

## School of Women's & Children's Health Research Newsletter

Volume 1; Issue 3. December 2017

Welcome to the third issue of the School of Women's & Children's Health Research Newsletter, wrapping up 2017. This is a triennial publication with issues circulated in April, August, and December. I trust you have all recovered from the festive break and are enthusiastic for what 2018 holds.



Please join me in welcoming **Professor Raghu Lingam**, Financial Markets Chair in Paediatric Population Health to the School.

Raghu joins us from the University of Newcastle and Great North Children's Hospital, UK where he led the Maternal and Child Health Research group in the Institute of Health and Society and was the Early Life and Adolescence programme theme lead within the Fuse Public Health Research Network funded by the UK Clinical Research Network. Raghu has been the Academic Convenor of the British Association of Community Child Health and a consultant to the World Health Organisation around Early Child Development.

His research is structured into three areas: health services research; mental health and multiple risk taking behaviour; and child development and disability. He is well known for his work in the development and evaluation of community based complex interventions both in the UK and in low income settings to improve health service delivery.

As a Clinical Academic within the School, he will be joining the Community Child Health Department at Sydney Children's Hospital.

I would also like to announce that we are farewelling **Tracey Good**, our School Manager. Tracey has been appointed to the Executive Officer position within the Faculty of Medicine. While we are naturally delighted

with the opportunity this presents for Tracey, we are saddened as this represents a huge loss for our School.

Tracey has been the manager of the School of Women's and Children's Health for 12 years and under her leadership it has been transformed; almost doubling in size over the past 5 years alone. We know that many of you have developed a close personal working relationship with Tracey over the years.

Following the Operational Excellence process conducted by UNSW, the School has seen many changes over the last few months. Please bear this in mind when contacting affected staff as procedures may have changed from what you are used to.

I would like to congratulate conjoints and academics who received prizes at the School's End of Year Thank You event - we value your contribution to the School.

- SENIOR STAFF TEACHING AWARD:  
**Dr Arjun Rao** - Sydney Children's Hospital.  
Highly Commended: Dr Arthur Teng & Dr Michael Plaister - Sydney Children's Hospital.  
**Dr Lynn Townsend** - Royal Hospital for Women.  
Highly Commended: Dr Michael Campion - Royal Hospital for Women.
- SENIOR STAFF TEACHING AWARD:  
**Dr Laurence McCleary** - Fairfield Hospital.  
Highly Commended: Dr Mimi Pham - Bankstown.  
**Dr John Breen** - Campbelltown Hospital.  
Highly Commended: Dr Emmanuel Karantanis - St George Hospital.
- JUNIOR STAFF TEACHING AWARD:  
**Dr Michael Meagher** - Liverpool Hospital.  
Dr Silivia Goldstein (Highly Commended).  
**Dr Aaron Budden** - Royal Hospital for Women.  
Highly Commended: Dr Jodi Ryan - Royal

Hospital for Women.

- SENIOR CONJOINT RESEARCHER AWARD:  
**Dr Susan Adams** - Sydney Children's Hospital.  
**Prof Neville Hacker** - Prince of Wales Hospital.
- JUNIOR CONJOINT RESEARCHER AWARD:  
**Dr Michael Coffey** - Sydney Children's Hospital.  
**Dr Shanna Logan** - Sydney Children's Hospital & Prince of Wales Hospital.
- POSTGRADUATE TEACHING AWARD:  
**Dr Terri Foran** - Royal Hospital for Women.  
Highly Commended: Dr Katie Harris - NPESU.

Enjoy this issue of the School of Women's & Children's Health Research Newsletter. Please remember to send any news or suggestions for content, in future issues.



**Professor Adam Jaffe**

Head of School &  
John Beveridge Professor of Paediatrics  
School of Women's & Children's Health

Associate Director of Research  
Sydney Children's Hospital Network  
(Randwick)

## CONTENTS

## NEWS

### ROTAVIRUS CASES AT FIVE-YEAR HIGH IN NEW SOUTH WALES, BABIES MOST AT RISK

2 October 2017 | Nicole Chettle | [ABC News](#)

New South Wales is experiencing the worst outbreak of rotavirus in five years, and parents have been warned the highly contagious gastro-type illness could harm babies.

"We're a little over 1,200 for the year and we haven't seen this many notifications since 2012," said Dr Vicky Sheppard, NSW Health's director of communicable diseases.

She said the highest rate of infection was in children aged two to four, and that metropolitan Sydney was the worst-affected area.

Admissions to the Sydney Children's Hospital in Randwick were up, too, with babies and toddlers presenting with fever, vomiting and diarrhoea.

"Rotavirus can be really serious, especially in the youngest infants, leading to severe dehydration and even death in some cases," said **Dr Brendan McMullan**, a paediatric infectious diseases specialist.

[Read More.](#)

### NEW FUNDS FOR RESEARCH ON ROR RECEPTORS IN OVARIAN CANCER

6 October 2017 | Gabrielle Dunlevy | [UNSW Newsroom](#)

Ovarian Cancer Research Foundation grants will help UNSW researchers in their mission to improve the long-term survival of women with ovarian cancer.



Dr Caroline Ford, Estelle Llamosas and Claire Henry of the Lowy Cancer Research Centre's Gynaecological Cancer Research Group.

UNSW researchers will gain new insights in their work to stop the spread of ovarian cancer with grants from the [Ovarian Cancer Research Foundation](#).

The funding will allow **Dr Caroline Ford** and her team at the Lowy Cancer Research Centre to build a three-dimensional tumour model to test their findings on the ROR “family” of receptor molecules, which hold promise as potential drug targets.

Unlike the flat surface of traditional testing materials, or assays, which can only look at vertical or horizontal migration, a three-dimensional model will provide a view of how cells move in space and time, and how the microenvironment contributes to carcinogenic processes.

Post-doctoral researcher **Claire Henry** travelled to the Lengyel Lab in Chicago last year to observe a novel 3D co-culture method which she is now using to validate the team’s findings on the RORs, with a particular focus on the role of the tissues surrounding the cancer cells, known as the stroma.

How the cancer interacts with the surrounding tissue is a factor increasingly recognised as vital to tumour growth and survival.

The team’s recently published paper in *Translational Oncology* was unique in that it was the first to look at both ROR1 and ROR2 receptors and both tissue and stroma in the same study.

“Of great interest to us, it showed significant overexpression of ROR2 in the stroma, especially in metastatic and recurrent samples,” Dr Ford says.

“Our 3D model will allow us to explore this finding in greater detail. The strength of the ROR2 expression in the recurrent sample in both tumour and stroma suggests it could be a worthy drug target and we are excited to pursue this.”

The OCRF grant will also support analysis of data from the RNA sequencing of a model high grade serous ovarian cancer cell line in order to examine what is happening at the molecular level after the RORs have been silenced.

The ROR receptors are attractive drug targets because they are not present in normal adult tissues, and because they are located on the surface of cancer cells.

The OCRF awarded eight clinical grants and continued tissue bank funding, totaling \$1.4 million to tackle ovarian cancer.

The foundation is Australia’s leading independent body dedicated to national ovarian cancer research, and this year it received the highest-ever number of applications in its 17-year history.

“The strength and quality of research applications received only bolsters our faith that we can achieve a world where every woman, everywhere can be free from the threat of ovarian cancer,” CEO Lucinda Nolan said.

[Dr Kristina Warton](#), of the School of Women’s and Children’s Health (Methylated Circulating DNA in Blood for the Early Diagnosis of Ovarian Cancer) also received an OCRF grant.

#### Facts about ovarian cancer:

- Each year about 1,500 Australian women are diagnosed with ovarian cancer
- Ovarian cancer has a low survival rate, with one woman dying from ovarian cancer every 10 hours in Australia
- There is currently no early detection test for ovarian cancer

[Read online.](#)

## MICROBIOME RESEARCH BOOSTED WITH \$1 MILLION IN GRANTS

6 October 2017 | Gabrielle Dunlevy | [UNSW Newsroom](#)

The first research grants have been awarded for microbiome research to be carried out at a new dedicated St George Hospital-based centre.



A/Prof Winston Liauw; Prof Beng Chong; A/Prof Ute Volmer-Conna; Prof Emad El-Omar; Dr Amanda Henry; Dr Peter Wu and Dr Bill Giannakopoulos. Photo: SSMRF.

Research on the role of the microbiome in health problems affecting the Australian population has received an injection of almost \$1 million from the [St George and Sutherland Medical Research Foundation](#).

The foundation (SSMRF) has been awarded \$4 million from the Federal Government to establish the Microbiome Research Centre (MRC) at St George Hospital.

On Friday it announced its inaugural MRC research grants – five two-year capacity grants and one 12-month seed grant – totalling almost \$1 million.

UNSW's Professor Emad El-Omar, inaugural Director of the MRC, said the grants would get the new centre off to a flying start.

"These grants will provide vital funding to support important research programs that cover four important pillars of research including cancer, maternal and foetal health, infection, immunity and inflammation, and mental health and neuroscience over the next two years," he said.

SSMRF Chair Professor John Edmonds said improved understanding of the microbiome was one of the most exciting developments in medicine over the past decade as it impacted on all aspects of health and disease.

"These grants were highly sought after," he said.

"Applications went through a rigorous process firstly with the SSMRF's Scientific Advisory Committee and then the final seven applicants were interviewed by a distinguished MRC review panel."

Once fully established, the MRC will be engaged in cancer control, obesity, diabetes, mental health, cardiovascular health, arthritis and musculoskeletal conditions, asthma and dementia.

The grant winners were:

- **Dr Amanda Henry** and team "The microbiome in pregnancy and infancy"
- Professor Michael Grimm and team "The longitudinal course of inflammatory bowel disease"
- Dr Peter Wu and team "Oro-Pharyngeal dysbiosis in head and neck cancer"
- Dr Bill Giannakopoulos and team "Murine and human studies SLE APS"
- Professor Beng Chong and team "Role of microbiota dysbiosis in immune thrombocytopenia and thrombosis"
- Dr Winston Liauw and team "Anti-cancer therapy on the gut microbiome in gastrointestinal cancer" (12-month seed funding).

[Read online.](#)

## IMMUNE RESPONSE TO OVARIAN CANCER MAY PREDICT SURVIVAL

13 October 2017 | [UNSW Newsroom & Mayo Clinic Public Affairs](#)

Researchers led by the US Mayo Clinic and UNSW Sydney have found that patients with high-grade ovarian cancer showed the most infiltration with a type of white blood cell, which were associated with longer overall survival.

A group of international cancer researchers led by the US Mayo Clinic and UNSW Sydney have found that the level of a type of white blood cell, called tumour infiltrating lymphocytes (TILs), present in the tumours of patients with high-grade ovarian cancer, may predict their survival.

Results of the study by the Ovarian Tumour Tissue Analysis (OTTA) Consortium were published today in [JAMA Oncology](#).

Each year about 1,500 Australian women are diagnosed with ovarian cancer. The five-year survival rate for Australian women is 43%, compared to 90% for breast cancer.

Researchers found that patients with high-grade ovarian cancer showed the most infiltration with TILs, which were associated with longer overall survival.

"We know that a type of TIL called Cytotoxic CD8 are present in the tumours of patients with high-grade ovarian cancer," says Matthew Block, M.D., Ph.D. an oncologist at Mayo Clinic who co-led the research team with Ellen Goode PhD of the Mayo Cancer Center's Genetic Epidemiology and Risk Assessment Program.

"However, little was known about the role in fighting high-grade ovarian cancer compared to other clinical factors."

To help answer this question, researchers studied more than 5,500 patients from nine different countries, including 3,196 with high-grade ovarian cancer.

"This is the by far the largest study of this type and would not have been possible without scientists and doctors from North and South America, Europe and Australia all working together," said **Professor Susan Ramus** from UNSW Sydney. "Almost 300 patients from Australia participated in this project."

The study shows the higher the level of CD8 TILs in a tumour the better the survival for patients with high-grade ovarian cancer, says Dr Block.

"Developing a better understanding of factors that increase CD 8 TILs will be the key to developing treatments to achieve better outcomes in treating patients with high-grade ovarian cancer."

[Read online.](#)

## MOST IVF BABIES COME FROM FROZEN EMBRYOS FOR FIRST TIME

13 October 2017 | Gabrielle Dunlevy | [UNSW Newsroom](#)

The latest report on Assisted Reproductive Technology in Australia and New Zealand reveals that for the first time, more babies are born from IVF treatment using frozen embryos.

For the first time, more live birth deliveries following IVF treatment are from cycles using frozen embryos, rather than fresh embryos.

The [Assisted Reproductive Technology in Australia and New Zealand 2015](#) report, by UNSW's [National Perinatal Epidemiology and Statistics Unit \(NPESU\)](#), shows that 7,412 live deliveries resulted from frozen embryos compared to 6,628 from fresh embryos.

The number of live births from frozen embryos has increased by 64% since 2011.

"This move to more babies being born using frozen embryos reflects changes in clinical practice as well as improvements in IVF success rates using frozen embryos," said **Professor Michael Chapman**, President of the Fertility Society of Australia (FSA).

Between 2011 and 2015, the live delivery rate for cycles that transferred a fresh embryo have increased marginally to around 24%, while the live delivery rate for frozen embryo transfer cycles have increased from 20.6% to 26.6%.

"Some of the changes include better cryopreservation methods that 'snap-freeze' embryos, more pre-implantation screening of embryos before transfer, and recognition that for some patients, it's better to freeze all their embryos and transfer them in follow-up cycles," Professor Chapman said.

"These types of cycles are called 'freeze all cycles' and have increased from 5% of fresh cycles in 2011 to almost one in five cycles in 2015."

The report shows a 6% increase in the number of IVF treatment cycles performed in 2015 compared to 2014, with 77,721 cycles reported from Australian and New Zealand clinics (71,479 and 6,242 respectively).

A total of 13,344 babies were born following IVF treatment in Australian clinics and 1,447 in New Zealand clinics in 2015.

The report also shows the continuing decrease in the rate of multiple deliveries, from 6.9% in 2011 to 4.4% in 2015.

"With the continued decrease in multiple embryo transfer cycles performed in Australia and New Zealand, we are also reducing the risk of multiple births," said Professor Luk Rombauts, Vice President of the FSA.

"IVF specialists in Australia and New Zealand have one of the lowest rates of multiple deliveries from IVF treatment in the world, providing the safest treatment possible, while also maintaining high success rates. It is pleasing that we have achieved this voluntarily, guided by clinical practice guidelines developed by the FSA."

Professor Rombauts said Australia and New Zealand have the lowest IVF multiple birth rates of any region in the world and yet also maintain consistently high success rates.

"The Australian and New Zealand annual IVF reports have been published uninterrupted for over 30 years, are now more important than ever," he said.

"Since the first Australian IVF baby was born in 1980, over 200,000 IVF babies have been born, allowing many thousands of couples to achieve parenthood. Because IVF treatments are reported from all fertility clinics in Australia and New Zealand, the report is a valuable resource for patients, clinicians, researchers and policy makers."

The report, which is funded by the FSA, contains data about IVF cycles undertaken in 2015 and the resulting babies born in 2015 and 2016. The data is maintained by the NPESU within UNSW's [Centre for Big Data Research in Health](#) and [School of Women's and Children's Health](#) on behalf of the FSA.

[Read online.](#)

## STREAMLINED GENETIC TESTS AND RESPIRATORY RISKS FOR PREMATURE BABIES

24 October 2017 | Lucy Carroll | [UNSW Newsroom](#)

Streamlined genetic testing for women diagnosed with cancer and strategies to improve outcomes for premature babies in Australia were the subjects of the fifth Professorial Inaugural Lectures at UNSW.

As demand for genetic counselling skyrockets, UNSW researchers are leading a nationwide program to train oncology specialists in how to offer genetic tests to women diagnosed with ovarian cancer.

This year, more than 150 oncology doctors and nurses across 30 hospitals and clinics have been trained to provide genetic testing to women with ovarian cancer that meet certain eligibility criteria, an initiative driven by research led by Professor Bettina Meiser from the Prince of Wales Clinical School, UNSW Sydney.

Her research into streamlined models of genetic education was the focus of Professor Meiser's lecture 'Vines, genes and a passion for research: Investigating the psychosocial implications of genetics' on Thursday,

the fifth lecture by a new professor in the 2017 UNSW Professorial Inaugural Lectures.

Ten newly promoted and recruited professors are taking part in the lectures to mark their achievement, extend topics being taught in courses and showcase their specialist knowledge to colleagues, students, alumni, family and the public.

Professor Meiser's lecture highlighted the short and long-term psychological and behavioural impacts of testing breast and ovarian cancer susceptibility genes in at-risk women, and how testing at the point of diagnosis can increase detection of mutation carriers, lead to improved patient outcomes and prevention for family members.

"Currently most women with breast cancer and a family history are referred for genetic testing at familial cancer clinics after finishing cancer treatment," said Professor Meiser. "But as more women are offered testing straight after diagnosis the demand is growing and the so is the burden on the clinics.

"It's not just people that meet national criteria for testing and have a strong family history, but also those from certain ethnic backgrounds and tumour characteristics that are now eligible for genetic testing," she said.

She emphasised that the rise in demand means a streamlined model of education is needed at diagnosis.

In May, the American journal *Genetics in Medicine* published a study led by Professor Meiser that examined genetic education in breast cancer clinics at eight Australian hospitals.

For women who carry faulty BRCA1 or BRCA2 genes there is an increased lifetime risk of developing a new cancer. Identifying if the fault is present when first diagnosed can help patients decide on treatment.

Professor Meiser's research found that brief education by an oncology surgeon or nurse – rather than being referred to genetic family clinic – was a cost-effective way of educating patients.

She said the recent licensing of a new drug, olaparib, which targets ovarian cancer caused by BRCA1 or BRCA2 mutations, would prompt even more widespread testing.

The need for clinician education would only become more apparent, said Professor Meiser, as whole genome testing and polygenic testing increased and highly complex results would need to be communicated to patients.

Research into a much younger cohort of patients – premature babies admitted to neo-natal intensive care units – was the focus of **Professor Kei Lui's** lecture, **'How are Australia and New Zealand performing**

**internationally in the outcomes of premature babies?'**



From left, Professor Kei Lui, Acting Dean of UNSW Medicine Professor Anthony Kelleher, Deputy Vice-Chancellor Enterprise Professor Brian Boyle and Professor Bettina Meiser. Photo: Jenny Evans

Professor Lui, from the UNSW School of Women's and Children's Health and the Royal Hospital for Women, acknowledged Australia's improvement in the past decade in mortality rates for babies born before 32 weeks, but said incidences of chronic lung disease in premature babies had increased.

In one of the largest multi-national comparisons of more than 130,000 premature babies in ten high-income countries, Professor Lui's research showed that Australia has improved in rates of mortality, brain injuries and eye complications, with mortality rates dropping from 8.6% in 2007 to 7.4% in 2015.

But cases of chronic respiratory disease rose by more than 5% in the same period.

"Australia's weakest point is in lung complications because of very premature lungs being unable to cope from injuries. We need to address ventilation strategies and how to improve our respiratory support across the board," said Professor Lui.

He pointed to Canada being the only country to show significant improvements in all outcomes: mortality, lung disease, eye and brain injuries.

The reason for Canada's success could be partly attributed to EPIQ, said Professor Lui, a type of evidence-based practice that works by combining analysis of data about care in NICUs with tools to help cultural changes within health care centres. For example, EPIQ experts train teams to conduct evidence reviews, gather and analyze data, and manage change and measure outcomes.

"They run annual workshops to train the doctors and nursing champions of how to conduct clinical practice improvement," said Professor Lui.

Canada's EPIQ experts visit hospitals and conduct

staff interviews, focus groups and surveys to identify potential barriers and provides funding for a coordinator to champion changes in practice and train staff.

“Adopting a similar model in Australia could help stop the rise of respiratory illness for preterm babies,” said Professor Lui.

This year new professors from UNSW faculties including Science, Engineering, Business, Art & Design and Medicine will present on topics such as forensic psychology, franchising and the future of ophthalmology. All lectures are free.

To find out more about the 2017 Professorial Inaugural Lectures visit [UNSW Events](#).

Read more about Professor Bettina Meiser [here](#).

Read more about Professor Kei Lui [here](#).

The lectures are available to watch on [YouTube](#).

## REMARKABLE RESULTS FOR SPINAL MUSCULAR ATROPHY DRUG TRIAL

8 November 2017 | Gabrielle Dunlevy | [UNSW Newsroom](#)

An international study involving UNSW and Sydney Children’s Hospital researchers has led to the first approved treatment for spinal muscular atrophy, a devastating genetic disorder in babies.

An international study involving researchers from UNSW Sydney and Sydney Children’s Hospital Randwick has led to the first approved treatment for spinal muscular atrophy (SMA), providing hope for families.

SMA is a devastating but little-known genetic neuromuscular disorder that affects one in 10,000 babies worldwide, causing severe physical disability and profound implications for the health and wellbeing of patients and their families.

The drug nusinersen, marketed as Spinraza, was registered on 3 November with the Therapeutic Goods Administration (TGA) as a treatment for SMA, after results of the first phase-three study of the drug were published in the [New England Journal of Medicine](#).

Two of the 31 study sites internationally were in Australia, including Sydney Children’s Hospital, Randwick / UNSW Sydney, led by paediatric neurologist **Dr Michelle Farrar** and involving families from across the Sydney Children’s Hospital Network.

In the blind trial of nusinersen involving 122 patients worldwide, 41% of babies with various SMA types reached motor milestones (such as sitting, crawling and walking), compared to none in the group receiving the placebo.

Dr Farrar said it was challenging to work with such a devastating condition in young children, but the team was motivated by the unmet need and remarkable results it was witnessing.

“It was clear the treatment was working, we were seeing babies getting stronger, defying the natural history of progressive weakness and limited survival,” Dr Farrar said.

“This has led to the first approved treatment for SMA and, importantly, provides hope for families.”

There is a long road ahead before nusinersen is widely used in clinical practice.

The drug has been available free to infants with SMA Type 1 under a compassionate access program.

In the US, the Food and Drug Administration (FDA) approved the drug for all SMA patients last year.

[Read More.](#)

## DR SUSAN WOOLFENDEN NAMED 2017 METROPOLITAN NSW WINNER OF MEMORIAL AWARD

10 November 2017 | [SCHN News Centre](#)

On Saturday 4 November, **Dr Susan Woolfenden** was named the 2017 Metropolitan NSW Winner of the Humpty Dumpty Foundation’s Michelle Beets Memorial Award by the NSW Secretary of Health, Elizabeth Koff at the Humpty Dumpty Foundation’s Great Humpty Ball held at the Four Seasons Hotel in Sydney. Mr Brad Ceely was runner up.

Dr Woolfenden was acknowledged for being a tireless advocate for recognition of the importance of intervening in the early years of childhood, particularly in vulnerable populations as well as having led research locally and internationally investigating the impact of inequitable health service provision on child health outcomes in the early years of childhood.

To continue her significant and much-needed paediatric work Dr Woolfenden will receive a piece of medical equipment of her choice to the value of \$20,000 for Sydney Children’s Hospital, Randwick.

For over 25 years, Dr Susan Woolfenden has been a dedicated community paediatrician and currently holds the role of Senior Staff Specialist in the Department of Community Child Health and is the Clinical Lead in Integrated Care at the Sydney Children’s Hospitals Network. She is also a Senior Research Fellow (Associate Professor) at the School of Women and Children’s Health, the University of New South Wales (Sydney).

[Read More.](#)

## BABIES WITH SEVERE RESPIRATORY ILLNESS HAVE DOUBLE THE RISK OF CHILDHOOD ASTHMA

13 November 2017 | Gabrielle Dunlevy | [UNSW Newsroom](#)

If children develop severe respiratory illness before two years old, they are at least double the risk of developing asthma later in childhood, a study of NSW babies has found.

A study of all children born in NSW between 2000 and 2010 has found that if they develop severe respiratory illness before two years old, they are at least double the risk of developing asthma later in childhood.

[The research](#) published in BMJ Open is the first study to demonstrate the increased risk of asthma hospitalisation following severe Respiratory Syncytial Viral disease (RSV) in different groups of high-risk Australian children.

RSV is a major cause of respiratory illness in young children. Almost all Australian children will have RSV before they turn three, but it can be serious and require hospitalisation.

The 847,516 children were divided into three groups: non-Indigenous children born preterm or with a low birth weight, Indigenous children, and all other non-Indigenous children.

The study's first author, UNSW lecturer **Dr Nusrat Homaira**, says in all three groups the risk was comparable.

Children hospitalised for RSV before their second birthday had double the risk of developing asthma at the age of three compared to children who were not hospitalised for RSV, and that risk continued until children were seven years of age.

"The incidence of severe RSV disease is exceptionally high among children who were born preterm and among Indigenous children in NSW," Dr Homaira says.

"In a previous study, we have already shown that the risk of developing severe RSV bronchiolitis, compared to otherwise healthy children, is 10 times more for children who are born preterm and two times more for Indigenous children.

"Parents should be aware that smoking is one of the strongest modifiable risk factors for developing severe RSV bronchiolitis for all children."

Australia has a high prevalence of paediatric asthma compared to other developed countries, with approximately 21% of children aged 0-15 having a past diagnosis of asthma, and 11% currently diagnosed with the condition.

In 2014, more than 13,000 children aged 1-17

presented to NSW emergency departments with asthma – two thirds of all hospital presentations for this age group. RSV-associated lower respiratory tract infections are also very high in NSW, costing the health system more than \$9 million annually.

Dr Homaira says: "There are several vaccines for RSV being tested in clinical trials which will be extremely helpful in not only reducing bronchiolitis, but hopefully the subsequent asthma especially in preterm and Indigenous children."

[Read More.](#)

## HOW NEW TECHNOLOGY WILL CHANGE TREATMENT FOR CHILDREN WITH CANCER

15 November 2017 | [Cancer Institute NSW](#)

Children with cancer in NSW will receive more personalised and effective treatment options through new investment in cutting-edge technologies at the Children's Cancer Institute.

The announcement comes as \$5.2 million is committed to developing and introducing new equipment to accelerate cancer research in NSW.

Over \$750,000 will help **Professor Michelle Haber** and the Children's Cancer Institute find effective anti-cancer drug combinations and individualised treatments for children and adults with cancer.

Professor Haber says the automated acoustic liquid dispensing system, co-funded by the University of NSW, will increase the capacity to screen drugs and drug combinations at least tenfold.

"It will enhance our ability to deliver personalised treatments for children in NSW and throughout Australia with the most aggressive cancers," Professor Haber says.

[Read More.](#)

## SERIOUS LUNG INFECTIONS COULD BE POST-VAX SEROTYPE REPLACEMENT DISEASE

24 November 2017 | Mardi Chapman | [The Limbic](#)

A leading paediatric respiratory physician has called for enhanced surveillance to determine the impact of the 13-valent pneumococcal vaccine following preliminary data suggesting it might cause an increase in more virulent *S. pneumoniae* serotypes.

Speaking ahead of the Asian Pacific Society of Respirology (APSR) Congress in Sydney, **Professor**

**Adam Jaffe** told the limbic the data was consistent with increasing rates of empyema in children.

While it was a rare complication of pneumonia, empyema could lead to lengthy periods in hospital and interventions such as drainage of pleural fluid and surgery.

“It often involves in excess of one week in hospital; sometimes up to six weeks with complications.”

Professor Jaffe, associate director of research at the Sydney Children’s Hospitals Network, said invasive

pneumococcal disease such as meningitis and pneumonia had reduced since the 2011 introduction of the pneumococcal vaccine to the National Immunisation Program Schedule.

[Read More.](#)

## MISSING DNA FRAGMENTS FOUND TO BE IMPORTANT PREDICTORS OF CHILDHOOD LEUKAEMIA RELAPSE

9 December 2017 | Esther Han | [Sydney Morning Herald](#)

In a world-first, researchers at the Children’s Cancer Institute have developed a way to identify children at high risk of relapse but currently “hiding” in a lower risk group and therefore not receiving adequate treatment.

They found the absence of two DNA fragments in leukaemia cells were important predictors of relapse.

To more accurately determine a child’s risk of relapse, they have developed a new risk scoring system that combines information about these two specific gene “microdeletions” with minimal residual disease (MRD) test results and a National Cancer Institute risk score.

“There’s always a play-off between getting the treatment right and the side effects, and right now we’re dividing patients into risk groups so we can increase their chances of survival,” said study leader **Associate Professor Rosemary Sutton.**

[Read More.](#)

## PROMOTIONS

Congratulations to staff and conjoins who have recently been promoted.

Professor

- A/Prof Jason Abbott
- A/Prof Robert Gilchrist

Lecturer

- Dr Ursula Sansom-Daly

Conjoint Senior Lecturer

- Dr Debra Kennedy
- Dr Ganesha Thambipillay

## GRANTS

### SUCCESSFUL GRANTS & AWARDS

Dr Aaron Budden	Avant Doctor in Training Research Scholarship Program - Grant RANZCOG Taylor Hammond Research Scholarship
Prof Maria Craig	Triple I Seed Grant
Dr Alla Dolnikov	Inner Wheel Foundation
Dr Joanna Fardell	The UPS Foundation / Kids Cancer Project
Dr Caroline Ford	Ovarian Cancer Research Foundation
Prof Adam Jaffe	Cystic Fibrosis Australia Patrons Award
Prof Kei Lui	HCF Foundation
A/Prof Nadine Kasparian	Mindgardens Seed Funding
Dr Karen Mackenzie	NHMRC Project
Kate Marshall	Scientia PhD Scholarship
Nicki Meagher	NSW Health PhD Scholarship
Dr Bernadette Prentice	RACP Trainee Research awards for Excellence (paediatrics, representing NSW/ACT)
Dr Ursula Sansom-Daly	HCF Foundation COSA Psycho-Oncology New Investigator Award
Dr Sylvie Shen	Inner Wheel Foundation
Dr Kirsty Walters (CIC)	ARC Discovery Project
Dr Kristina Warton	Ovarian Cancer Research Foundation
A/Prof Susan Woolfenden	Bayside Council Grant
Sharon Wong	Cystic Fibrosis Australia Ann Maree Bosch Fellowship

A number of our researchers have been awarded grants and fellowships not listed here as they are currently under embargo, awaiting announcement from the funding organisation. Once the embargoes have lifted, we will share these results with the wider research.

### SCHF PHD SCHOLARSHIP 2018

Towards the end of last year, the Sydney Children’s Hospital Foundation announced the recipients of their PhD Scholarship. We were delighted to hear that Dr

Bernadette Prentice and Sarah-Grace Paguinto were successful.

The aim of the scholarship is to support an allied health, nursing, medical professional or scientist with an interest in child health to develop their career by providing them training and mentorship to build their capacity to undertake competitive original research.

Dr Prentice was later awarded an NHMRC Postgraduate Scholarship and has since relinquished the SCHF Scholarship - well done Bernadette!

Sarah-Grace will commence her PhD this year, transferring from the Masters of Science programme.

## THE CONVERSATION

### Childhood heart disease has a profound impact and is under-recognised

We are all aware of heart disease in men and women. But childhood heart disease, and its often profound impact on the health and wellbeing of children and their families, is almost invisible.

Every day in Australia, eight babies are born with heart disease, worldwide there are about 1.35 million babies with heart disease each year. Childhood heart disease is fundamentally different from heart disease diagnosed in adult life, which typically occurs as arteries become blocked and heart valves deteriorate with age.

Lifestyle factors often contribute to poor heart health in adulthood, but most childhood heart disease is unrelated to lifestyle. There are many different heart conditions that can occur in childhood, with the main distinction being those present from birth and those that develop during childhood.

[Read More](#)

- **A/Prof Nadine Kasparian** is a National Heart Foundation of Australia Future Leader Fellow at UNSW Sydney and clinician and Head of Psychology at the Sydney Children's Hospitals Network Cardiac Service; Prof David Winlaw is a paediatric heart surgeon at The Children's Hospital at Westmead in Sydney and Professor in Paediatric Cardiac Surgery at the University of Sydney; A/Prof Gary Sholler is a paediatric and fetal cardiologist, and Director of Cardiac Services for the Sydney Children's Hospitals Network (Heart Centre for Children at the Children's Hospital at Westmead, and Cardiac Services at Sydney Children's Hospital, Randwick).

### We made great strides with childhood leukaemia – we can do the same for brain cancer

Brain cancers are the leading disease-related cause

of death in Australian children. And survival rates have changed little in decades. As a paediatric oncologist, the worst conversation I can have with my patients or their parents is to tell them their tumour is incurable.

Last week, the federal government announced the Australian Brain Cancer Mission, with a A\$100 million injection for research to double survival rates and improve quality of life for people living with brain cancer over the next ten years. This is an important step forward.

My hope is that we can replicate for brain cancer what has been achieved for leukaemia. The survival rate for the most common form of childhood leukaemia was once zero but today it's 85%. To achieve this outcome for brain tumour patients, we will need to adopt a similar strategy as with leukaemia.

[Read More](#)

- **Conjoint A/Prof David Ziegler** is a senior Staff Specialist in the Kids Cancer Centre at Sydney Children's Hospital. He is also a Group Leader at the Children's Cancer Institute where his preclinical research focuses on novel therapies for childhood brain tumours.

## RESEARCH GROUP UPDATES

### PAEDIATRIC SLEEP UNIT

[Dr Arthur Teng](#)

It has been a busy but fruitful year for the Sleep Medicine Dept.

We have had the pleasure of having an Honorary Fellow, **Dr Hafizah Zainudin**, from University of Technology MARA Medical School in Kuala Lumpur. She commenced research into bruxism in obstructive sleep apnoea.

**Dr Mon Ohn**, Sleep Medicine Fellow is completing her year-long Fellowship and has collaborated with ENT Surgeon **Dr Marlene Soma** looking at children with Down Syndrome with residual obstructive sleep apnoea after adenotonsillectomy. Both projects were presented as a poster and oral presentation respectively at the recent Annual Scientific Meeting of the Australasian Sleep Association in Auckland.

At the conference, **Dr Teng** won the Best Poster Oral Presentation for a novel project with the University of Sydney's Dept. of Psychology, looking at the sleep disturbance in children with traumatic brain injury (more than 50% incident!). This collaboration was part of a Doctor of Psychology project with **Stefan Bogdanov**, together with **A/Prof Sunny Lah** and **Dr Adrienne Epps** from Rehabilitation Medicine, Sydney Children's Hospital.

**Dr Greg Blecher** presented a paper on Prader-Willi Syndrome, which was very well received. The symposium on paediatric sleep garnered a lot of support for national collaboration.

Abstracts are available in the Journal of Sleep Research (2017; Vol. 26; S1).

Several publications highlighted below included an important guideline for the conduct of Sleep Studies in children in Australia and the completion of a validation project with Prof Colin Sullivan on the use of the movement sensitive mattress for the diagnosis of sleep-disordered breathing. Other publications are outlined below.

1. Norman, M, Pithers S, **Teng A**, Waters K, Sullivan C. Quantitative measurement of partial upper airway obstruction in children with sleep-disordered breathing. *Sleep*. 2017 Mar 1;40 (3). doi: 10.1093/sleep/zsx017.
2. **Chuang S**, **Teng A**, Butler JE, Gandevia SC, Selvadurai H, **Jaffe A**. Validation of a quantitative method to measure neural respiratory drive in children during sleep *Respir Physiol & Neurobiol* 239 (2017) 75–80
3. Yvonne P, Nixon GM, Edwards E, **Teng AY**, Verginis N, Davey MJ, Waters KA, Suresh S, Twiss J, Tai A. Australasian Sleep Association clinical practice guidelines for performing sleep studies in children”*Sleep Medicine* 36 (2017) S23-S42
4. Sinclair R, **Teng A**, Jonas C, **Schindler T**. Congenital central hypoventilation syndrome: A pictorial demonstration of absent electrical diaphragmatic activity using non-invasive neurally adjusted ventilatory assist. *J Paed Child H* doi:10.1111/jpc.13690
5. Teng JZ, **Teng A**, Sullivan CE. Continuous negative airway pressure “CNAP”: Novel nasal foreign body removal. *Int J Otorhinolaryngol Head Neck Surg*. 2017 Oct;3(4). doi: <http://dx.doi.org/10.18203/issn.2454-5929.ijohns2017>

#### TEXT BOOK CHAPTER:

6. **Teng AY, Chuang S**. “Development of Normal Sleep from Infancy to Adulthood”. Chapter in *Sleep Medicine* Editors: Darren Mansfield, Matthew Naughton, Shantha Rajaratnam, Nick Antic IP Communications Pty Ltd 2017

## NEUROLOGY RESEARCH

Congratulations to **Dr Fleur Le Marne** who was awarded Best Poster at the Epilepsy Society of Australia Meeting held in Perth.

Fleur’s poster related to the development of an App for adolescents to assist them to manage their epilepsy - for example, education, reminders, medical profile, mental health numbers etc.



Fleur is pictured with Conjoint Associate Professor Annie Bye.

## RESEARCH RESOURCES

### LIBRARY - UPDATE

With the launch of Boris, it is important to make sure your ROS profile is up-to-date and is capturing all of your publications.

If you need any assistance with this, please contact Peter Smith, your Outreach Librarian via [email](#) or phone - 9385 8241.

## GOOD CLINICAL PRACTICE TRAINING

The SCHN Research Governance Office will be holding the following interactive training session on **1<sup>st</sup> March 2018**: ‘*Good Clinical Practice (GCP) and the Regulatory Requirements for Clinical Trials for Clinician Investigators and Study Coordinators.*’

The session will be held in Tutorial Room A, Level 8, Bright Alliance Building, Randwick.

GCP accreditation will soon be a requirement for all investigators at SCHN conducting clinical trials. This session is specifically designed for time-pressed investigators and study coordinators with some knowledge of GCP.

It is transcelerate accredited and you will receive a certificate valid for 3 years that is accepted by sites and industry.

Please RSVP to the [Research Governance Office](#) by 19<sup>th</sup> February 2018, if you would like to attend.

## ILP & HONOURS SUPERVISORS & STUDENTS

### ILP & Honours 2018 Cohort

It is time to start thinking about your Ethics & Governance applications for your 2018 students. It is of the **upmost importance** that you receive these approvals BEFORE the students commence in February 2018.

If you need any assistance, with what is required for your project - whether it be a full application or an amendment - please contact the relevant HREC as soon as possible.

The School of Women's & Children's Health will be holding a **compulsory orientation** for commencing students in mid-February. This session will instruct them on how to obtain IT access, ID cards etc.

Abstract included on page 13.

The receipt of Round 4 will be announced in the coming weeks. The first round for 2018 will open in March.

## EARLY CAREER RESEARCHERS

### SWCH Early Career Researcher Best Publication Award

The School of Women's and Children's Health (SWCH) recognises the significance of increasing the competitiveness of ECRs, and acknowledges the importance of this period in attracting and retaining the best researchers to a career in women's and children's health. The aims of this award are to promote the publishing of high-impact, fundamental and translational research, and to increase the competitiveness of ECRs for fellowships. Applications will be called quarterly with four awards given per year.

ROUND 1 RECIPIENT:

**Dr Keith CY Ooi**, Senior Lecturer & Paediatric Gastroenterologist

[\*Differences in Outcomes between Early and Late Diagnosis of Cystic Fibrosis in the Newborn Screening Era\*](#)

ROUND 2 RECIPIENT:

**Dr Michelle Farrar**, Senior Lecturer & Paediatric Neurologist.

[\*Burning pain: axonal dysfunction in erythromelalgia\*](#)

ROUND 3 RECIPIENT:

**Dr Keith Ooi**, Senior Lecturer & Paediatric Gastroenterologist.

[\*Age-related levels of fecal M2-pyruvate kinase in children with cystic fibrosis and healthy children 0 to 10 years old\*](#)

## PUBLICATIONS

The abstract below is from the recipient of Round 3 of the School of Women's & Children's Health Early Career Researcher Best Publication Award 2017.

### [Age-related levels of fecal M2-pyruvate kinase in children with cystic fibrosis and healthy children 0 to 10years old](#)

**Garg, M., Leach, S.T., Pang, T., Needham, B., Coffey, M.J., Katz, T., Strachan, R., Widger, J., Field, P., Belessis, Y., Chuang, S., Day, A.S., Jaffe, A., Ooi, C.Y.**

*Journal of Cystic Fibrosis*. Article in Press.

#### **Background:**

The pathogenesis of gut inflammation, bacterial dysbiosis and increased rates of malignancy in CF is unclear. Fecal M2-pyruvate kinase (M2-PK) is a biomarker indicative of cellular proliferation that may be raised in intestinal malignancy and inflammation. Biomarkers, including M2-PK, may be useful in assessing effects of novel therapies on the gastrointestinal tract.

#### **Methods:**

M2-PK was measured in stools collected from patients with CF and HC (0–10 years). Linear mixed model analysis was used.

#### **Results:**

M2-PK levels did not significantly change in children with CF (36 patients, 77 samples) ( $P = 0.998$ ) or HC (45 patients, 45 samples) ( $P = 0.21$ ), over the age range 0–10 years. Patients with CF had elevated M2-PK compared to HC (median [IQR; range]: 10.7 [5.7–28.6; 1.0–239.1] ( $n = 77$ ) vs. 1.0 [1.0–1.0; 1.0–50.0] ( $n = 45$ ) U/mL, respectively;  $P = 0.001$ ).

#### **Conclusions:**

Fecal M2-PK was elevated in children with CF compared with HC during infancy and throughout childhood suggesting abnormalities in the CF gut exist in early life.

Access full text paper [online](#).

## PUBLICATION LIST

Publications authored by UNSW Paediatrics academics, conjoints, & students from August 2017, and available online.

Publications are listed under UNSW Medicine Themes to illustrate how the School of Women's & Children's Health is contributing in all areas of medical research at UNSW Sydney.

### **Cancer**

Anugraham, M., Jacob, F., Everest-Dass, A.V., Schoetzau, A., Nixdorf, S., **Hacker, N.F.**, Fink, D., Heinzelmann-Schwarz, V., Packer, N.H. Tissue glycomics distinguish tumour sites in women with advanced serous adenocarcinoma (2017) [Molecular Oncology](#), 11 (11), pp. 1595-1615.

Averbuch, D., Tridello, G., Hoek, J., Mikulska, M., Akan, H., Yañez San Segundo, L., Pabst, T., Özçelik, T., Klyasova, G., Donnini, I., Wu, D., Gülbaz, Z., Zuckerman, T., Botelho De Sousa, A., Beguin, Y., Xhaard, A., Bachy, E., Ljungman, P., De La Camara, R., Rascon, J., Ruiz Camps, I., Vitek, A., Patriarca, F., Cudillo, L., Vrhovac, R., Shaw, P.J., Wolfs, T., **O'Brien, T.**, Avni, B., Silling, G., Al Sabty, F., Graphakos, S., Sankelo, M., Sengeloev, H., Pillai, S., Matthes, S., Melanthiou, F., Iacobelli, S., Styczynski, J., Engelhard, D., Cesaro, S. Antimicrobial Resistance in Gram-Negative Rods Causing Bacteremia in Hematopoietic Stem Cell Transplant Recipients: Intercontinental Prospective Study of the Infectious Diseases Working Party of the European Bone Marrow Transplantation Group (2017) [Clinical Infectious Diseases](#), 65 (11), pp. 1819-1828.

Campbell, B.B., Light, N., Fabrizio, D., Zatzman, M., Fuligni, F., de Borja, R., Davidson, S., Edwards, M., Elvin, J.A., Hodel, K.P., Zahurancik, W.J., Suo, Z., Lipman, T., Wimmer, K., Kratz, C.P., Bowers, D.C., Laetsch, T.W., Dunn, G.P., Johanns, T.M., Grimmer, M.R., Smirnov, I.V., Larouche, V., Samuel, D., Bronsema, A., Osborn, M., Stearns, D., Raman, P., Cole, K.A., Storm, P.B., Yalon, M., Opocher, E., Mason, G., Thomas, G.A., Sabel, M., George, B., **Ziegler, D.S.**, Lindhorst, S., Issai, V.M., Constantini, S., Toledano, H., Elhasid, R., Farah, R., Dvir, R., Dirks, P., Huang, A., Galati, M.A., Chung, J., Ramaswamy, V., Irwin, M.S., Aronson, M., Durno, C., Taylor, M.D., Rechavi, G., Maris, J.M., Bouffet, E., Hawkins, C., Costello, J.F., Meyn, M.S., Pursell, Z.F., Malkin, D., Tabori, U., Shlien, A. Comprehensive Analysis of Hypermutation in Human Cancer (2017) [Cell](#), 171 (5), pp. 1042-1056.e10.

Chen, B.J., Byrne, F.L., Takenaka, K., Modesitt, S.C., Olzomer, E.M., Mills, J.D., **Farrell, R.**, Hoehn, K.L., Janitz, M. Transcriptome landscape of long intergenic non-coding RNAs in endometrial cancer (2017) [Gynecologic Oncology](#), 147 (3), pp. 654-662.

Dieng, M., **Kasparian, N.A.**, Mireskandari, S., Butow, P., Costa, D., Morton, R., Mann, G., Menzies, S., Cust, A. Psychoeducational intervention for people at high risk of developing another melanoma: A pilot randomised controlled trial (2017) [BMJ Open](#), 7 (10), art. no. e015195.

**Felthun, J., Reddy, R.**, McDonald, K.L. How immunotherapies are targeting the glioblastoma immune environment (2017) [Journal of Clinical Neuroscience](#). Article in Press.

**Kandula, T., Farrar, M.A.**, Krishnan, A.V., Murray, J., Timmins, H.C., Goldstein, D., Lin, C.S.-Y., Kiernan, M.C., Park, S.B. Multimodal quantitative examination of nerve function in colorectal cancer patients prior to chemotherapy (2017) [Muscle and Nerve](#). Article in Press.

Kang, Y.-J., Smith, M., Barlow, E., Coffey, K., **Hacker, N.**, Canfell, K. Vulvar cancer in high-income countries: Increasing burden of disease (2017) [International Journal of Cancer](#), 141 (11), pp. 2174-2186.

**Ledger W.L.**, Hairudin N.A., Sara C.S.Y. (2017) Mild Stimulation Protocols for Oncofertility Patients. In: Chian RC., Nargund G., Huang J. (eds) [Development of In Vitro Maturation for Human Oocytes](#). Springer, Cham.

**Mizrahi, D., Wakefield, C.E., Fardell, J.E., Quinn, V.F.**, Lim, Q., Clifford, B.K., **Simar, D.**, Ness, K.K., **Cohn, R.J.** Distance-delivered physical activity interventions for childhood cancer survivors: A systematic review and meta-analysis (2017) [Critical Reviews in Oncology/Hematology](#), 118, pp. 27-41.

Phan, K., Abi-Hanna, D., Kerferd, J., Lu, V.M., Dmytriw, A.A., Ho, Y.-T., Fairhall, J., **Reddy, R.**, Wilson, P. Resumption of Antithrombotic Agents in Chronic Subdural Hematoma: A Systematic Review and Meta-analysis (2017) [World Neurosurgery](#). Article in Press.

**Signorelli, C., Wakefield, C.E., Fardell, J.E.**, Thornton-Benko, E., Emery, J., **McLoone, J.K., Cohn, R.J.** Recruiting primary care physicians to qualitative research: Experiences and recommendations from a childhood cancer survivorship study (2018) [Pediatric Blood and Cancer](#), 65 (1), art. no. e26762.

Xu, N., **Shen, S., Dolnikov, A.** Increasing Stem Cell Dose Promotes Posttransplant Immune Reconstitution (2017) [Stem cells and development](#), 26 (7), pp. 461-470.

## Infectious Disease, Immunity & Inflammation

Aggarwal, V., **Day, A.S.**, Connor, S., **Leach, S.T.**, Brown, G., Singh, R., Friedman, A., Zekry, A., Craig, P.I. Role of capsule endoscopy and fecal biomarkers in small-bowel Crohn's disease to assess remission and predict relapse (2017) [Gastrointestinal Endoscopy](#), 86 (6), pp. 1070-1078.

Chakraborty, A., Rahman, M., Hossain, M.J., Khan, S.U., Haider, M.S., Sultana, R., Ali Rimi, N., Islam, M.S., Haider, N., Islam, A., Sultana Shanta, I., Sultana, T., Al Mamun, A., **Homaira, N.**, Goswami, D., Nahar, K., Alamgir, A.S.M., Rahman, M., Mahbuba Jamil, K., Azziz-Baumgartner, E., Simpson, N., Shu, B., Lindstrom, S., Gerloff, N., Davis, C.T., Katz, J.M., Mikolon, A., Uyeki, T.M., Luby, S.P., Sturm-Ramirez, K. Mild respiratory illness among young children caused by highly pathogenic avian influenza a (h5n1) virus infection in Dhaka, Bangladesh, 2011 (2017) [Journal of Infectious Diseases](#), 216, pp. S520-S528.

Mitrev, N., Vande Castele, N., Seow, C.H., Andrews, J.M., Connor, S.J., Moore, G.T., Barclay, M., Begun, J., Bryant, R., Chan, W., Corte, C., Ghaly, S., **Lemberg, D.A.**, Kariyawasam, V., Lewindon, P., Martin, J., Mountifield, R., Radford-Smith, G., Slobodian, P., Sparrow, M., Toong, C., van Langenberg, D., Ward, M.G., Leong, R.W. Review article: consensus statements on therapeutic drug monitoring of anti-tumour necrosis factor therapy in inflammatory bowel diseases (2017) [Alimentary Pharmacology and Therapeutics](#), 46 (11-12), pp. 1037-1053.

Ong, L.T.C., Nachbur, U., Rowczenio, D., **Ziegler, J.B.**, Fischer, E., Lin, M.W. A novel nucleotide oligomerisation domain 2 mutation in a family with Blau syndrome: Phenotype and function (2017) [Innate Immunity](#), 23 (7), pp. 578-583.

## Neuroscience, Mental Health, & Addiction

Gururaj, S., **Palmer, E.E.**, Sheehan, G.D., **Kandula, T.**, Macintosh, R., Ying, K., Morris, P., Tao, J., Dias, K.-R., Zhu, Y., Dinger, M.E., Cowley, M.J., **Kirk, E.P.**, Roscioli, T., **Sachdev, R.**, Duffey, M.E., **Bye, A.**, Bhattacharjee, A. A De Novo Mutation in the Sodium-Activated Potassium Channel KCNT2 Alters Ion Selectivity and Causes Epileptic Encephalopathy (2017) [Cell Reports](#), 21 (4), pp. 926-933.

**Palmer, E.E.**, Kumar, R., Gordon, C.T., Shaw, M., Hubert, L., Carroll, R., Rio, M., Murray, L., Leffler, M., Dudding-Byth, T., Oufadem, M., Lalani, S.R., Lewis, A.M., Xia, F., Tam, A., Webster, R., Brammah, S., Filippini, F., Pollard, J., Spies, J., Minoche, A.E., Cowley, M.J., Risen, S., Powell-Hamilton, N.N., Tusi, J.E., Immken, L., Nagakura, H., Bole-Feysot, C.,

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### Non-Communicable Diseases

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Mincham, C.M., Wong, G., Teixeira-Pinto, A., **Kennedy, S.,** Alexander, S., Larkins, N., Lim, W.H. Induction Therapy, Rejection, and Graft Outcomes in Pediatric and Adolescent Kidney Transplant Recipients (2017) [Transplantation](#), 101 (9), pp. 2146-2151.

### Special Populations and Clinical Settings: Women & Children

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Darlow, B.A., **Lui, K.,** Kusuda, S., Reichman, B., Håkansson, S., Bassler, D., Modi, N., Lee, S.K., Lehtonen, L., Vento, M., Isayama, T., Sjörs, G., Helenius, K.K., Adams, M., Rusconi, F., Morisaki, N., Shah, P.S. International variations and trends in the treatment for retinopathy of prematurity (2017) [British Journal of Ophthalmology](#), 101 (10), pp. 1399-1404.

Hanly, M., Falster, K., **Chambers, G.,** Lynch, J., Banks, E., **Homaira, N.,** Brownell, M., Eades, S., Jorm, L. Gestational Age and Child Development at Age Five in a Population-Based Cohort of Australian Aboriginal and Non-Aboriginal Children (2017) [Paediatric and Perinatal Epidemiology](#). Article in Press.

Ketheeswaran, A., Morrissey, J., **Abbott, J.,** Bennett, M., Dudley, J., **Deans, R.** Intensive vaginal dilation using adjuvant treatments in women with Mayer-Rokitansky-Kuster-Hauser syndrome: Retrospective cohort study (2017) [Australian and New Zealand Journal of Obstetrics and Gynaecology](#). Article in Press.

**Ledger, W.L.** The HFEA should be regulating add-on treatments for IVF/ICSI (2017) [BJOG: An International Journal of Obstetrics and Gynaecology](#), 124 (12), p. 1850.

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Ritchie, H.E., Oakes, D.J., **Kennedy, D.,** Polson, J.W. Early Gestational Hypoxia and Adverse Developmental Outcomes (2017) [Birth Defects Research](#), 109 (17), pp. 1358-1376.

### Enabling Capabilities: Genomics

Robevska, G., Den Bergen, J.A., Ohnesorg, T., Eggers, S., Hanna, C., Hersmus, R., Thompson, E.M., Baxendale, A., **Verge, C.F.,** Lafferty, A.R., Marzuki, N.S., Santosa, A., Listyasari, N.A., Riedl, S., Warne, G., Looijenga, L., Faradz, S., Ayers, K.L., Sinclair, A.H. Functional characterisation of novel NR5A1 variants reveals multiple complex roles in Disorders of Sex Development (2017) [Human Mutation](#). Article in Press.