

Women's & Children's Health Research Newsletter

Vol 4. Iss 1. 30 SEP 2020

In welcoming you all to the School's Newsletter for 2020, I cannot ignore that this has been a year filled with much sadness, grief, and anxiety. However, despite the pandemic, there have been some remarkable successes which we will celebrate in the next few pages.

Before doing so, I must share with you that, as a result of financial pressures from COVID-19 on the University, we are sadly losing three key members of the School; **A/Prof Kirsty Walters, Dr Terri Foran, and Samantha (Sam) McFedries** have chosen to take voluntary redundancy and pursue new opportunities.

A/Prof Walters is one of the most successful mid-career members of the School of Women's and Children's Health. Her research has received national and international accolade, particularly her research integrating neuroscience with ovarian biology in exploring the aetiology of Polycystic Ovarian Syndrome and related conditions.

Dr Foran is one of our champion educators and science communicators in the field of sexual health. Dr Foran has been committed to undergraduate and postgraduate teaching within the School for many

years. The success of our Masters of Women's Health Medicine is largely down to Terri as program convenor.

Sam joined the School as our Research Projects Officer for Paediatrics in 2012, before expanding the role to the entire School in 2013 and moving to a Faculty position in 2018 (still supporting WCH together with POWCS). Sam has been instrumental in developing the Paediatric research strategy, and more recently a School and Randwick Precinct research strategy.

These few words do not express enough the high regard in which these three individuals are held within the School and the sadness we all feel with their departure. They have been wonderful supportive colleagues and will be sorely missed by all of us. I would like to thank them for all their contributions to the School and the University and wish them all the best in the next chapter in their lives and urge them to keep in touch; both Kirsty and Terri will continue their close ties with the University through affiliated titles.

I would like to welcome the following new research staff who have joined the School in 2020; many of these positions are the result of competitive grants. It is wonderful to see so many of our PhD alums on the list, some commencing their first postdoctoral positions.

- Joseph Alchin
- Dr Andrew Capraro
- Teagan Fisher
- Dr Yalemzewod Gelaw
- Jacqueline Hunter
- Nicholas Handelsman
- Dr Rama Kandaswamy
- Dr Marion Mateos
- Therese Miranda
- Mary O'Neil
- Dr Iain Perkes (WCH & Psychiatry)
- Dr Eden Robertson
- Dr Valentina Rodriguez Paris
- Dr Emma Palmer
- Dr Lauren Winkler

I would like to continue the positive accolades by congratulating the following conjoints who have recently progressed to conjoint professor or associate professor.

Progression to Conjoint Professor:

- **Dr Tracey O'Brien**, Kids Cancer Centre, Sydney Children's Hospital

Progression to Conjoint Associate Professor:

- **Dr Laurence McCleary**, Department of Paediatrics, Adolescent & Neonatal Medicine, Fairfield Hospital.

And finally, congratulations to our academics who have been promoted in 2020.

Promoted to Associate Professor:

- **Dr Amanda Henry**, Obstetrician, St George Public Hospital & the Royal Hospital for Women; Senior Research Fellow, Global Women's Health at The George Institute for Global Health.
- **Dr Christos Venetis**, Consultant Gynaecologist & Fertility Specialist; NHMRC Early Career Fellow, WCH & Centre for Big Data Research in Health.

Promoted to Senior Lecturer:

- **Dr Rebecca Deans**, Gynaecologist, Royal Hospital for Women & Sydney Children's Hospital.
- **Dr Steven Leach**, Research Fellow (Inflammation), Sydney Children's Hospital.
- **Dr Ursula Sansom-Daly**, Clinical Psychologist & Post-Doctoral Research Fellow, Behavioural Sciences Unit, Kids Cancer Centre.

With best wishes & happy reading,



Professor Adam Jaffe

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

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NEWS

UNSW finalists announced in 2020 Eureka Prizes

UNSW Sydney celebrates seven finalists heralded in the 'Oscars of science'.

29SEP2020 | Yolande Hutchinson | UNSW Newsroom



Developing a blueprint for any respiratory pandemic, using virtual reality technology to view cancer cells and creating ways to protect native mammals from predators are among the UNSW Sydney projects nominated for the 2020 Australian Museum Eureka Prizes, Australia's most high-profile science awards.

Presented annually by the Australian Museum, 17 Australian Museum Eureka Prizes are awarded across four categories including research and innovation, leadership, science engagement and school science.

Seven UNSW Sydney researchers have been named as finalists for their outstanding achievements in the fields of leadership, research and innovation.

Professor Maria Kavallaris AM, Children's Cancer Institute and UNSW Medicine

CSIRO Eureka Prize for Leadership in Innovation and Science

Professor Kavallaris is internationally renowned for her leadership, research and advocacy in the treatment of childhood cancer.

Prof Kavallaris is a Director of the Australian Centre for NanoMedicine at UNSW and Head of

the Translational Cancer Nanomedicine Theme and NHMRC Principal Research Fellow at the Children's Cancer Institute. She has made important discoveries in relation to the mechanisms of clinical drug resistance and tumour aggressiveness in childhood cancer.

"To be able to make a difference to the lives of children with cancer and their families by developing better treatments and improving survival rates is very humbling. Even if you can save one child's life, that's an incredible feat," Professor Kavallaris said.

How cancer cells become resistant to chemotherapeutic drugs is a key aspect of Prof. Kavallaris' research. One of her most significant discoveries was identifying specific genetic changes in tumour cells that make them resistant to chemotherapy, and developing a means of targeting these genetic changes and reversing the drug resistance.

Prof. Kavallaris is also recognised as an Australian pioneer in the medical application of nanotechnology and has had significant success finding ways to package and deliver chemotherapy drugs in nanostructures that specifically target tumour cells. This approach not only aims to improve drug efficacy but also drug safety, minimising harmful effects on healthy tissues – a particularly important consideration in growing children.

[Continue Reading.](#)

[Professor Maria Kavallaris AM](#) is Head of the Tumour Biology and Targeting Program at Children's Cancer Institute and Director of the Australian Centre for NanoMedicine at UNSW.

Dealing with fussy eating in children

If meals with your children are ruled by what they refuse to eat, consider a UNSW Sydney dietitian's advice on how to tackle fussy eating and win mealtime back.

23SEP2020 | Caroline Tang | [UNSW Newsroom](#)



There is no strict definition of what makes a child a fussy eater, but it's something parents should know how to tackle – and in rare cases it might be a sign of an underlying condition, a paediatric clinical dietitian at UNSW Sydney says.

Dr Jennifer Cohen of [UNSW Medicine](#) has been working in childhood nutrition for more than 15 years, specialising in paediatric oncology nutrition – children's diets during cancer treatment.

She is also the mother of a six-year-old and eight-year-old and said fussy eating was part of regular childhood development.

"It's actually normal for a child to go through a fussy eating stage; up to 50 per cent of kids between one to two years old will be fussy eaters at some stage. We call that behavioural fussy eating and the theory behind why it happens is at that age, their growth has slowed down," Dr Cohen said.

"A child's body is focusing on more mental development – talking, walking, becoming physically active. The theory is kids don't need as much food – they're not as hungry because they're not growing as much.

"A related theory is that while there's so much brain development going on, the sensory

system almost shuts down and because eating is such a sensory experience – involving taste, touch, smell, sound – if your brain is occupied with other tasks rather than the senses, food just doesn't taste as good or is not as enjoyable as it used to be."

Dr Cohen said the one to two-year-old age group featured the "perfect storm" of factors leading to behavioural fussy eating.

"To add to the changes going on in their body, we also have a toddler's assertiveness to consider: it's like trying to get your child dressed and to put their shoes on – the more you want them to do it, the less likely they're going to comply," she said.

"So, it's not unusual for a child who used to eat everything – textured and solid foods – to suddenly become a fussy eater at one to two years of age.

"While there is no formal definition of fussy eating, we tend to say it's if a child is eating a low variety of foods – fewer than 20 different foods – or if they are removing entire food groups, such as vegetables or meat."

[Continue Reading.](#)

Dr Jennifer Cohen is a conjoint lecturer of the School of Women's & Children's Health in the Faculty of Medicine, UNSW and a clinical dietitian in the Kids Cancer Centre, Sydney Children's Hospital. Dr Cohen specialises in the area of nutrition in paediatric oncology both during and after cancer treatment.

Terrifying discovery in baby's chest

The day after Ellie Caterjian's parents found out she had a tumour the size of a football in her chest, they were told to prepare for the worst.

22SEP2020 | Stephanie Bedo | [The Queensland Times](#)

It wasn't until the end of the month that she was diagnosed with infantile fibro sarcoma in her abdominal cavity. The cancer is usually found on the limbs.

Ellie was fitted with a tracheostomy to breathe and tried one week of chemotherapy but the cancer got bigger.

She was on nine sedatives and in palliative, end of life care.

That was until doctors enrolled Ellie in the [Zero Childhood Cancer](#) clinical trial.

Led by Children's Cancer Institute and Kids Cancer Centre at Sydney Children's Hospital, Randwick, children are given a personalised medicine program with treatment tailored to their particular cancer.

[Continue Reading.](#)

Conquer Cystic Fibrosis Grant Announce Inaugural Grant Recipient

Congratulations to **Associate Professor Keith Ooi** who is the inaugural recipient of Conquer Cystic Fibrosis gastrointestinal-specific research grant.

21SEP2020 | [Conquer Cystic Fibrosis](#)

Conquer Cystic Fibrosis is proud to make the award to Associate Professor Keith Ooi, under an Australian-first funding scheme for cystic fibrosis focused on the gastrointestinal system.

This funding will provide \$50,000 to support Dr Ooi's work examining gut inflammation and the microbiome, aspiring to the development of personalised treatments such as cystic fibrosis-specific probiotics.

This study is vital since Inflammation and poor microbiome health in cystic fibrosis are linked to low growth, gastrointestinal symptoms and increased risk of cancer.

As part of the study, stem cells obtained from gut biopsies from people with CF will be used to grow 2D and 3D organoid culture systems which aims to replicate real life ("mini-guts"). This is a crucial step in the development of personalised therapies for CF patients.

"Successful personalised therapies would revolutionise CF treatments and other conditions subject to host-microbe interactions," said A/Prof Ooi.

Through his research, he is calling for significant focus to be placed on gastrointestinal clinical care and thanked supporters of Conquer Cystic Fibrosis for making the grant possible.

"Historically gut issues were the primary cause of death in children with CF," he said.

"The introduction of pancreatic enzymes and a high-fat and high-calorie diet played a vital part in enabling people with CF to live long enough to develop lung disease, which has become the primary cause of death.

"Understandably, the research focus has been focussed on the lungs in recent decades and CF-specific gastrointestinal research has taken a back seat.

[Continue Reading.](#)



[Associate Professor Keith Ooi](#) is an internationally-recognised expert in cystic fibrosis-related gastroenterology and nutrition, as well as in exocrine and childhood pancreatic diseases. He is also the recipient of an NHMRC investigator grant in 2020.

The Australasian Diabetes Data Network (ADDN) appoints a new Medical Director

JDRF is pleased to announce the appointment of **Prof Maria Craig** in a new role as Medical Director of the Australasian Diabetes Data Network (ADDN).

18SEP2020 | [JDRF](#)

Professor Maria Craig has a wealth of experience as a paediatric endocrinologist and clinical researcher and has worked as a principal investigator on the ADDN project.

In her new role as Medical Director, Prof Craig will provide clinical and strategic guidance for ADDN and develop a new vision for the project as it enters an exciting new phase.

What is ADDN?

ADDN is a database of de-identified health information about people with T1D, gathered from clinics across Australia and New Zealand. It is the only database of its kind in Australasia.

What is ADDN used for?

ADDN allows researchers and clinicians to look at large amounts of data on how people with T1D are being cared for, with the aim of improving health outcomes for people with T1D.

[Continue Reading.](#)



[Professor Maria Craig](#) is Senior Staff Specialist in Paediatric Endocrinology at SCHN and St George Hospital; and an NHMRC Practitioner Fellow at UNSW Sydney. Prof Craig is interested in environmental triggers – including viruses – in the development of type 1 diabetes.

Kids' cancer research benefits from adult cancer therapy

11SEP2020 | [The Kids' Cancer Project](#)

For the longest time, kids' cancer research has been the poor cousin to adult cancer research, attracting far less funding. However, sometimes kids' cancer research paves the way to effective treatment and new therapies for all.



Some of the first patients in the world to be cured of cancer were children who'd had leukaemia. As a result, many cancer therapies originate from kids' leukaemia research.

"We absolutely learn a lot from results of children's cancer research and that knowledge is then extended to adults," says **Associate Professor David Ziegler**, a paediatric oncologist and Senior Staff Specialist at Sydney Children's Hospital.

Ziegler's research into DIPG, one of the deadliest types of cancer, is partly funded by The Kids' Cancer Project.

Why then, does adult cancer research receive more than the lion's share of funding?

One explanation is because adult cancers are more frequent than childhood cancers, says **Professor Maria Kavallaris**, Head of Translational Cancer Nanomedicine Theme and co-director of the Australian Centre for Nanomedicine at the Children's Cancer Institute.

“But we also know that childhood cancer, in a country like Australia, is the number one cause of disease-related death in children,” Kavallaris says. “One in every 900 adults in Australia is a survivor of childhood cancer, and a large percentage of those people will have long-term side effects from their treatment.”



Then, Kavallaris explains, there’s the calculation of life-years saved per cancer patient.

“Childhood cancer is second only to breast cancer in terms of productive life-years saved,” she says. “So, when you put it that way, childhood cancer is actually a very big issue.”

[Continue Reading.](#)

[Conjoint Associate Professor David Ziegler](#) is Group Leader of the Brain Tumour Group at [Children's Cancer Institute](#), and Chair of Clinical Trials for the [Zero Childhood Cancer](#) personalised medicine program. He holds a conjoint appointment with UNSW and is a senior paediatric oncologist at Sydney Children’s Hospital.

[Professor Maria Kavallaris AM](#) is Head of the Tumour Biology and Targeting Program at Children's Cancer Institute and Director of the Australian Centre for NanoMedicine at UNSW.

A look at the collaborative surge in health care

09SEP2020 | Guy Danskin | [Hospital & Healthcare](#)

The COVID-19 pandemic has underscored the existential need for greater collaboration and innovative use of medical technology like no other event in living memory. But it’s hardly the

first example of researchers and clinicians collaborating via technology to save lives.

Complex diseases, such as diabetes or cancer, demand tight working relationships across disciplines and locations. For example, [Children’s Cancer Institute](#) has been aggressively tackling childhood cancer and its devastating impacts on Australian families for years.

Computational biologists like **Associate Professor Mark Cowley** from Children’s Cancer Institute coordinate with patients’ treating clinicians to develop personalised treatments through a multidisciplinary process and partner with other researchers to share data that helps identify trends and new drug targets.

“For instance, we share containers, workflows and data with other countries’ researchers to see if, by aggregating patient data, we can find previously hidden signals, such as biologically similar brain tumours, driven by the same potentially treatable genetic changes,” Professor Cowley said.

He explains that pharma organisations are using similar methods to identify common genetic changes between different types of cancer, helping them invest R&D efforts in developing new therapeutic compounds.

More integrated, digitally enabled health systems are also key to helping patients access the preventative care and treatments that already exist. These would draw on a range of datasets, including factors like nutrition or lifestyle, and use predictive analytics to provide real-time prescriptive insights.

[Continue Reading.](#)

[Conjoint Associate Professor Mark Cowley](#) is a bioinformatician whose research is focused on developing innovative computational approaches to improve health outcomes.

Almost one in 20 babies in Australia born through IVF

A new report by UNSW medical researchers sheds light on the latest IVF numbers, success rates and trends.

06SEP2020 | Isabelle Dubach | [UNSW Newsroom](#)



There were 14,355 babies born through IVF treatment performed in Australia in 2018, UNSW's Assisted Reproductive Technology in Australia and New Zealand 2018 report shows. That represents almost one in 20 babies born in Australia, or about one in every classroom.

There were 84,064 initiated IVF cycles in 2018, a 2.2 per cent increase on 2017. The overall live birth rate per embryo transfer has increased from 24.3 per cent in 2014 to 27.3 per cent in 2018, the most recent year from which data are available.

"The birth rate following frozen embryo transfer cycles (29.3 per cent) was higher than fresh embryo transfer cycles (24.6 per cent)," says lead report author, UNSW Medicine's **Professor Georgina Chambers**.

[Continue Reading](#).

Further coverage:

- [Women's Agenda](#), 07SEP2020.
- [BioEdge](#), 19SEP2020.

[Professor Georgina Chambers](#) is the Director of the National Perinatal Epidemiology & Statistics Unit (NPESU), a joint unit of the Centre for Big Data Research in Health and the School of Women's and Children's Health.

Bringing adult survivors of childhood cancers back into survivorship care

Childhood cancer and its treatment often result in survivors experiencing long-term health complications. These patients may need care that focuses on prevention and treatment of late effects and screening for recurrence of new cancers for the rest of their lives.

02SEP2020 | Bette Weinstein Kaplan | [Oncology Nurse Advisor](#)

Nurse practitioners already provide cancer survivors and their families with the resources they need to manage their own health, but the process can be difficult and fraught with barriers. **Christina Signorelli**, PhD, of the Kids Cancer Centre at Sydney Children's Hospital in Sydney, Australia, and colleagues speculated that using available technology could modernize and improve this process.

In a recently published report, the Australian group described their "Re-engage" program. Re-Engage is a nurse-led intervention aimed at engaging, educating, and empowering survivors of childhood cancers who are no longer receiving cancer-related care through a distance-delivered live intervention requiring synchronous participation of the survivor and nurse.

[Continue Reading](#).



[Dr Christina Signorelli](#) is a Post-Doctoral Research Fellow with the [Behavioural Sciences Unit](#), School of Women's and Children's Health at UNSW Sydney and the Sydney Children's Hospital.

Plant-based nutrition better for people, the planet

Health experts have agreed a bigger emphasis on plant-based nutrition would improve the health of people and our planet, at a UNSW Sydney panel discussion for National Science Week.

06SEP2020 | Isabelle Dubach | [UNSW Newsroom](#)



At a [UNSW Centre For Ideas event last week](#), chaired by the UNSW Dean of Medicine [Professor Vlado Perkovic](#), experts discussed if it was possible to feed a future population of 10 billion people a healthy diet within planetary boundaries.

The “Eating for the Planet” panel discussion featured public health advocate and VicHealth chief executive Dr Sandro Demaio, public health lawyer Dr Alexandra Jones of The George Institute for Global Health, clinical dietician and senior research fellow **Dr Jennifer Cohen** of UNSW Medicine, and actor and director Damon Gameau who is best known for his documentary *That Sugar Film*.

The panellists agreed that a shift towards embracing plant-based nutrition, consuming fewer animal products and eating only what our bodies needed would help to improve our health and that of the planet.

[Dr Jennifer Cohen](#) is a conjoint lecturer of the School of Women’s & Children’s Health in the Faculty of Medicine, UNSW and a clinical dietitian in the Kids Cancer Centre, Sydney Children’s Hospital. Dr Cohen specialises in the area of nutrition in paediatric oncology both during and after cancer treatment.

Key gene identified in endometrial cancer could be targeted in future drug trial

18AUG2020 | Lachlan Gilbert | [UNSW Newsroom](#)

A new study has identified a key gene in aggressive endometrial cancer, which could lead to a targeted therapeutic strategy to improve survival rates.

UNSW Sydney medical researchers have identified the gene known as ROR1 as a future target for therapeutic treatment of aggressive endometrial cancer.

ROR1, which has a role in cell specialisation in the developing embryo before being turned off in adult cells, is abnormally switched back on again in not only endometrial cancer, but other cancers common to both women and men, including leukemia and pancreatic cancer.

The researchers say that drugs targeting this gene are already being trialled in other cancer types and argue that their research puts the case for a clinical trial targeting this gene in women with endometrial cancers that contain these changes. The same team of researchers previously identified a role for ROR1 in ovarian cancer.

One of the researchers on the study, **Associate Professor Caroline Ford** from UNSW Medicine’s School of Women’s and Children’s Health, says up until now endometrial cancer has received very little attention and funding for research, despite it being the most common gynaecological cancer, not to mention one of the fastest rising cancer types among women worldwide.

But she is optimistic that drugs targeting ROR1 could be trialled soon in Australia to test their effectiveness at ‘silencing’ the ROR1 genes in these aggressive endometrial cancers.

“Together with the Australia New Zealand Gynaecological Oncology Group (ANZGOG), my clinical colleagues and I are very excited about the possibility of being able to effectively treat these tumours and have commenced discussions with pharma with a proposal for a clinical trial,” she says.

The study which was just published in journal [Scientific Reports](#) as part of Nature Research, was a retrospective examination of tumour samples from 499 women with endometrial cancer from the late 1990s to the early 2000s. It found that women whose samples had higher levels of the ROR1 gene activity had worse health prognoses than women with lower amounts.

“Patients who have the highest levels of ROR1 survived the shortest amount of time, or relapsed in the shortest time,” A/Prof Ford says.

“Our study also shows that if we artificially turn off ROR1 in aggressive tumours, as we did in the laboratory, the cancer cells stop growing, and stop invading and moving around. Ultimately this shows that we can inhibit their ability to metastasise – which means they are less able to spread to other parts of the body.

“So what we’ve shown is that ROR1 is indeed a viable target for treatment of endometrial cancer and that is associated with better chances of survival.”

[Continue Reading.](#)

[Associate Professor Caroline Ford](#) leads the Gynaecological Cancer Research Group (GCRG) within the [School of Women’s and Children’s Health](#) at the [Lowy Cancer Research Centre](#). The GCRG aims to understand why gynaecological cancers develop, how and why they spread throughout the body, and how best to treat them.



Formalin-Fixed Paraffin-Embedded (FFPE) tumour blocks in Professor Ramus’ lab.

AUTHORS NOTE: PROF SUSAN RAMUS

We have recently published two papers from the Ovarian Tumour Tissue Analysis (OTTA) consortium. I am the co-founder of the consortium and led the projects.

From RNA expression data on 3,829 high grade serous ovarian tumours, we have developed two different gene expression signatures that may have clinical use in the future.

One signature can classify samples into the four established molecular subtypes, using formalin fixed paraffin embedded tumour tissue rather than fresh frozen tissue. It can also be performed on single samples, as seen in clinics, rather than in large batches as used in research studies.

The second signature can use a formalin fixed paraffin embedded tumour at diagnosis to predict the survival of patients 5 years after diagnosis. When women were divided into five groups, those with the best prognosis had nine years survival, whereas the women in the poorest survival group have two years survival.

Tumour gene test could help to predict ovarian cancer prognosis

A global team of medical researchers led by UNSW have developed a test that could help to predict survival for women diagnosed with ovarian cancer, and pave the way towards personalised treatment.

17AUG2020 | Isabelle Dubach | [UNSW Newsroom](#)

A tumour test could help to identify ovarian cancer patients with predicted poor survival, and down the track inform new therapeutical approaches, the results of a major international collaboration have shown.

The research paper led by UNSW Medicine – involving 125 authors across 86 organisations, including University of Southern California (USC), University of Cambridge, University of British Columbia, Huntsman Cancer Institute, Mayo Clinic, and Peter MacCallum Cancer Center in Melbourne – was published in [Annals of Oncology](#).

In 2020, it is predicted that 1532 Australian women will be diagnosed with ovarian cancer, and 1,068 will die from the disease this year. It has poor survival and the type studied in this paper – high grade serous ovarian cancer – is the most common and worst survival type. Ovarian cancer is the eighth most commonly occurring cancer in women, with nearly 300,000 global new cases in 2018.

“We conducted an analysis of 3769 tumour samples from women with ovarian cancer and found we were able to reliably use a piece of tumour to determine how good a woman’s survival chances would be five years after diagnosis,” says lead author **Professor Susan Ramus** from UNSW Medicine.

The researchers found their gene expression test was substantively better at predicting survival than using a patient’s age and cancer stage.

“When women were divided into five groups, we found that the women whose tumour gene expression was associated with the best prognosis had nine years survival, whereas the women in the poorest survival group have two years survival, which is a very big difference,” Professor Ramus says.

“Our vision is that clinicians could use our test at diagnosis to identify the group of patients who wouldn’t do well on the current treatments and potentially offer them alternatives – for example, we may be able to put those patients into clinical trials and offer them different treatments that may improve their survival.”

For the study, the team used a training set of samples and a test set – nearly 4000 samples in total.

“Using novel statistical approaches, we analysed data from six previous gene expression studies, which helped us identify genes likely to be involved in high grade serous ovarian cancer survival,” says the paper’s first author, Dr Joshua Millstein from USC.

After putting together a panel of about 500 candidate genes, the team measured gene expression in the 4000 samples using the NanoString platform.

“To predict survival from gene expression, we chose one of four machine learning methods, an approach called ‘elastic net’, which performed the best in the training data,” Dr Millstein says.

“We used the training set to determine what genes could be used in the prediction, and then we tested them to see whether we got the same results in the other set,” Professor Ramus says.

Professor Ramus is the co-founder of the Ovarian Tumour Tissue Analysis (OTTA) consortium, an international group of researchers that are working on a number of different large-scale projects, using the samples compiled by the consortium to address important clinical questions.

“The consortium is unique in this space because it has access to thousands of samples – which is a lot of samples for a rare disease like ovarian cancer,” she says.

“That’s what enabled us to develop this prognostic tool – other groups have tried before to look at prognosis, but nothing has been used clinically. At the moment, only patient age and stage are used to determine survival, so something like our tool is sorely needed.”

The researchers say they selected genes for analysis that had known drug targets.

“Some of the genes we identified as being predictors for good or poor survival may be potential targets for new treatments. At the moment the majority of ovarian cancer patients get the same treatment – it’s not like breast cancer or other cancers where they look at your tumour and select from a range of treatments. So this is a way to stratify patients and potentially give more personalized treatment down the track.”

To validate the findings further, the research team wants to include the test in a prospective study and clinical trials.

“Potentially, we could incorporate it within a clinical trial so that the women who are predicted to have poor survival could get alternative treatments as rapidly as possible,” Prof. Ramus says.

The researchers hope their test will be ready for clinical use in the near future.

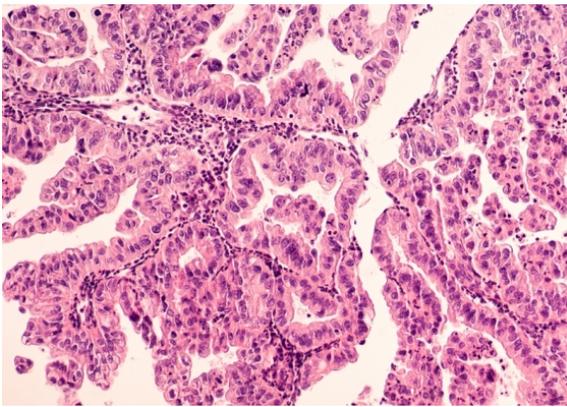
The study is available online and was funded by the National Cancer Institute, USA.

[Continue Reading.](#)

New test paves the way for tailored treatment of deadliest form of ovarian cancer

A new tool will help researchers and clinicians to classify ovarian cancer patients' tumours into subtypes.

18JUN2020 | Isabelle Dubach | [UNSW Newsroom](#)



UNSW Sydney researchers have co-lead an international team in developing a new test to better diagnose different types of ovarian cancer. The tool could one day guide and improve treatment options for women diagnosed with the most common and deadliest form of the disease.

The development and validation of the test are outlined in a new study, [published today in *Clinical Cancer Research*](#), a journal of the American Association for Cancer Research.

The study— led by researchers at UNSW, University of British Columbia, Huntsman Cancer Institute, Peter MacCallum Cancer Centre and Mayo Clinic — is one of the largest ovarian cancer investigations to date, involving data compiled by more than 50 research institutes and involving more than 3,800 ovarian cancer patients worldwide.

“With this new test, we’ll be able to give researchers, clinicians and patients more insight into the disease, which could pave the way for more targeted treatment down the

road,” says one of the study’s senior authors, **Professor Susan Ramus** at UNSW Medicine.

In 2020, it is predicted that 1,532 Australian women will be diagnosed with ovarian cancer, and 1,068 will die from the disease this year.

The new test, known as PrOTYPE (Predictor of high-grade serous Ovarian carcinoma molecular subTYPE), is specifically designed to analyse and classify high-grade serous ovarian cancer, the most common and lethal form of ovarian cancer.

Using PrOTYPE, researchers and clinicians alike will be able to further classify an individual patient’s tumour into one of four known molecular subtypes, each with its distinct biological features believed to respond differently to treatment options.

“Right now, high-grade serous ovarian cancer patients are all treated the same, but by knowing what subtype their tumour falls into, we can begin to explore how certain treatments may prove more beneficial for individual patients,” says the study’s lead author Dr. Aline Talhouk, Assistant Professor at the University of British Columbia.

Prior to the development of PrOTYPE, subtyping tests using gene expression analysis for high-grade serous ovarian cancer relied on the aggregation of large patient cohorts and the examination of all of the genes in the genome at once — a situation that made them impractical for use in clinical settings, says the study’s senior author, Dr. Michael Anglesio, Assistant Professor at University of British Columbia.

“Doctors will never see a few hundred patients walk through their clinic door at one time. It’s just not the reality,” says A/Prof Anglesio.

With PrOTYPE, which was designed for clinical use, a small amount of information—55 informative genes from a small tissue sample—can quickly determine the tumour subtype with more than 95 per cent accuracy. The researchers also developed a corresponding [web tool](#), enabling clinicians to print out a report that can be added to a patient’s records.

“We’ve developed a push-button solution. All that’s needed is the tumour from the patient in question and a common reference to compare the data to. Before this test, no one could do that,” says A/Prof Anglesio. “We now have a robust way of figuring out which of the four subtypes a patient fits into.”

The researchers see great potential for the test to one day guide patient care. The test is already being used in ongoing clinical trials investigating whether certain subtypes are more sensitive to particular treatments among women with recurrent high-grade serous ovarian cancer.

“This test has opened up new opportunities and treatment avenues to explore. It will be important to re-evaluate treatment options and test new targets for therapeutics in light of this new ability,” says A/Prof Talhouk.

The study involved significant contributions from investigators around the world who are part of the Ovarian Tumour Tissue Analysis (OTTA) consortium, co-founded by Professor Ramus.

The study received funding support from the National Institute of Health, US Department of Defense, the Canadian Institutes of Health Research and others.

[Continue Reading.](#)

[Professor Susan Ramus](#) is an internationally renowned molecular geneticist investigating ovarian cancer. Prof Ramus leads the [Molecular Oncology Research Group](#) in the School of Women’s & Children’s Health and is a member of the Adult Cancer Program at the Lowy Cancer Research Centre.



UNSW Medicine launches its Health 25 Strategy

“Our strategy seeks to explain our identity and our principles as well as our goals, and speak to what makes UNSW Medicine unique and important,” said Dean of UNSW Medicine Scientia Professor Vlado Perkovic.

[Read More](#) →

UNSW Research
Resource Handbook



“Our vision is that clinicians could use our test at diagnosis to identify the group of patients who wouldn't do well on the current treatments and potentially offer them alternatives – for example, we may be able to put those patients into clinical trials and offer them different treatments that may improve their survival.”

Continue Reading.

Further Coverage:

- 19AUG2020, [Fox News](#)
- 16AUG2020, [Mirage News](#)

Professor Susan Ramus is an ovarian cancer researcher within the School of Women's and Children's Health, and a member of the Adult Cancer Program in the Lowy Cancer Research Centre. She leads the [Molecular Oncology Group](#).

'Very dangerous': Calls about hand sanitiser poisonings more than double during pandemic

Calls to the Poisons Information Centre about alcohol-based hand sanitiser poisoning have more than doubled compared to the same time last year as experts urge parents to keep it out of reach of young children.

16AUG2020 | Rachel Clun & Liam Mannix | [Sydney Morning Herald](#)

The dangers of ingesting the now readily-available product have been highlighted in the case of accidental poisoning in a six-year-old child who needed intensive care treatment.

In the case of the six-year-old, which was covered in a case report [published by the Journal of Paediatrics and Child Health](#) earlier this month, it would have taken just 50ml of hand sanitiser to make her that ill.

Dr Karen Zwi, a community paediatrician at Sydney Children's Hospital Randwick and co-author of the report, said the girl developed symptoms including slurred speech and persistent vomiting, and became sick enough to need to be put on a ventilator.

“Her blood tests showed ... a blood alcohol level about four times the legal driving limit for an adult,” Dr Zwi said.

With a blood alcohol level of 0.19 per cent, Dr Zwi said the girl was essentially experiencing alcohol poisoning.

“[Blood alcohol levels of] 0.05 per cent can be lethal in children, so she is lucky to have survived,” Dr Zwi said. “Fortunately, she has made a full recovery.”

The danger of alcohol based hand sanitisers, which are now everyday household products, was that they typically contain about 70 per cent ethanol, Dr Zwi said.

“NSW Poisons Information Centre estimated the patient in the study only needed to drink 50ml, which is 10-12 teaspoons full to get to that very high blood alcohol level,” she said.

[Continue Reading](#).



[Conjoint Professor Karen Zwi](#) is a practicing Community Paediatrician with Sydney Children's Hospital and researcher with the School of Women's & Children's Health. Dr Zwi aims to improve children's health, wellbeing and development, with a focus on equity and highly vulnerable children.

New resources from the Heart Centre for Children team teach children about the brain

Professor Nadine Kasparian and the Heart Centre for Children team have created a range of [short videos](#) of interactive activities designed to help children learn more about the brain and promote the team's research projects.

Congratulations to **Dr Janice Kan** and PhD candidate, **Katelyn Phillips** on developing this new initiative. The videos can be accessed on the Hearts & Minds [website](#).

Childhood brain cancer survivor program secures \$1.9m grant

UNSW Sydney researchers are leading a program to help childhood brain cancer survivors improve the quality of their life.

11AUG2020 | Yolande Hutchinson | [UNSW Newsroom](#)



UNSW Professor Claire Wakefield and her team at UNSW are leading a program to help childhood brain cancer survivors improve their confidence, manage their health and improve their quality of life. The trial to roll out and test the effectiveness of the program – called Re-engage – was launched last month.

Funded by a \$1.9 million grant from the Government’s Australian Brain Cancer Mission, part of the Medical Research Future Fund (MRFF), the program is part of a \$9.9 million investment in brain cancer survivorship research announced by the Australian Government.

“Over 90 per cent of childhood brain cancer survivors have health problems after they finish cancer treatment, yet most Australian survivors are not receiving the follow-up care they need to manage these problems,” Prof. Wakefield said.

“Re-engage is a distance-delivered program that offers survivors two nurse consultations and careful case review by an expert team. This means that survivors can access support no matter where they live. Our nurses create a care package for survivors which includes a summary of their care needs, a letter for their GP, and education about healthy lifestyles.”

[Continue Reading.](#)

[Professor Claire Wakefield](#), School of Women’s & Children’s Health, UNSW Medicine and leads one of Australia’s largest psycho-oncology research groups - [The Behavioural Sciences Unit](#), part of the [Kids Cancer Centre](#) at Sydney Children’s Hospital.

Blocking copper uptake in tumour cells may be clue to boosting immune system - fighting the deadliest of cancers

Australian researchers have discovered how an affordable and currently available drug - which removes copper from the blood can destroy some of the deadliest cancers that are resistant to immunotherapy.

07AUG2020 | Tania Ewing | [CCI](#)



While immunotherapy, a treatment that works through a patient’s immune system to kill the cancers, has proven to be a breakthrough for many cancer patients, offering real hope and for some even a cure – some cancers camouflage themselves from current immunotherapies by expressing the aptly titled Programmed Death Ligand or PD-L1.

Dr Orazio Vittorio and his team from Children’s Cancer Institute in Sydney and UNSW Sydney published the findings today in the prestigious journal, *Cancer Research*.



LISTEN

It is known that cancer cells such as brain cancer “feed” on copper, often having up to six times the normal levels of the metal inside the tumour cells. Dr Vittorio and colleagues, including **Professor Maria Kavallaris AM**, studied tumour samples from more than 90 patients with neuroblastoma and 90 patients with gliomas.

Both these cancers have high mortality rates and to date have not responded well to cancer immunotherapy. Neuroblastoma accounts for 15% of total childhood cancer deaths and only 50% of patients with high-risk neuroblastoma patient survive their disease. Glioblastoma has the worst survival rate of all cancers, with only 5% of patients surviving 5 years past their diagnosis.

According to Dr Vittorio, these two cancers express PD-L1 as a way to hide from the immune system, explaining why these two cancers are so deadly.

By looking at the human biopsies the researchers found a correlation between high levels of copper and increased expression of PD-L1, “indicating that the PD-L1 is upregulated in cancer cells, thereby allowing them to hide from the immune system, through the increased absorption of copper,” he said.

[Continue Reading.](#)

Further coverage:

- [UNSW Newsroom](#), 19AUG2020.
- [India Education Diary](#), 19AUG2020.
- [News Medical Life Sciences](#), 19AUG2020.
- [MedicalXpress](#), 19AUG2020.
- [Cancer Research from Technology Networks](#), 20AUG2020.
- [Technology Networks](#), 20AUG2020.
- [EurekAlert](#), 18AUG2020.

Dr Orazio Vittorio is a researcher in the [Australian Centre for Nanomedicine](#) and Scientia Senior Lecturer in the School of Women’s & Children’s Health. Dr Vittorio leads Metal-Targeted Therapy & Immunology team at [Children’s Cancer Institute](#).

The Genetic Revolution

07SEP2020 | Philip Clark | [ABC Radio Hobart](#)

Conjoint Professor Edwin Kirk, Clinical Geneticist and Genetic Pathologist talks to us about the role genetics has played in bringing about a revolution in modern medicine.

He has spent the past 20 years at the Sydney Children’s Hospital helping families understand a whole host of genetic conditions.

His new book is called ‘*The Genes That Make Us*’ which explains the links between genetics and diseases.

[Listen Here.](#)

Asthma medicines overprescribed in young children

24AUG2020 | Norman Swan | [ABC Radio National](#)

According to an Australian study, young children with asthma are being either wrongly prescribed or over prescribed a costly, potentially non-beneficial and possibly harmful inhaler.

Dr Nusrat Homaira is interviewed on Health Report with Dr Norman Swan.

[Listen Here.](#)

From the lab to the patient

09AUG2020 | Bernie Hobbs | [ABC Radio National](#)

Research is vital to improving healthcare. But there’s often a gulf between research scientists and the clinicians delivering healthcare.

With a foot in both camps, Ursula Sansom-Daly has a view on how to get a better outcome.

This talk was recorded at Ockham’s Razor Live at the Museum of Arts & Sciences in Sydney.

It first went to air September 29, 2019

[Listen Here.](#)

Combination asthma medication is over-prescribed to Australian children – but dispensing patterns are improving

Children aged 5 or under shouldn't be prescribed combination asthma controllers at all, according to the national asthma guidelines – but reality looks different, a UNSW study has shown.

06AUG2020 | Sherry Landow | [UNSW Newsroom](#)



Australian children – preschoolers in particular – are being inappropriately prescribed fixed dose combination (FDC) asthma medication, a UNSW Sydney big data study on asthma dispensing patterns has shown.

This type of asthma inhaler contains a combination of two medicines and should only be prescribed when inhalers with a single preventative medicine (called inhaled corticosteroid, or ICS) are ineffective in controlling asthma symptoms.

But according to the findings, 88 per cent of FDC inhalers dispensed to children and adolescents aged between one and 18 are prescribed as a first line of controller therapy.

“Most alarmingly, in our study cohort – which looked at 10 per cent of the Australian population – we found that around 3,500 Australian children aged five or under are dispensed FDC inhalers annually,” says respiratory epidemiologist **Dr Nusrat Homaira**, lead author of the big data study and senior lecturer in paediatrics at UNSW Medicine.

“According to national asthma guidelines, children aged five or under shouldn't be prescribed FDC inhalers at all.”

The findings, published today in

the [International Journal of Environmental Research and Public Health](#), come two years after the Pharmaceutical Benefits Advisory Committee (PBAC) made recommendations that FDC dispensing patterns in children were ‘unacceptably high’ and needed to change.

According to the [Australian Asthma Handbook](#), created by the National Asthma Council, children and adolescents aged between six and 18 should only be prescribed FDCs after trying an initial therapy with ICS.

This ‘step-up’ approach to asthma management aims to minimise potential risks of prescribing the medication to young children.

“There is lack of evidence suggesting benefit of FDC in children – especially in preschoolers,” says Dr Homaira.

“Some data suggests it may even increase risk of asthma exacerbation and result in development of tolerance to asthma relievers in young children.”

[Continue Reading.](#)

Further Coverage:

- 10AUG2020, [RACGP News](#)
- 06AUG2020, [MedicalXpress](#)

[Dr Nusrat Homaira](#) is a Respiratory Epidemiologist with the School of Women's & Children's Health and Sydney Children's Hospital.

False claim circulates on Facebook that 'viruses do not harm or kill' people

Multiple Facebook posts shared hundreds of times claim “viruses do not harm or kill [people]” and that any “harm and death” caused by a virus can be attributed to “the overreaction of a weakened and dysfunctional immune system”. The claim is false; viruses can kill people and a dysfunctional immune system does not cause death, experts say.

06AUG2020 | Taylor Thompson | [AFP Fact Check](#)

The Facebook post contains a purported quote from “Dr Shiva Ayyadurai” that “viruses do not harm or kill us”. The claim, however, is false, experts say.

[University of New South Wales](#) virologist Dr Sacha Stelzer-Braid told AFP that a weakened or deficient immune system is not what kills people who become infected by viruses.

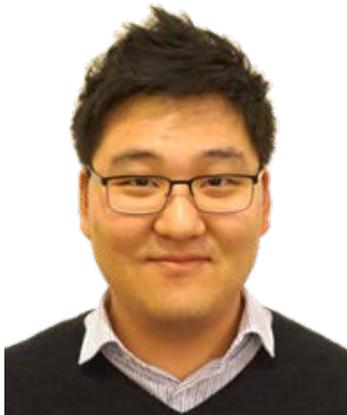
“Pathogenic viruses can infect any human cell that has the right receptor that the virus is looking for and these are present regardless of the underlying medical condition a person has,” Dr Stelzer-Braid said in an August 4 email. “It is not a dysfunction of the immune system that causes death.”

UNSW postdoctoral researcher **Dr Ki Wook Kim** said the false Facebook post’s allusion to trillions of viruses present in the human body is likely a reference to [bacteriophage](#), which is a type of virus that infects bacteria.

Bacteriophage “are incapable of infecting or replicating in human cells,” Dr Kim explained in an email to AFP.

UNSW’s Dr Stelzer-Braid said bacteriophage do not cause disease in humans and instead “play an important role in regulating the amount of bacteria in our body”.

[Continue Reading.](#)



[Dr Ki Wook Kim](#) is a Juvenile Diabetes Research Foundation (JDRF) International Postdoctoral Research Fellow in the School of Women's and Children's Health and [Virology Research Laboratory](#), Prince of Wales Hospital.

[Dr Sacha Stelzer-Braid](#) is a Senior Postdoctoral Scientist in the Virology Research Laboratory and School of Medical Sciences. Dr Stelzer-Braid is a collaborator of the School of Women's & Children's Health.

How Common Treatments For Endometriosis Are Failing Those With Chronic Pain

When Lauren Gelfer found out she had endometriosis, she'd been in chronic pain for nearly nine years and her nervous system was completely overwhelmed.

03AUG2020 | Carly Cassella | [Science Alert](#)

Ever since she was 12, she'd been told her debilitating periods were normal, but something didn't seem quite right. As an adult, her symptoms only grew worse, until the pain in her body started to feel beyond her control.

Despite impacting one in 10 women of reproductive age worldwide, there's currently no known cause or cure, only lifelong management. Meanwhile, funding for care and further research is significantly lacking, and the most common treatments don't work for everybody.

Today, surgery to remove endo lesions, along with hormones to reduce pain and stunt further lesion growth, are crucial steps for many patients, but they are not effective for everyone, and they come with potential risks of scar tissue and unwanted side effects.

"We probably are doing exactly what we did to breast cancer, which is to treat everyone in exactly the same way with no surgery, or repeat surgery, or repeated medications," says **Jason Abbott**, an expert on the surgical treatment of endometriosis at the University of New South Wales in Australia.

"And in actual fact, that's not what we should be doing at all. We should be trying to understand the sub-type of disease."

The problem is we need more research to figure out what those sub-types actually look like and how we can treat them most effectively, because the tools we have right now are limited and not thoroughly researched.

In a small study conducted by Abbott, he found up to 20 percent of endometriosis patients end up returning after surgery with the same levels of pain. Those who go on to develop further complex pain issues are just a small subset of endometriosis patients, but Abbott says their suffering is slipping through the cracks.

"In every other area of medicine, we understand that pain management is a really important aspect, and we seem to have forgotten that in endometriosis," Abbott says.

[Continue Reading.](#)



[Professor Jason Abbott](#) is the director of the GRACE Unit at Royal Hospital for Women, Medical Director of Endometriosis Australia, Senior Editor of the Journal of Minimally Invasive Gynaecology, Associate Editor for Human Reproduction and ANZJOG.

11-year-old Leukaemia patient first cured with CAR T-cell in Australia

An 11-year-old boy's five-year-battle with a rare leukaemia has come to a happy end after he was cured thanks to a new form of treatment being offered in Australia.

29JUL2020 | Jack Gramenz | [The Daily Telegraph](#)

Kamm Denieger became the first person in NSW to receive chimeric antigen receptor T-cell therapy (also known as CAR T-cell) at the Kids' Cancer Centre at Randwick, which started offering it in August last year to treat aggressive acute lymphoblastic leukaemia, like the type Kamm had.



CAR T-cell therapy targets the white blood cells that bolster our immune systems and help the body respond to pathogens.

"This is the most breakthrough therapy in the treatment of aggressive acute lymphoblastic leukaemia that we've seen in decades," Kids Cancer Centre head assistant professor Tracey O'Brien said at the announcement that the centre would offer the treatment.

CAR T-cell has currently proven to be effective in treating cancers like acute lymphoblastic leukaemia and large B-cell lymphoma, but researchers are working to determine if it can be used to treat solid ones like breast and prostate cancer.

[Continue Reading.](#)

[Conjoint Professor Tracey O'Brien](#) is Director of the [Kids Cancer Centre](#) at Sydney Children's Hospital and Head of the Blood & Marrow Transplant program. She is a Clinical Research Fellow at [Children's Cancer Institute](#).

Flu deaths drop in Australia as coronavirus restrictions save hundreds of lives

Hundreds of Australian flu deaths have been avoided because of the lockdown measures used to prevent the spread of COVID-19, experts say.

23JUL2020 | Sophie Scott & Celina Edmonds | [ABC News](#)

The latest national statistics, obtained by the ABC, reveal from January to June 2020, there were just 36 deaths from the flu.

That compares to 430 deaths in the same period for 2019.

The flu season was particularly severe last year, meaning the drop in influenza deaths from 2019 to 2020 is even more pronounced.

Australian Medical Association NSW vice-president **Andrew Zuschmann** said this year doctors were seeing much lower community rates of influenza infection.

"What it's telling us is that many of the measures that are working to contain the spread of COVID-19 within the community are also very effective at reducing transmission of influenza," he said.

In total, from January to the end of June 2019, more than 132,000 people were diagnosed with the flu.

This year, almost 21,000 people were diagnosed during the same period.

[Continue Reading.](#)

Further Coverage:

- 29JUL2020, [ZME Science.](#)

[Dr Andrew Zuschmann](#) is a Specialist Obstetrician, Gynaecologist, and Fertility Specialist. Dr Zuschmann is a conjoint lecturer with the School of Women's & Children's Health.

Rebooting healthy eating habits in child cancer survivors

Fussy eating and taste changes are common side effects of cancer treatment – now, a healthy eating program designed by UNSW medical researchers is helping parents get their child's diet back on track.

13JUL2020 | Sherry Landow | [UNSW Newsroom](#)

A pilot healthy eating program has increased parents' confidence and knowledge in encouraging their child's healthy eating habits, a UNSW Sydney study finds.

The parent-based intervention program, called Reboot, is for children aged between two and 13 who have completed cancer treatment within the last five years. The results of the live trial were published over the weekend in the journal [Pediatric Blood & Cancer](#).

All parents who completed the program found it increased their confidence in providing a

healthier diet to their child post-treatment, while 93 per cent reported they had put the skills they learnt into practice.

"Side effects of cancer treatment – like nausea, vomiting and taste changes – can make it difficult for children to eat during treatment," says lead author Dr Lauren Winkler from [UNSW Medicine](#) and the Kids Cancer Centre at [Sydney Children's Hospital](#).

"Instead of eating a well-balanced diet, children often only eat plain, processed foods with little nutritional value during treatment.

"These negative impacts on food preferences are difficult to reverse. Without early intervention, these eating habits could persist into adulthood and impact their long-term health."

The Reboot program aims to improve the child's eating habits and food preferences by providing guidance directly to their parents. Parents are given four weekly phone consultations with a dietitian or psychologist, followed by a booster session after six weeks. Each call lasts for around 45 minutes.

The dietitian or psychologist gives parents information on the ongoing side effects of treatment and lets the parent know if their child is meeting the recommended dietary guidelines.

They also give tailored advice depending on the child's eating habits, like avoiding vegetables or fruit.

"All parents who completed the program found it a useful strategy to promote higher vegetable intake in children after their cancer treatment," says Dr Winkler.



Reboot is the [first program of its kind](#) worldwide to focus on strategies that promote vegetable and fruit intake in children after cancer treatment. The pilot program was funded by the Kids Cancer Alliance, The Cancer Institute NSW and Cancer Council NSW.

[Continue Reading.](#)

Further Coverage:

- 13JUL2020, [News Medical Life Sciences.](#)
- 13JUL2020, [MedicalXpress.](#)
- 28JUL2020, [Health Rich Daily.](#)
- 28JUL2020, [Nurture News.](#)

[Dr Lauren Winkler \(nee Touyz\)](#) completed her PhD with the School of Women's & Children's Health and [The Behavioural Sciences Unit](#), part of the [Kids Cancer Centre](#) at Sydney Children's Hospital in 2019.

RCPA advises that all children are vaccinated in line with immunisation schedules, including the influenza vaccine

The Royal College of Pathologists of Australasia (RCPA) strongly recommends that individuals continue to visit their GP to vaccinate children in accordance with the National Immunisation Program (NIP) Schedule in Australia and the National Immunisation Schedule in New Zealand.

06JUL2020 | [Media release from the Royal College of Pathologists of Australasia](#)

Children are at higher risk of serious complications from influenza and it is strongly recommended that children from six months are immunised against influenza every year. Dr Brendan McMullan is a Paediatric Infectious Diseases Specialist and Microbiologist, working at Sydney Children's Hospital. He explains that immunisation is an effective way to protect children against harmful, contagious diseases.

"During the COVID-19 pandemic, we have seen a decline in the number of people attending important GP appointments. While in some states such as NSW we have seen an increase in vaccination rates over the last few years, there is concern that an avoidance of the GP



"My message is that children should be vaccinated as usual; don't be afraid to visit your GP due to COVID-19. This is extremely important for individuals and for the community as a whole and highlights the importance of pathology in the health care of everyone. Of course, during this pandemic we also need to keep up sensible precautions, and anyone with symptoms should self-isolate and be tested to prevent the spread of COVID-19," said Dr McMullan.

Maintaining high levels of vaccination coverage minimises the risk of vaccine-preventable diseases developing in the community and protects the health of individuals, both now and into the future. The NIP Schedule and the New Zealand Immunisation Schedule both provide a series of immunisations given at specific times throughout life, from birth to adulthood. All vaccines listed in the schedules are at no cost to the patient.

"COVID-19 has clearly illustrated the difficult reality that we face as a community when there is a disease capable of causing severe illness with no available vaccine. Fortunately, in Australia and New Zealand, we have a very good vaccination schedule that provides protection against a number of diseases which can cause serious illness, or even death, in childhood or later in life.

"Without vaccination, individuals are putting themselves and the community at risk of catching a serious disease. Vaccinations protect our children against a wide range of diseases, including, measles, mumps and rubella (MMR), diphtheria and pneumococcal

disease, just to name a few, therefore it is essential to ensure they are adequately protected.”

[Continue Reading.](#)

[Dr Brendan McMullan](#) is a Paediatric Infectious Diseases Specialist and Microbiologist, working at Sydney Children’s Hospital, Randwick, and a Conjoint Senior Lecturer in the School of Women’s and Children’s Health at UNSW.

Talking about fertility

While pharmacists can assist with contraception management, they can also play a role in discussing the factors that can impact fertility.

03JUL2020 | Leanne Philpott | [AJP](#)



According to the Department of Health, infertility is an increasing occurrence with one in six couples in Australia experiencing fertility problems.

The potential causes of infertility are complex, with many factors potentially playing a role. This includes overall health and the presence of illness, age, weight, as well as several lifestyle factors.

“For younger people, fertility and reproductive health is often something they just don’t think about. However, people tend to make assumptions and have a few misconceptions, so it’s certainly something that should be discussed,” says **Dr Terri Foran**, sexual health physician and lecturer with the School of Women’s & Children’s Health at the University of New South Wales.

“There are several factors that pharmacists can address; one of the obvious ones is smoking. Every woman I’ve ever spoken to who smokes talks about the fact she’ll give it up when she falls pregnant, but it’s really hard to do that.

There’s also the fact that most women are pregnant for at least two weeks before they actually know it.

“So it pays to talk about the things that can impact the pregnancy. This includes the amount they smoke and the amount of alcohol they drink. These are important factors that need to be considered before falling pregnant, not after the event.

“The other factor is vaccination awareness. The major problems in pregnancy are with regards to rubeola and varicella. Because these vaccinations are live vaccines they need to be given before a woman falls pregnant, so these are things that healthcare professionals can discuss.

“When we’re talking fertility it’s also important not to forget men; men also have fertility issues. If a man smokes, drinks heavily, is overweight or has other health issues, this can impact the couple’s chances of falling pregnant,” says Dr Foran.

“There’s a lot of emphasis on women and fertility, but it takes two to tango—the male contributes half the genetic material needed to conceive!

“Engaging men, not just females, in fertility discussions is a really important issue. Men need to know that the sperm they’re producing now was actually made six weeks ago; if they were ill or stressed six weeks ago, this has the potential to impact the sperm that’s available for fertilisation now.

“Similarly, the ‘biological clock’ applies to men too. Even if the woman is young, it takes an average four months to conceive with a partner who is under the age of 25; if the man is aged over 40, the average time to conceive increases to two years.

“For couples having IVF, the risk of not having a baby is more than five times higher if the male partner is aged 41 or older.”

[Continue Reading.](#)

[Dr Terri Foran](#) is a sexual health physician, lecturer, and director of the Masters of Women’s Health Medicine program with the School of Women’s & Child Health.

FAREWELLS

DR THERESE FORAN

MB BS (Syd), MClined, FACHSHM

Dr Terri Foran has been an integral member of the School of Women's & Children's Health academic team since 2005.

Dr Foran is a leading sexual health physician with a special interest in contraception, menopause issues and the management of sexually transmitted infections. For six years, Dr Foran was the Medical Director of Family Planning New South Wales and has a private practice in Darlinghurst.

Dr Foran holds a Visiting Medical Officer appointment at the Royal Hospital for Women in Sydney, where she also works as an investigator for the [Barbara Gross Research Unit](#).

Dr Foran is a regular contributor to a number of media outlets including [Australian Family Physician](#) (up until 2017) and [The Conversation](#). Dr Foran provides evidenced-based communications for health consumers on topics including HPV vaccination, cervical screening, and contraception.

Most notably, Dr Foran is a committed medical educator, coordinating phase II of the MD program for Obstetrics & Gynaecology, and as Director of the Masters of Women's Health program. Anecdotes from her students, frequently cite Dr Foran's teaching style and committed support of their learning and development. As a result, Dr Foran has been awarded the Discipline of Obstetrics & Gynaecology's Postgraduate Teaching Award for the last two consecutive years.

Terri, you are leaving behind a legacy of learning and immense shoes to fill. Your expertise and nature will be missed by staff and students alike. We look forward to collaborating in the future and seeing where your next stage takes you. Thank you for everything you have done to teach the next generation of physicians.



RECENT PUBLICATIONS:

Foran, T. (2019). Contraception and the media: lessons past, present and future. [European Journal of Contraception and Reproductive Health Care](#), 24(1), 80-82.

Foran, T. (2019). Abortion informing and supporting the patient. [Medicine Today](#), 20(11), 44-49.

Foran, T., Butcher, B. E., Kovacs, G., Bateson, D., & O'Connor, V. (2018). Safety of insertion of the copper IUD and LNG-IUS in nulliparous women: a systematic review. [European Journal of Contraception and Reproductive Health Care](#), 23(5), 379-386.

Foran, T. (2017). The management of irregular bleeding in women using contraception. [Australian Family Physician](#), 46(10), 717-720.

[Full publication list](#).



Non-contraceptive uses of contraceptives – now and into the future.

Dr Terri Foran [talks](#) to RACGP president Dr Harry Nespolon about some of the current and emerging non-contraceptive uses of contraceptives.

ASSOCIATE PROFESSOR KIRSTY WALTERS

PhD

Associate Professor Kirsty Walters was recruited by UNSW Medicine to lead the Ovarian Biology Laboratory within the Fertility & Research Centre in February 2016.

Dr Walters joined the School of Women's & Children's Health following a postdoctoral position at the ANZAC Research Institute, investigating the role androgens play in regulating female reproduction and physiology and completing her PhD at Edinburgh University, Scotland.

Dr Walters is an internationally-recognised leader in female fertility and polycystic ovary syndrome (PCOS) research. As a result, Dr Walters has received 9 prestigious research awards and six invitations to contribute to reviews in leading journals including *Reproduction* and *Molecular & Cellular Endocrinology*.

In the last five years, Dr Walters has received in excess of \$2.6 million in competitive funding, published 30 papers, and been invited to present her work at 17 conferences. As CIA, Dr Walters has successfully led three NHMRC project grants.

A primary objective of Dr Walters' research program is to elucidate new fundamental biological mechanisms underpinning female fertility and physiology and to use this new knowledge to direct and focus future animal and human studies, with the ultimate goal to improve patient experience, quality of life and health outcomes.

As women's health researchers, it won't be the last we hear of Kirsty, who has accepted voluntary redundancy from UNSW. There is no doubt that she will continue to revolutionise fertility research with expertise, experience, evidence and passion.

Kirsty is returning home to Scotland whilst maintaining an adjunct position with the School. Kirsty from the entire School, we wish the very best and look forward to ongoing collaborations. You will be missed.



RECENT PUBLICATIONS:

Burchall, G. F., Pouniotis, D. S., ... **Walters, K. A.**, & Piva, T. J. (2019). Expression of the plasminogen system in the physiological mouse ovary and in the pathological polycystic ovary syndrome (PCOS) state. [*Reproductive Biology and Endocrinology*](#), 17(1).

Tarulli, G. A., Laven-Law, G., Shehata, M., **Walters, K. A.**, ... Hickey, T. E. (2019). Androgen Receptor Signalling Promotes a Luminal Phenotype in Mammary Epithelial Cells. [*Journal of Mammary Gland Biology and Neoplasia*](#), 24(1), 99-108.

Stepito, N. K., Moreno-Asso, A., ... **Walters, K. A.**, & Rodgers, R. J. (2019). Molecular Mechanisms of Insulin Resistance in Polycystic Ovary Syndrome: Unraveling the Conundrum in Skeletal Muscle? [*Journal of Clinical Endocrinology and Metabolism*](#), 104(11), 5372-5381.

Walters, K. A., Eid, S., Edwards, M. C., ... Handelsman, D. J. (2019). Steroid profiles by liquid chromatography-mass spectrometry of matched serum and single dominant ovarian follicular fluid from women undergoing IVF. [*Reproductive BioMedicine Online*](#), 38(1), 30-37.

[Full publication list.](#)

Ka kite anō au i a koutou

I'll see you again.

It is bittersweet writing this open letter to you all, how do you thank and say goodbye to the people who have shaped your formative years and helped you define your career?

I arrived in Sydney from the near-dear shores of Aotearoa New Zealand in 2011. I had barely had a chance to acclimatise or unpack my suitcases in the manky backpackers I would temporarily call home, before being offered a job at UNSW.

I had decided on a whim, following a year of earthquakes in Christchurch, to escape to more stable ground of Sydney, where I had visited for my 21st Birthday. *Anything was better than moving to Auckland.*

I only intended on staying for 12 months, then venture further into the world. *How wrong was I?* Here we are almost a decade later with my feet firmly on the ground and very much settled, due in large to the wonderful people I have met through my position in the School of Women's & Children's Health.

My role in research support meant I was fortunate to engage with so many academics, conjoints, professional staff, and students over the years. Many of whom have crossed the work-personal life divide and are now friends.

I am humbled by the research that you have dedicated your lives too, often on top of busy clinical and teaching loads. If I have been able to make your life easier in even the smallest way, I am happy. What is important to me is enabling health and medical research that changes peoples lives for the better - this role and you, facilitated that. Thank you.

Adam. The Uncool Professor. Don't take this man for granted. I wouldn't be where I am now without his trust, respect, guidance, humour, and support. Without Professor Jaffe in my corner, I think I would've given up more than once. His ability to be raw and neurotic one minute, then calming and focused the next;



combined with his intellect, integrity, and modesty - he has been the best boss. Although there have been times when you have completely frustrated me, it was always a pleasure and I will miss you immensely.

But Adam wouldn't be half as great without his team supporting him, and namely Sara Savige. Sara and I started at the School at the same time and together with Adam's leadership, we have been a formidable trio working to change the culture in the School.

Sara has assisted my work and emotions and is someone who, without their advice and sounding board, I would never have been as successful in my role. I will miss you Sez - the laughs, the tunes, the friendship. Thank you.

So this is it, goodbye.

It has been the best job. The highs very much outweigh the lows. And to see how far the School has grown and matured – has been awe-inspiring. *Don't worry, I will be keeping an eye on you all and the Precinct re-development, very exciting times ahead.*

As for me, I am looking forward to a few months of leisure with my family, including a mission I have set myself – to see a kiwi (bird) in the wild. Mid-October I am venturing to the south of the South Island of New Zealand to explore parts of home I have never visited. My plan is to return to Sydney in the New Year (unless a new job opportunity arises before then). For now, "Aunty Nam" is busy with her five nephews and niece (aged 18 months – 10 years), who are loving having the extra attention.

Yay Paeds. Yay OGs. With Love.

Samantha (Sam) McFedries
Former Research Projects Officer

SUCCESSFUL FUNDING

Congratulations to School of Women’s & Children’s Health, Centre for Childhood Cancer Research, and Children’s Cancer Institute researchers who have been successful in receiving competitive grant funding commencing in 2020. Grants currently under embargo or administered outside of UNSW Sydney, will not be listed. Contract research, funding amounts withheld.

Source: Boris

Category	WCH & CCI Investigators	Organisation / Scheme	Total \$
Cat. 1	Waters, S.	Cystic Fibrosis Community Care / Gene Therapy Innovation Grant	10,000
Cat. 1	Terry, R.	Australia and New Zealand Sarcoma Association / Sarcoma Research Grant	40,000
Cat. 1	Lock, RB.	University of Queensland / NHMRC Ideas Grant Shared	67,566
Cat. 1	Tsoli, M, Ziegler, DS.	Cure Brain Cancer Foundation / Innovation Grant	199,378
Cat. 1	Cohen, JE, Wakefield, CE.	The Kids Cancer Project / Project Grant	249,972
Cat. 1	Lingam, RP.	Murdoch Childrens Research Institute / NHMRC Partnership Project Shared Grant	282,290
Cat. 1	Fletcher, J, Atkinson, C, Kamili, A.	National Health & Medical Research Council / Ideas Grants	286,900
Cat. 1	McCarroll, JA, Kavallaris, M.	Cancer Australia / Priority-driven Collaborative Cancer Research Scheme.	298,554
Cat. 1	Haber, M, Terry, R, Xiao, L, Norris, MD, Ziegler, DS.	Cancer Australia / Priority-driven Collaborative Cancer Research Scheme	347,705
Cat. 1	Craig, ME, Kim, KW.	Walter & Eliza Hall Institute / JDRF Australia T1DCRN Shared Grant	365,654
Cat. 1	Kandasamy, RN.	National Health & Medical Research Council / Investigator Grants	444,875
Cat. 1	Kavallaris, M.	Cancer Australia / Priority-driven Collaborative Cancer Research Scheme	596,955

Category	WCH & CCI Investigators	Organisation / Scheme	Total \$
Cat. 1	Pinese, M.	National Health & Medical Research Council / Investigator Grants	639,750
Cat. 1	Waters, S, Jaffe, A.	National Health & Medical Research Council / Ideas Grants	816,682
Cat. 1	Lingam, RP.	National Health & Medical Research Council / Clinical Trials and Cohort Studies Grants	1,248,388
Cat. 1	Wakefield, CE, McLoone, JK, Cohn, RJ.	Medical Research Future Fund (MRFF) / Australian Brain Cancer Mission (MRFF)	1,941,577
Cat. 1	Haber, M, De Bock, C, Sutton, R, Cowley, MJ, Ekert, P, Norris, MD, Ziegler, DS, Marshall, GM, Lock, RB.	Australian Cancer Research Foundation (ACRF) / Research Grants	3,500,000
Cat. 1	Kirk, EP.	National Health & Medical Research Council / Synergy Grants	5,000,000
Cat. 2	Lingam, RP, Hu, N.	NSW Department of Communities & Justice / State Government Contract (x3)	Withheld
Cat. 2	Xiao, L, Haber, M.	Cancer Institute NSW / Early Career Fellowships	592,659
Cat. 2	Ziegler, DS, Kavallaris, M, Cowley, MJ, Wakefield, CE, Vittorio, O.	Cancer Institute NSW / Translational Program Grant	3,950,000
Cat. 2	Haber, M.	Medical Research Future Fund (MRFF) / EPCDR 2020 ZERO Childhood Cancer	54,800,000
Cat. 3	Lingam, RP.	Murdoch Children's Research Institute / NHMRC Partnership Project Multiple Industry Partner Contribution Shared	170,000
Cat. 3	Sansom-Daly, UM.	CanTeen / Contract Research	Withheld
Cat. 3	Gilchrist, RB, Ledger, W.	CFC Global Pty Ltd / Contract Research	Withheld
Cat. 3	Waters, S.	University of Newcastle / TSANZ ACFRT Innovation shared grant	8,000

Category	WCH & CCI Investigators	Organisation / Scheme	Total \$
Cat. 3	Xiao, L	Tour de Cure / Support & Prevention Grants	50,000
Cat. 3	Ooi, CY.	Australian Cystic Fibrosis Research Trust (ACFRT) / ACFRT Innovation Grant	50,000
Cat. 3	Waters, S, Jaffe, A, Fawcett, LK.	Sydney Children's Hospital Foundation / PhD Scholarship	70,457
Cat. 3	Woolfenden, SR.	Royal Australasian College of Physicians / Research Establishment Fellowships	75,000
Cat. 3	Kim, KW.	Juvenile Diabetes Research Foundation - JDRF (International) / JDRF Postdoctoral Fellowship	100,349
Cat. 3	De Bock, C.	Anthony Rothe Memorial Trust / Project Grant	140,000
Cat. 3	Craig, ME, Kim, KW.	University of Adelaide / JDRF Subcontract	213,305
Cat. 3	Cheung, B; Marshall, G.	Anthony Rothe Memorial Trust / Project Grant	230,000
Cat. 3	Haber, M.	Australian Cancer Research Foundation (ACRF) / CINSW ACRC Children Cancer Liquid Biopsy Program Partner Contribution	300,000
Non-reportable	Welsh, AW, Henry, A, Stevenson, G	University of Technology, Sydney (UTS) / SPHERE Maternal, Newborn & Women's Clinical Academic Group (MNW CAG)	18,720
Non-reportable	Waters, S	University of Melbourne / Contract Research	Withheld
Non-reportable	Lingam, RP, Henry, A,	University of Technology, Sydney (UTS) / SPHERE Maternal, Newborn & Women's Clinical Academic Group (MNW CAG)	20,000
Non-reportable	Ford, C	University of Newcastle / MRFF EPCDR Ovarian Cancer Grant Shared Grant	325,388

HIGHER DEGREE RESEARCH

Congratulations to the School of Women's & Children's Health and Children's Cancer Institute PhD and Masters students who have completed their higher degree in 2020.

Source: Boris

Obstetrics & Gynaecology – PhD

- **Dr Charlotte Knight**
Abnormalities observed in the high magnification image analysis of human sperm and correlations to DNA damage.
Primary Supervisor: **Dr Simon Cooke.**
Secondary Supervisor: **Prof Michael Chapman.**
- **Dr Valentina Rodriguez Paris**
Impact of hyperandrogenism and diet on the development of polycystic ovary syndrome.
Joint Primary Supervisors: **Prof Rob Gilchrist, A/Prof Kirsty Walters.**
Secondary Supervisor: **Dr Michael Bertoldo.**
- **Dr Liza Tilia**
Is there a Link Between Oocyte Meiotic Spindle Normality and Embryo Euploidy?
Joint Primary Supervisors: **Prof Michael Chapman, Dr Christos Venetis.**
Secondary Supervisor: **Dr Simon Cooke.**

Paediatrics – PhD

- **Dr Michael Coffey**
The Gut Milieu in Cystic Fibrosis: Identifying Mechanisms of Disease and Exploring Therapeutic Targets.
Primary Supervisor: **A/Prof Keith Ooi.**
Secondary Supervisor: **Prof Adam Jaffe.**
- **Dr Ayan Saha**
New treatments for high-risk paediatric acute lymphoblastic leukaemia.
Primary Supervisor: **Conjoint Prof Richard Lock.**
Secondary Supervisors: **Dr Narges Bayat, Dr Duohui Jing, Conjoint Prof Maria Kavallaris.**

Children's Cancer – PhD

- **David Wonsuk Chang**
Modular nanoparticle drug delivery systems for treating multiple types of cancer.
Primary Supervisor: **Conjoint Prof Maria Kavallaris.**
Secondary Supervisor: **Conjoint A/Prof Michael Jackson.**
- **Dr Jingwei Chen**
Efficacious targeting of TERT-rearranged neuroblastoma with BET bromodomain inhibitor and proteasome inhibitor combination therapy.
Primary Supervisor: **Conjoint A/Prof Tao Liu.**
Secondary Supervisors: **Dr Pei Yan Liu, Prof Patsie Polly.**
- **Dr Ashleigh Fordham**
Modelling RANBP2-ALK-rearranged Epithelioid Inflammatory Myofibroblastic Sarcoma.
Joint Primary Supervisors: **Dr Karen Mackenzie, Dr Toby Trahair.**
Joint Secondary Supervisors: **Dr Jamie Fletcher, Conjoint Maria Kavallaris.**
- **Dr Helen Forgham**
Development and characterisation of star-shaped nanoparticles to deliver therapeutic siRNA to medulloblastoma.
Joint Primary Supervisors: **Conjoint Prof Maria Kavallaris, Dr Joshua McCarroll.**

Medicine – Masters by Research

- **Dr Kerrie-Anne Chen**
Clinical Translation of Novel Drugs for Rare Paediatric Neurological Diseases.
Primary Supervisor: **Dr John Lawson.**
Secondary Supervisors: **Dr Michael Cardamone, A/Prof Michelle Farrar.**
- **Dr Preena Uppal**
Adherence to Treatment Guidelines in Paediatric Status Epilepticus.
Joint Primary Supervisors: **Dr Michael Cardamone, Dr John Lawson.**

Other Schools/Institutes:

- **Dr Adam Bartlett**
The Kirby Institute
Management and outcomes for adolescents with perinatally acquired HIV infection in Asia.
Joint Supervisors: Dr Azar Kariminia, Law, Prof Matthew Law.
Secondary Supervisor: **Conjoint A/Prof Pam Palasanthiran.**
- **Dr Mei Lin**
School of Population Health (formerly Public Health & Community Medicine)
Factors influencing the use of pharmacotherapy for smoking cessation during and after pregnancy.
Primary Supervisor: Dr Alys Havard.
Secondary Supervisors: Dr Duong Tran, **Prof Alec Welsh.**

The School of Women's & Children's Health and Children's Cancer Institute have welcomed new students who have commenced their higher degree research in 2020.

Obstetrics & Gynaecology – PhD

- **Supuni Kapurubandara**
Improving the diagnosis of pelvic floor myofascial pain in women.
Primary Joint Supervisor: **Prof Jason Abbott, Dr Ursula Sansom-Daly.**
Secondary Supervisor: **Dr Rebecca Deans.**
- **Irene Sucquart**
Neuroendocrine androgen actions in the origins of Polycystic Ovary Syndrome.
Primary Joint Supervisors:
Dr Denovan Begg, **Prof Rob Gilchrist.**
Secondary Supervisors:
Dr Valentina Rodriguez Paris, A/Prof Kirsty Walters.

Paediatrics – PhD

- **Katelin Allan**
Towards Personalized Cystic Fibrosis Medicine: Functional characterization and targeted therapies for rare CFTR mutations using patient-derived organoids.
Joint Primary Supervisors:

A/Prof Cristan Herbert, **Dr Shafagh Waters.**

Secondary Supervisors:

A/Prof Wallace Bridge, **Prof Adam Jaffe,**
Dr Elvis Pandzic.

- **Lahiru Amarasena**
The Health Needs Of Refugee And Asylum Seeker Children Residing In Australia: 2020 And Beyond.
Joint Primary Supervisors: **Prof Raghu Lingam, Conjoint Prof Karen Zwi.**
Secondary Supervisor: **Dr Shanti Raman.**
- **Dr Laura Fawcett**
Stem cell derived cell models for drug discovery and cell therapies in Cystic Fibrosis.
Joint Primary Supervisors:
Prof Adam Jaffe, Dr Shafagh Waters.
Secondary Supervisor: Dr Nadeem Kaakoush.
- **Jessica Gereis**
Investigation of the information needs of families when making decisions regarding pursuit of genetic testing and personalised medicine for treatment of high-risk paediatric cancers.
Joint Primary Supervisors:
Dr Kate Hetherington, Prof Claire Wakefield.
Secondary Supervisors: **Dr Eden Robertson, Conjoint A/Prof David Ziegler.**
- **Nicole Taylor**
Utility of non-invasive biomarkers in evaluating the adult gut milieu in cystic fibrosis.
Joint Primary Supervisors: **A/Prof Keith Ooi, Prof Adam Jaffe.**

Children's Cancer – PhD

- **Anya Jensen**
Cancer immunity and mechanisms of chemoresistance.
Joint Primary Supervisors:
Dr Joshua McCarroll, Conjoint Prof Maria Kavallaris.
Secondary Supervisor:
A/Prof Phoebe Phillips.

- **Georgia Porter**
Dissecting the role of endoplasmic reticulum stress in cancer progression.
Joint Primary Supervisors: **Dr Angelica Merlot, Prof Murray Norris.**
Secondary Supervisor: Prof Minoti Apte.
- **Jourdin Rouaen**
Characterisation of the immunosuppressive tumour microenvironment in neuroblastoma to develop novel immunotherapeutic strategies.
Primary Supervisor: **Dr Orazio Vittorio.**
Secondary Supervisor: **Dr Toby Trahair.**
- **Patricia Sullivan**
Using computational biology to improve health outcomes in paediatric cancers and rare diseases.
Primary Supervisor: **Dr Mark Cowley.**
Secondary Supervisors: Dr Emily Oates, Dr Mark Pinese.
- **Andrea Zhao**
Targeting ubiquitin-specific protease 5 (USP5) as a novel therapeutic approach for the treatment of MYC-driven childhood cancer.
Primary Supervisor: **Dr Belamy-Bin Cheung.**
Secondary Supervisors: **Dr Rituparna Mitra, Dr Mukesh Raipuria.**

Obstetrics & Gynaecology – Masters by Research

- **Lynette Armstrong**
Assessing Fertility services in rural and remote Australia and the impact on limited services and education of rural doctors in fertility workup.
Primary Supervisor: **Prof Michael Chapman.**
Secondary Supervisor: **Dr Christos Venetis.**

Paediatrics – Masters by Research

- **Suhrad Pethani**
Utilisation of High-density Electroencephalography (hdEEG) for localisation of seizure onset zone in presurgical evaluation in epilepsy surgery.
Primary Supervisor: **Dr John Lawson.**
Secondary Supervisors: **Dr Michael Cardamone, Dr Frederic von Wegner.**

PUBLICATIONS

Commendation for Research Excellence

The School of Women's & Children's Health regularly calls for expressions of interest from early-career researchers for consideration of the *Commendation for Research Excellence*, formerly the 'Early-Career Researcher Best Publication Awards'.

Rounds 1 and 2 have closed, round 3 will be open for papers published between July and September 2020, shortly. The School will be advised by email, when the round is open.

Round 1, 2020



Congratulations to **Dr Dave Listijono**, who received a Commendation for Research Excellence for his original research in [Cell Reports](#) titled '[NAD+ Repletion Rescues Female Fertility During Reproductive Aging.](#)'

Dr Listijono is a clinician completing specialist training in Obstetrics & Gynaecology. He took 18 months off from his clinical training to commit full-time work on this project at UNSW.

Given the current unrelenting trend in delaying child-bearing to a later age, the problem of age-related decline in female fertility is rapidly becoming a public health issue; with hitherto no solution.

This publication demonstrates for the first time that augmenting NAD+ levels using an oral compound restores oocyte quality, embryo development and fertility in aged mice. Hence, this approach provides considerable promise to address this age-old conundrum of reproductive medicine.

Round 2, 2020



Congratulations to **Dr Michael Coffey** who received a Commendation for Research Excellence for his original research in [PLOS One](#) titled '[The intestinal virome in children with cystic fibrosis differs from healthy controls.](#)'

Dr Coffey was the lead author for this publication and personally learnt how to perform the bioinformatics and statistical analyses presented in this manuscript.

After much trial and error with other bioinformatics pipelines for virome analysis (Metavir, ViromeScan and VirusSeeker), they decided to proceed with the combination of Vipie (taxonomic analysis) and VirSorter (functional analysis) for this manuscript. He wrote the manuscript in each of the various preparatory stages, with the supervision and support of A/Professor Keith Ooi. All co-authors provided critical revision of the manuscript.

The gut is abnormal in cystic fibrosis (CF) with recent reports highlighting bacterial dysbiosis, intestinal inflammation and increased gastrointestinal cancer risk. There are currently no established therapeutic targets as the gut remains underexplored. They performed a prospective, cross-sectional, case-control study in children with CF and age and gender matched healthy controls.

To their knowledge, this is the first study to explore the intestinal virome in children with CF. The study has demonstrated that children with CF exhibit an altered intestinal virome with both taxonomic AND functional changes.

Furthermore, they have identified distinct changes and mechanisms which may promote intestinal inflammation in children with CF (e.g.

peptidoglycan-binding (PGRP) domain of peptidoglycan hydrolases, under expression of Gokushovirinae and Faecalibacterium phage FP Taranis, as well as over expression of Podoviridae).

Additionally, it was identified that several viruses which positively (e.g. Anelloviridae and Enterovirus) and negatively (e.g. Protoperovirus) correlated with growth measures in children with CF. These findings provide novel insights into paediatric CF gastrointestinal disease and may prompt further investigation of novel therapeutic targets.

This publication was a direct result of Dr Coffey's research towards his PhD which was conferred in April 2020. A special thank you to all the co-authors for their support, particularly Ivan Low and Dr Sacha Stelzer-Braid for their work on the viral extraction and Dr Bernd Wemheuer for his bioinformatics lessons.

Publication List

Papers listed below were published online between 01 July 2020 – 25 September 2020 onwards. Authors may be academics, conjoints or students, provided they have affiliated to the School of Women's or Children's and Children's Cancer Institute on the paper. Publications are listed under UNSW Medicine Themes.

CANCER

Barnes, D. R., Rookus, M. A., McGuffog, L., Leslie, G., Mooij, T. M., Dennis, J., ... **Ramus, S.**, ... Antoniou, A. C. (2020). Polygenic risk scores and breast and epithelial ovarian cancer risks for carriers of BRCA1 and BRCA2 pathogenic variants. [Genetics in Medicine](#), 14

Bertoldo, M. J., Smitz, J., Wu, L. E., Lee, H. C., Woodruff, T. K., & **Gilchrist, R. B.** (2020). Prospects of Rescuing Young Eggs for Oncofertility. [Trends in Endocrinology and Metabolism](#).

Brieger, K. K., Peterson, S., Lee, A. W., Mukherjee, B., Bakulski, K. M., Alimujiang, A., ... **Ramus, S.**, ... Pearce, C. L. (2020). Menopausal hormone therapy prior to the diagnosis of ovarian cancer is associated with improved survival. [Gynecologic Oncology](#), 158(3), 702-709.

Buchhorn-White, J., **Robertson, E. G.**, **Wakefield, C. E.**, & **Cohen, J.** (2020). A decision aid for nutrition support is acceptable in the pediatric hospital setting. [J Pediatr Nurs](#), 55, 165-173.

Burns, M. A., Aralova, M., **Ellis, S.**, Aslanyan, K. S., Egorkina, T., & **Wakefield, C. E.** (2020). Pediatric Psycho-Oncology in Russia: Caregiver mental health and sleep outcomes on the oncology wards. [Psychooncology](#).

Butler, J., Finley, C., Norell, C. H., Harrison, S., Bryant, H., Achiam, M. P., ... **Farrell, R.**, ... Thomas, R. (2020). New approaches to cancer care in a COVID-19 world. [The Lancet Oncology](#), 21(7), e339-e340.

Cario, G., Leoni, V., Conter, V., Attarbaschi, A., Zaliouva, M., Sramkova, L., Cazzaniga, G. F., **Sutton, R.**, ... Biondi, A. (2020). Relapses and treatment-related events contributed equally to poor prognosis in children with ABL-class fusion positive B-cell acute lymphoblastic leukemia treated according to AIEOP-BFM protocols. [Haematologica](#), 105(7), 1887-1894.

Chinnabhandar, V., Tran, S., **Sutton, R.**, Shaw, P. J., Mechinaud, F., Cole, C., ... **O'Brien, T. A.**, **Mitchell, R.** on behalf of the Australian and New Zealand Children's Haematology/Oncology Group (ANZCHOG) Transplantation and Cellular Therapy in Children (TACTIC) Group. (2020). Addition of Thiotepa to Total Body Irradiation and Cyclophosphamide Conditioning for Allogeneic Hematopoietic Stem Cell Transplantation in Pediatric Acute Lymphoblastic Leukemia. [Biology of Blood and Marrow Transplantation](#).

Clarke, M., Mackay, A., Ismer, B., Pickles, J. C., Tatevossian, R. G., Newman, S., ... **Tsoli, M.**, **Cowley, M. J.**, **Ziegler, D. S.**, ... Marshall, L. V. (2020). Infant High-Grade Gliomas Comprise Multiple Subgroups Characterized by Novel Targetable Gene Fusions and Favorable Outcomes. [Cancer discovery](#), 10(7), 942-963.

Dodgshun, A. J., Fukuoka, K., Edwards, M., Bianchi, V. J., Das, A., Sexton-Oates, A., ... **Ziegler, D. S.**, ... Tabori, U. (2020). Germline-driven replication repair-deficient high-grade gliomas exhibit unique hypomethylation patterns. [Acta Neuropathologica](#).

Fordham, A. M., **Xie, J.**, **Gifford, A. J.**, **Wadham, C.**, **Morgan, L. T.**, **Mould, E. V. A.**, ... Zhai, L., **Massudi, H.**, **Ali, Z. S.**, **Marshall, G. M.**, ... **Fletcher, J. I.**, **Mackenzie, K. L.**, **Trahair, T. N.** (2020). CD30 and ALK combination therapy has high therapeutic potency in RANBP2-ALK-rearranged epithelioid inflammatory myofibroblastic sarcoma. [British Journal of Cancer](#).

Gadde, S., Leung, Y. C., Bhadbade, M., **Cheung, B. B.**, Black, D. S., & Kumar, N. (2020). Synthesis of a Novel Library of 1-Substituted Pyrido[1,2-a]benzimidazoles. [Australian Journal of Chemistry](#).

- Gao, J., Jung, M., Mayoh, C., Venkat, P., Hannan, K. M., Fletcher, J. I., Kamili, A., Gifford, A. J., ... Haber, M., Norris, M. D., Somers, K., Henderson, M. J.** (2020). Suppression of ABCE1-Mediated mRNA Translation Limits N-MYC-Driven Cancer Progression. [Cancer Res](#), 80(17), 3706-3718.
- Gentry-Maharaj, A., Blyuss, O., Ryan, A., Burnell, M., Karpinskyj, C., Gunu, R., ... **Jacobs, I. J.**, ... Menon, U. (2020). Multi-marker longitudinal algorithms incorporating HE4 and CA125 in ovarian cancer screening of postmenopausal women. [Cancers](#), 12(7), 1-12.
- Ha, L., Mizrahi, D., Wakefield, C. E., Cohn, R. J., Simar, D., & Signorelli, C.** (2020). The Use of Activity Trackers in Interventions for Childhood Cancer Patients and Survivors: A Systematic Review. [J Adolesc Young Adult Oncol](#).
- Harrup, R., White, V. M., Coory, M., Walker, R., **Anazodo, A.**, Skaczkowski, G., ... Nicholls, W. (2020). Treatment and Outcomes for Central Nervous System Tumors in Australian Adolescents and Young Adults: A Population-Based National Study. [J Adolesc Young Adult Oncol](#).
- Heathcote, L. C., Loecher, N., Spunt, S. L., Simon, P., Tutelman, P. R., **Wakefield, C. E.**, ... Schapira, L. (2020). Do qualitative interviews cause distress in adolescents and young adults asked to discuss fears of cancer recurrence? [Psychooncology](#).
- Holmes, K., Pvdtschger, U., Pearson, A. D. J., Sarnacki, S., Cecchetto, G., Gomez-Chacon, J., ... **Trahair, T. N.**, ... Ladenstein, R. L. (2020). Influence of Surgical Excision on the Survival of Patients with Stage 4 High-Risk Neuroblastoma: A Report from the HR-NBL1/SIOPEN Study. [Journal of Clinical Oncology](#), 38(25), 2902-2915.
- Im, A., Rashidi, A., Wang, T., Hemmer, M., MacMillan, M. L., Pidala, J., ... **O'Brien, T.A.**, ... Hamilton, B. K. (2020). Risk Factors for Graft-versus-Host Disease in Haploidentical Hematopoietic Cell Transplantation Using Post-Transplant Cyclophosphamide. [Biology of Blood and Marrow Transplantation](#), 26(8), 1459-1468.
- Laukkanen, S., Oksa, L., Nikkilvš, A., Lahnalampi, M., Parikka, M., Seki, M., ... **de Bock, C.**, ... Lohi, O. (2020). SIX6 is a TAL1-regulated transcription factor in T-ALL and associated with inferior outcome. [Leukemia and Lymphoma](#).
- Lee, A. W., Rosenzweig, S., Wiensch, A., Australian Ovarian Cancer Study Group., **Ramus, S. J.**, Menon, U., ... Pearce, C. L. (2020). Expanding our understanding of ovarian cancer risk: the role of incomplete pregnancies. [J Natl Cancer Inst](#).
- Lim, J. T., Singh, N., Leuvano, L. A., Calvert, V. S., Petricoin, E. F., Teachey, D. T., **Lock, R. B.**, Padi, S. K. R. (2020). PIM Kinase Inhibitors Block the Growth of Primary T-cell Acute Lymphoblastic Leukemia: Resistance Pathways Identified by Network Modeling Analysis.. [Mol Cancer Ther](#), 19(9), 1809-1821.
- Liu, D., Gunther, K., Enriquez, L. A.**, Daniels, B., O'Mara, T. A., Tang, K., . . . **Ford, C. E.** (2020). ROR1 is upregulated in endometrial cancer and represents a novel therapeutic target. [Scientific Reports](#), 10(1).
- Lorimer, S. B., **Sansom-Daly, U. M.**, Stech, E. P., & Newby, J. M. (2020). Predictors of health anxiety in cancer patients' loved ones: A controlled comparison. [Psycho-Oncology](#).
- Millstein, J., **Budden, T.**, Goode, E. L., Anglesio, M. S., Talhouk, A., Intermaggio, M. P., ... **Hacker, ... Henderson, M. J.**, ... **Ramus, S.** (2020). Prognostic gene expression signature for high-grade serous ovarian cancer. [Annals of Oncology](#), 31(9), 1240-1250.
- Mizrahi, D., Fardell, J. E., Cohn, R. J., Partin, R. E., Howell, C. R., Hudson, M. M., ... McBride, J., Field, P., Wakefield, C.E.,** Simar, D. (2020). The 6-minute walk test is a good predictor of cardiorespiratory fitness in childhood cancer survivors when access to comprehensive testing is limited. [International Journal of Cancer](#), 147(3), 847-855.
- Morton, R., Mylvaganam, G., Anderson, L., **Farrell, R.**, Carter, J., Pather, S., & Saidi, S. (2020). Follow-up after treatment of high-grade cervical dysplasia: The utility of six-month colposcopy and cytology and routine 12-month colposcopy. [Aust N Z J Obstet Gynaecol](#).

- Nahata, L., Gomez-Lobo, V., Meacham, L., Appiah, L., Childress, K., Hoefgen, H., ... **Anazodo, A.**, ... Moravek, M. (2020). 2019 Pediatric Initiative Network: Progress, Proceedings, and Plans. [Journal of adolescent and young adult oncology](#), 9(4), 457-463.
- Nahata, L., **Anazodo, A.**, Cherven, B., **Logan, S.**, Meacham, L. R., Meade, C. D., ... Quinn, G. P. (2020). Optimizing health literacy to facilitate reproductive health decision-making in adolescent and young adults with cancer. [Pediatric Blood and Cancer](#).
- Naveed, A., Cooper, J. A., Li, R., Hubbard, A., **Chen, J.**, **Liu, T.**, ... Fox, A. H. (2020). NEAT1 polyA-modulating antisense oligonucleotides reveal opposing functions for both long non-coding RNA isoforms in neuroblastoma. [Cellular and Molecular Life Sciences](#).
- Norell, C. H., Butler, J., **Farrell, R.**, Altman, A., Bentley, J., Cabasag, C. J., ... **Hacker, N. F.**, ... Harrison, S. (2020). Exploring international differences in ovarian cancer treatment: A comparison of clinical practice guidelines and patterns of care. [International Journal of Gynecological Cancer](#).
- Palagyi, A., **Balane, C.**, Shanthosh, J., Jun, M., Bhoo-Pathy, N., Gadsden, T., . . . Jan, S. (2020). Treatment abandonment in children with cancer: does a sex difference exist? A systematic review and meta-analysis of evidence from low- and middle-income countries. [Int J Cancer](#).
- Salik, B.**, **Yi, H.**, **Hassan, N.**, **Santiappillai, N.**, Vick, B., **Connerty, P.**, **Duly, A.**, **Trahair, T.**, ... **Liu, T.**, ... **Kavallaris, M.**, **Haber, M.**, **Norris, M. D.**, ... **Wang, J. Y.** (2020). Targeting RSPO3-LGR4 Signaling for Leukemia Stem Cell Eradication in Acute Myeloid Leukemia. [Cancer Cell](#), 38(2), 263-278.e6.
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