booklet provides answers to many common questions about vaccination. It is designed to help:

- parents find out more about vaccines and the most recent evidence about their safety and effectiveness
- doctors answer questions from their patients.



The information in Questions about vaccination was updated by researchers from NCIRS, particularly Dr Sally Ioannides, with support from Professor Kristine Macartney, Professor Peter McIntyre, Associate Professor Nick Wood and Karen Orr.

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## Vaccines in Public Health Workshop 2018

The NCIRS Vaccines in Public Health Workshop was a huge success with >70 people attending the two-day course held on 3–4 September 2018. Participants included the University of Sydney Master of Public Health students and other professionals working in immunisation and public health. The workshop consisted of interactive lectures given by the staff of NCIRS and small group case studies.

Our anonymous post-course survey results were very positive. Some participant comments included:

*“Very informative. The speakers were all so passionate about their work and it made it so interesting.”*

*“It’s amazing to be learning from a room of such leading experts in the field!”*



NCIRS presenters at the VIPHW 2018

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## Spotlight on diphtheria

In August the media spotlight was on diphtheria, with a case reported in an adult on the north coast of New South Wales. This was the second case reported in NSW in 2018.

Diphtheria is rare in Australia; however, these recent cases and a death in QLD earlier in 2018 are a reminder that vaccination remains important for this potentially life-threatening disease.

Dr Meru Sheel and Professor Kristine Macartney of NCIRS stress this in their article [Have you had your diphtheria vaccines? Here’s why it matters](#) published in *The Conversation* on 8 August 2018.

Earlier this year Dr Meru Sheel and Julia Maguire were deployed through the Global Outbreak Alert and Response Network (GOARN) and the Australian Response MAE (ARM) network to respond to the Rohingya Crisis in Cox’s Bazar, Bangladesh where an outbreak of diphtheria started in November 2017.

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## Congratulations Professor Peter McIntyre – appointment to the World Health Organization (WHO) Strategic Advisory Group of Experts (SAGE) on Immunization

Congratulations to Professor Peter McIntyre on his appointment as a [member of the World Health Organization \(WHO\) Strategic Advisory Group of Experts \(SAGE\) on Immunization](#). Professor McIntyre was the Director of NCIRS from 2005 to 2017 and continues to be a Senior Professorial Fellow with NCIRS after moving to New Zealand in 2018.



The [SAGE](#) was established by the Director-General of the World Health Organization in 1999 to provide guidance on the work of WHO. SAGE is the principal advisory group to WHO for vaccines and immunisation. It is charged with advising WHO on overall global policies and strategies, ranging from vaccines and technology, research and development, to delivery of immunisation and its linkages with other health interventions. SAGE is concerned not just with childhood vaccines and immunisation, but all vaccine-preventable diseases.

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## NCIRS research spotlight - Giving pertussis vaccine at birth may protect baby if mum did not get vaccine in pregnancy



A [report published in the prestigious American journal JAMA Pediatrics](#) gave results of a National Health and Medical Research Council funded collaborative trial led by researchers from NCIRS. The study was a collaboration between NCIRS and the universities of Sydney, Melbourne, Adelaide and Western Australia, together with the Murdoch Children's, Robinson and Telethon research institutes. This is the largest-ever trial of a pertussis vaccine at birth and included 440 newborns in Sydney, Melbourne, Adelaide

and Perth. The trial was designed to show whether also giving pertussis vaccine at birth could protect against life-threatening whooping cough in the first 3 months of life.

The trial used a special pertussis-only vaccine (without diphtheria or tetanus) and randomised infants within 5 days of birth to receive only hepatitis B vaccine (HBV) or HBV and pertussis. Hepatitis B vaccine at birth has been recommended in Australia since 2000. Babies received usual vaccines at 6 weeks, 4 months and 6 months. The study found significantly higher pertussis antibody levels at 6 and 10 weeks of age in babies who had the birth vaccine, levels not achieved until at least 4 months of age under the standard schedule.

Receipt of a birth dose of pertussis vaccine was safe and well-tolerated, with no increase in side effects compared with HBV only.

Since the trial started, data from a country-wide emergency programme in England have shown giving a dose of standard pertussis vaccine (with diphtheria or tetanus) to mothers is effective in preventing severe whooping cough in the first 3 months of life in their infants, and this evidence has resulted in the vaccine being provided for all pregnant women through the Australian National Immunisation Program from July 2018. However, infants whose mothers are not vaccinated or are born prematurely are not protected.

The pertussis-only vaccine is an attractive option for immunising mothers too. If such a vaccine were licensed and available in Australia, it would provide the full range of options to protect babies younger than 3 months of age from severe pertussis, said Associate Professor Nick Wood, who led this study.

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## NCIRS student news

NCIRS Social Science Unit hosted 3 University of Sydney Master of Public Health (MPH) 'Capstone' students for 10 weeks commencing in August. The Capstone is the 'workplace learning' component of the postgraduate program. Students participated in, and contributed to, a Realist (systematic) review being undertaken to inform the next phase of the SKAI project. A Realist approach to evidence synthesis is 'theory-driven', and utilises qualitative and quantitative data from multidisciplinary work incorporating various study designs, to provide answers to the question: 'what works', but besides effectiveness, 'for whom, how and why, to what extent, under what circumstances?' The approach seeks to uncover Context (C) factors and Mechanisms (M) in addition to the intervention Outcomes (O). It is anticipated the 3 students will be graduating in 2019.

## The Behavioural Insights Summer School, Erfurt, Germany



The annual Behavioural Insights Summer School (BISS) was held at The University of Erfurt, Germany, from 27 to 31 August this year. This course is a joint venture by the World Health Organization (WHO) Regional Office for Europe and The University of Erfurt. Approximately 20 professionals working in the area of infection prevention and 20 health science PhD students came together from around the world to learn from each other about how to systematically understand the barriers to vaccination and how to design interventions that specifically target the identified barriers.

Sami Carlson, who is undertaking a PhD to understand the attitudes about and access to influenza vaccination experienced by parents of children hospitalised for influenza (an NHMRC Partnership Project with PAEDS), was one of the attendees. Presentations included an overview of Tailoring Immunisation Programs (TIP), how to measure vaccine hesitancy, how to engage with communities, behaviour change interventions that work, and evaluation methods. Sami also presented on her research about the barriers to influenza vaccination that parents experienced in Australia in 2017. [Learn more about BISS here.](#)

*Sami Carlson joined NCIRS in 2016 as a Research Officer with the Social Science Unit. She maintained the COSSI secretariat between 2016 and 2018, taking a leading role in the coordination of the 2018 COSSI workshop (held at the PHAA National Immunisation Conference, Adelaide). During this time, she also supported NCIRS's communications and evaluations teams. Sami is now undertaking her PhD fulltime at The University of Sydney. She is supervised by Julie Leask, Kristine Macartney and Helen Quinn.*

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## Congratulations Dr Sanjay Jayasinghe winner HDR publication of the year



Sanjay presenting at the HDR student conference

Congratulations Dr Sanjay Jayasinghe, Research Fellow NCIRS, winner of The University of Sydney, Children's Hospital Westmead Clinical School Higher Degree by Research publication of the year.

Dr Jayasinghe received the award for the publication listed below, arising from his PhD work examining the effectiveness of pneumococcal conjugate vaccines in children.

Jayasinghe S, Chiu C, Quinn H, Menzies R, Gilmour R, McIntyre P. Effectiveness of 7- and 13-valent pneumococcal conjugate vaccines in a schedule without a booster dose: a 10-year observational study. *Clinical Infectious Diseases* 2018;67:367-74. [\[Abstract\]](#)

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## Staff profile

Bianca Bullivant joined NCIRS as a Research Officer in the Social Sciences unit in July. She is leading on the organisation of Collaboration on Social Science and Immunisation ([COSSI](#)) knowledge exchange and committee meetings and working on the implementation of [SKAI \(Sharing Knowledge About Immunisation\)](#). Bianca completed a Bachelor of Psychology (Hons) and then a Master of Research (Human Sciences) at Macquarie University, in 2017. Bianca was employed previously as a Research Assistant at Macquarie University, working on a qualitative project on eating disorders and obesity health literacy. She is interested in immunisation-related beliefs and attitudes of parents and health professionals.



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## NCIRS staff field deployments July – September 2018



The team in Samoa

In short deployments from June to October 2018, Sarah Sheridan, Julia Maguire, Kelley Meder and Meru Sheel worked in Samoa as part of a country-wide study led by researchers at the Australian National University. The study, 'Surveillance and Monitoring to Eliminate Lymphatic Filariasis and Scabies in Samoa' aims to evaluate the effectiveness of first ever mass drug administration using a triple-drug therapy.

As epidemiologists, they collected mosquito and human samples from households in villages across the two large islands to assess the baseline population prevalence of filariasis.

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## NCIRS in the media July – September 2018

[Enhanced flu vaccines for elders under the microscope](#) - NCIRS

[Enhanced influenza vaccines](#) – Audio podcast, Professor Kristine Macartney

[Northern Hobart cases of meningococcal disease an outbreak, says infectious diseases expert](#) – Professor Robert Booy

[Diphtheria case in northern NSW sparks a warning to adults for booster shots](#) – Dr Meru Sheel, NCIRS

[Diphtheria: deadly Victorian disease makes a comeback](#) – Dr Meru Sheel, NCIRS

[After a horror 2017, how bad is the 2018 flu season?](#) – Dr Sarah Sheridan, NCIRS

[Pertussis vaccine at birth is safe, say Aussie researchers](#) – NCIRS

[No Jab, No Play: Health researchers register rise in vaccinations following welfare payment cuts](#) – Professor Kristine Macartney

[Protecting infants from pertussis disease](#) – NCIRS

[A whooping cough vaccine for newborn babies](#) – Radio interview, Associate Professor Nicholas Wood

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## NCIRS staff attendance at national and international conferences/meetings July – September 2018

14-16 August: [American Immunization Registry Association \(AIRA\): 2018 National Meeting](#), Salt Lake City, Utah - Dr Frank Beard

16 August: [NHMRC Integrated Systems for Epidemic Response: Disease X in the Pacific Workshop](#), Sydney Australia – Dr Aditi Dey

16 August: NSW Health Protection Leadership Team: 2018 Immunisation Policy & Practice Workshop – presentation Professor Kristine Macartney and attendance various NCIRS staff

17 August: NSW Health Protection Leadership Team: 2018 Aboriginal Immunisation Workshop – presentation Alexandra Hendry and Katrina Clark and attendance Dr Frank Beard

17 August: [The University of Sydney Children's Hospital Westmead Clinical School: 2018 HDR Student Conference](#) – NCIRS staff and students

14 September: [ASID/ ESCMID Course on Infectious Diseases in Pregnant Women, Fetuses and Newborns](#), Sydney, Australia - Professor Kristine Macartney

14 September: [Symposium: Centenary of the 1918 Pandemic: Advances in Diagnosis and Control of Influenza and Respiratory Viruses](#)- presentation Dr Sarah Sheridan and attendance various NCIRS staff

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## NCIRS Publications July – September 2018

Tashani M, Alfelali M, Barasheed O, Alqahtani AS, Heron L, Wong M, Rashid H, Findlow H, Borrow R, Booy R. [Effect of Tdap upon antibody response to meningococcal polysaccharide when administered before, with or after the quadrivalent meningococcal TT-conjugate vaccine \(coadministered with the 13-valent pneumococcal CRM197-conjugate vaccine\) in adult Hajj pilgrims: a randomised controlled trial.](#) *Vaccine* 2018;36:4375-82.

Jayasinghe S, Chiu C, Quinn H, Menzies R, Gilmour R, McIntyre P. [Effectiveness of 7- and 13-valent pneumococcal conjugate vaccines in a schedule without a booster dose: a 10-year observational study.](#) *Clinical Infectious Diseases* 2018;67:367-74.

Sheel M, Kirk MD. [Parasitic and parachute research in global health](#) [letter]. *The Lancet Global Health* 2018;6:PE839.

Badahdah AM, Rashid H, Khatami A, Booy R. [Meningococcal disease burden and transmission in crowded settings and mass gatherings other than Hajj/Umrah: a systematic review.](#) *Vaccine* 2018;31:4593-4602.

Sheel M. [Identifying residual transmission of lymphatic filariasis after mass drug administration: comparing school-based versus community-based surveillance – American Samoa, 2016.](#) *PLOS Neglected Tropical Diseases* 2018;12:e0006583. doi:10.1371/journal.pntd.0006583.

Alqahtani AS, Tashani M, Ridda I, Gamil A, Booy R, Rashid H. [Burden of clinical infections due to S. pneumoniae during Hajj: a systematic review.](#) *Vaccine* 2018;16:4440-6. doi: 10.1016/j.vaccine.2018.04.031.

Sheridan S, Patel C, Macartney K, Cheng A. [New enhanced influenza vaccines for ≥65 year olds: what promise do they hold?](#) *Medical Journal of Australia* 2018;209:110-12 doi:10.5694/mja18.00334

[Crawford NW, McMinn A, Royle J, Lazzaro T, Danchin M, Perrett KP, Buttery J, Elia S, Orr K, Wood N. Recurrence risk of a hypotonic hypo-responsive episode in two Australian specialist immunisation clinics.](#) *Vaccine* 2018;36:6152-7.

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**NCIRS Publications July – September 2018 cont.**

MacDonald NE, Harmon S, Dube E, Steenbeek A, Crowcroft N, Opel DJ, Faour D, Leask J, Butler R. [Mandatory infant & childhood immunization: rationales, issues and knowledge gaps](#). *Vaccine* 2018;36:5811-8 doi: 10.1016/j.vaccine.2018.08.042

Chen C, Beutels P, Wood J, Menzies R, MacIntyre CR, McIntyre P, Newall AT. [Retrospective cost-effectiveness of the 23-valent pneumococcal polysaccharide vaccination program in Australia](#). *Vaccine* 2018;36:6307-13

Danchin MH, Costa-Pinto J, Attwell K, Willaby H, Wiley K, Hoq M, Leask J, Perrett KP, O'Keefe J, Giles ML, Marshall H. [Vaccine decision-making begins in pregnancy: correlation between vaccine concerns, intentions and maternal vaccination with subsequent childhood vaccine uptake](#). *Vaccine* 2018;36:6473-9.

Berry NJ, Danchin M, Trevena L, Witteman HO, Kinnersley P, Snelling T, Robinson P, Leask J. [Sharing Knowledge About Immunisation \(SKAI\): an exploration of parents' communication needs to inform development of a clinical communication support intervention](#). *Vaccine* 2018;36:6480-90.

Attwell K, Wiley KE, Waddington C, Leask J, Snelling T. [Midwives' attitudes, beliefs and concerns about childhood immunisation: a review of the global literature](#). *Vaccine* 2018;36:6531-9.

Bedford H, Attwell K, Danchin M, Marshall M, Corben P, Leask J. [Vaccine hesitancy, refusal and access barriers: the need for clarity in terminology](#). *Vaccine* 2018;36:6556-8.

MacIntyre CR, Kpozehouen E, Kunasekaran M, Harriman K, Conaty S, Rosewell A, Druce J, Martin N, Heywood AE, Gidding HF, Wood J, Nicholl S. [Measles control in Australia - threats, opportunities and future needs](#). *Vaccine* 2018;36:4393-8.

Blyth CC, Macartney KK, McRae J, Clark JE, Marshal HS, Buttery J, Francis JR, Kotsimbos T, Kelly PM, Cheng AC. [Influenza epidemiology, vaccine coverage and vaccine effectiveness in children admitted to sentinel Australian hospitals in 2017: Results from the PAEDS-FluCAN Collaboration](#). *Clinical Infectious Diseases* [Epub]. doi: 10.1093/cid/ciy597.

Yezli S, van der Linden M, Booy R, AlOtaibi B. [Pneumococcal disease during Hajj and Umrah: Research agenda for evidence-based vaccination policy for these events](#). *Travel Medicine and Infectious Disease* [Epub]. doi: 10.1016/j.tmaid.2018.08.005.

Wood N, Nolan T, Marshall H, Richmond P, Gibbs E, Perrett K, McIntyre P. [Immunogenicity and safety of monovalent acellular pertussis vaccine at birth: a randomised clinical trial](#). *JAMA Pediatrics* [Epub]. doi:10.1001/jamapediatrics.2018.2349.

Sheel M, Beard F, Quinn H, Dey A, Kirk M, Koehler A, Markey P, McIntyre P, Macartney K. [Australian vaccine preventable disease epidemiological review series: varicella-zoster virus infections, 1998–2015](#). *Communicable Diseases Intelligence* [Epub]. CDI.2018.42.8/issn.2209-6051.

McIntyre PB, Edwards KM. [Genetically modified pertussis toxin: a quantum leap?](#) [Comment]. *Lancet Infectious Diseases*. [Epub]. doi: 10.1016/S1473-3099(18)30426-2.

Macdonald-Laurs E, Koirala A, Britton PN, Rawlinson W, Hiewa CC, McRae J, Dalea RC, Jones C, Macartney K, McMullana B, Pillaia S. [CSF neopterin, a useful biomarker in children presenting with influenza associated encephalopathy?](#) *European Journal of Paediatric Neurology* [Epub]. pii: S1090-3798(18)30203-4. doi: 10.1016/j.ejpn.2018.09.009.