

## CHILDREN WITH MOST AGGRESSIVE CANCERS TO BENEFIT FROM AUSTRALIAN-FIRST PERSONALISED MEDICINE CLINICAL TRIAL

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Personalised medicine for childhood cancers in Australia is a step closer thanks to the Zero Childhood Cancer program's national clinical trial launched today. Zero Childhood Cancer is one of the world's most comprehensive child cancer personalised medicine studies, and is led by Children's Cancer Institute and the Kids Cancer Centre at Sydney Children's Hospital, Randwick.

In an Australian first, scientists from thirteen leading Australian and international research institutes and doctors from all eight of Australia's kids' cancer centres will work together to identify and recommend new treatment options. These will be specifically tailored to suit the individual cancers of children with the highest risk of treatment failure or relapse and give their families hope.

The Zero Childhood Cancer program recognises that each child's cancer is unique, so they respond differently to anti-cancer treatment. Detailed laboratory analysis of tumour samples will help identify the drugs most likely to kill each child's specific cancer.

The national clinical trial builds on a successful NSW pilot study of nearly 60 children begun in late 2015 for children with the most aggressive cancers whose chance of survival on standard treatments was less than 30%. The pilot study proved the program's feasibility, successfully putting in place the complex logistics and laboratory testing needed to analyse patient tumours and get meaningful results back to doctors in real-time.

The clinical trial expands the program to give hope to families across the country and will enrol more than 400 Australian children over the next three years, bringing the most advanced diagnostic technologies close to home. The clinical trial is open in Sydney with other cities set to open in a staged roll-out over coming months.

Professor Michelle Haber AM, Executive Director of Children's Cancer Institute and Research Lead for Zero Childhood Cancer, said the pilot study showed the urgent need for personalised medicine.

"Originally this pilot study was planned for 12 young patients. However nearly 60 children have been enrolled in the program due to the high demand by clinicians and parents.

"We're thrilled to broaden the Zero Childhood Cancer program nationally, in partnership with each of Australia's eight child cancer treatment centres and leading national and international research centres, in order to deliver child cancer personalised medicine to every child at highest risk of treatment failure, wherever in the country they may live," she said.

A/Professor Tracey O'Brien, Director of the Kids Cancer Centre at Sydney Children's Hospital, Randwick said cancer is the biggest killer of children by disease in Australia.

"Despite the dramatic increase in childhood cancer survival rates over the last sixty years from virtually 0 to 80%, three children and adolescents die every week in Australia from cancer.

“The challenge in curing every child is that each child’s cancer is unique. Every day on our wards we face the challenge of trying to find the best possible treatment for each child with cancer, especially those with the most aggressive cancers. It is a balance finding specific treatments that will kill the cancer cells but minimise harm to the child.

“I truly believe the Zero Childhood Cancer program is a potential game-changer in how we treat high-risk cancer. As the Zero Childhood Cancer program is implemented, and as we gather more information, we will improve our capacity to identify the most effective treatment for each child’s cancer,” she said.

Professor Haber said personalised treatment gives kids with the most aggressive cancers the best chance of surviving their disease because it is based on reliable scientific information, such as individual genetic mutations, unique to that child’s cancer.

“Using the latest molecular profiling techniques and laboratory testing of patient cancer cells with anti-cancer drugs, Zero Childhood Cancer will give the most detailed diagnosis possible in Australia to date for children with the most aggressive cancers. It is one of the most complex and comprehensive personalised medicine programs in the world,” she said.

Of the over 950 Australian children and adolescents diagnosed with cancer each year, 150 are diagnosed with cancer types with less than a 30% survival rate, and a further 60 relapse and then have less than a 30% chance of cure. It’s these children – including those suffering from aggressive brain tumours, sarcomas, infant leukaemias and neuroblastomas - who will benefit from the Zero Childhood Cancer Program. The trial will be open to every Australian child with high-risk childhood cancer regardless of the underlying type/diagnosis.

Sherie Polzin says the program will offer children like her one-year-old daughter Ava with high-risk leukaemia the best chance of success.

“As a mother of a childhood cancer patient, the Zero Childhood Cancer clinical trial is really exciting. The collaboration of national and international hospitals and medical research institutes working together, striving for the same result, to give high risk patients the best chance of success is inspiring. It is so uplifting to know that we are one step closer to potentially curing childhood cancers.

This will make such a difference to families by giving them hope and encouragement knowing that their child is receiving the best possible treatment that is tailored to their individual requirements,” she said.

While Ava is currently not enrolled in the clinical trial as she undergoes her own treatment plan, she is an example of the types of patients diagnosed with aggressive childhood cancer who will benefit from the Zero Childhood Cancer program.

A significant group on the trial to benefit will be children with relapsed cancer, whose survival rates are usually much lower than when first diagnosed and with limited future treatment options. About half of the children on the NSW pilot study had relapsed cancer.

Cancers evolve so a child's cancer at relapse can be quite different at the molecular level to the cancer at diagnosis.

With Zero Childhood Cancer, where possible, relapsed cancers will be biopsied, which is not currently the standard of care for most cancers. Relapsed cancer cells will be analysed in unprecedented detail to give doctors much more information to guide targeted treatment decisions. This gives children with high-risk relapsed cancers the best hope yet.

Another benefit of personalised medicine is the potential to refine or change an individual child's cancer subtype. Cancer diagnoses may be changed once detailed genetic and other molecular tests are done, opening up new treatment options. Several children on the pilot study had changed diagnoses as a result of detailed testing.

A/Professor O'Brien said targeted therapies such as those identified through Zero Childhood Cancer will allow a much more sophisticated approach.

"The information we gather will benefit children on the program first and foremost but will also be incorporated into future frontline treatments. The knowledge gained is likely to unlock further scientific discoveries that will also ultimately benefit future patients. Most of all, it will bring us a step closer to our vision of one day curing all children of cancer."

"This is a very exciting initiative that has the potential to revolutionise the way in which treatment decisions about childhood cancer will be made."

"We believe this will improve survivorship whilst reducing the impact of drug toxicity. The scale and sophistication of translating this type of discovery directly to the patient's bedside in real time, wherever they are in Australia, is unprecedented, it is tomorrow's care today" she said.

The Zero Childhood Cancer national clinical trial will run until at least 2019. The data gathered will enable evidence-based treatment options in the present, and build a powerful research repository for the future. Data from the program will be shared with all clinical and research partners around Australia, in Europe and USA.

The program is free to children who meet the clinical trial enrolment criteria and enrolment is through their treating oncologist. The trial is sponsored by the Australian and New Zealand Children's Haematology/Oncology Group (ANZCHOG).

**-ENDS-**

**Enquiries:**

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**Media Opportunity:**

**What:** Media conference launching Zero Childhood Cancer Program national clinical trial

**When:** 10am, Monday 18 September 2017

**Where:** Sydney Children's Hospital, Randwick, High Street, Randwick (parking via Barker St)

**Interviews with:**

- Professor Michelle Haber AM, Executive Director, Children's Cancer Institute
- A/Professor Tracey O'Brien, Director of the Kids Cancer Centre at Sydney Children's Hospital, Randwick
- A/Professor David Ziegler, National Trial Study Chair
- Childhood cancer patients and their families – one-year-old Ava and mother Sherie, 11-year-old Jade and her mother Fiona, 12-year-old Gabe and his mother Rachel
- **Hon Greg Hunt MP, Federal Health Minister**
- **Hon Brad Hazzard MP, NSW Health Minister**
- Childhood cancer patients and their families attending the launch:

Ava – 13 months old – currently in treatment for high-risk leukaemia at Sydney Children's Hospital, Randwick

Gabe – 12 years old – currently in treatment for brain cancer at Sydney Children's Hospital, Randwick

Jade – 11 years old – currently in treatment for very high-risk leukaemia at Sydney Children's Hospital, Randwick

**Filming/photography:** In the oncology ward at Sydney Children's Hospital, Randwick. After the launch, media are invited to film inside Children's Cancer Institute laboratories nearby.

**About Zero Childhood Cancer**

The Zero Childhood Cancer Program is a national initiative of Children's Cancer Institute and The Sydney Children's Hospitals Network. The Program is led by scientists and clinicians from Children's Cancer Institute and Sydney Children's Hospital, Randwick and is one of the most exciting childhood cancer research initiatives ever undertaken in Australia, to tackle the most serious cases of infant, childhood and adolescent cancer. (The clinical trial is open in Sydney with other cities set to open in a staged roll-out over coming months.) Participating hospitals and research centres include:

- NSW – Children's Cancer Institute
- NSW – Sydney Children's Hospital, Randwick
- NSW – The Children's Hospital at Westmead
- NSW – John Hunter Children's Hospital
- NSW – Children's Medical Research Institute
- NSW – Kids Research Institute, Westmead
- NSW – Garvan Institute of Medical Research
- NSW - SEALS (Prince of Wales Hospital Anatomical Pathology)
- QLD – Lady Cilento Children's Hospital

- QLD – The University of Queensland Diamantina Institute
- SA – Women’s and Children’s Hospital
- SA – South Australian Health and Medical Research Institute
- SA - Centre for Cancer Biology
- VIC – Royal Children’s Hospital, Melbourne
- VIC - Monash Children's Hospital, Clayton
- VIC – Peter MacCallum Cancer Institute
- VIC – Murdoch Children’s Research Institute
- WA – Princess Margaret Hospital for Children, Perth
- WA – Telethon Kids Cancer Centre, Telethon Kids Institute
- USA - Centre for Cancer Research, National Cancer Institute, NIH
- Germany - DKFZ (German Cancer Research Centre), Heidelberg

For more information, visit [www.zerochildhoodcancer.org.au](http://www.zerochildhoodcancer.org.au)

### **About Children’s Cancer Institute**

Originally founded by two fathers of children with cancer in 1976, Children’s Cancer Institute is the only independent medical research institute in Australia wholly dedicated to research into the causes, prevention and cure of childhood cancer. Forty years on, our vision remains unchanged – to save the lives of all children with cancer and to eliminate their suffering. The Institute has grown to now employ more than 220 researchers, operational staff and students, and has established a national and international reputation for scientific excellence. Our focus is on translational research, and we have an integrated team of laboratory researchers and clinician scientists who work together in partnership to discover new treatments which can be progressed from the lab bench to the beds of children on wards in our hospitals as quickly as possible. These new treatments are specifically targeting childhood cancers, so we can develop safer and more effective drugs and drug combinations that will minimise side-effects and ultimately give children with cancer the best chance of a cure with the highest possible quality of life. More at [www.ccia.org.au](http://www.ccia.org.au)

### **About Kids Cancer Centre**

The Kids Cancer Centre (KCC) at Sydney Children’s Hospital, Randwick has been treating children with cancer and blood diseases in NSW, Australia and the Asia-Pacific region for nearly 50 years. Almost two thirds of children treated for cancer or leukaemia at the Centre are enrolled on clinical trials, in a unique model where research and clinical care are one, aimed at ensuring the best possible care for children and their families. During that time the survival rates for children with cancer have gone from 10 per cent to nearly 80 per cent. Clinical and research staff from the Centre have made major international and national contributions to the expansion of knowledge in the area: from important discoveries around bone marrow transplantation, chemotherapy for relapsed solid tumours and leukaemia, to the invention of novel anti-cancer drug combinations and minimal residual disease (MRD) testing in ALL. Centre staff have been leaders in devising new methods of outreach and home nursing, and in developing modern approaches to the bereaved family. These achievements have been founded on academic excellence and clinical expertise. In the past five years alone, Centre staff have published over 200 papers in peer-reviewed medical and scientific journals, and have been awarded more than \$60 million in competitive grant funding. Over the past 20 years a total of eight clinical staff have received Order of Australia honours for their work <http://www.kids-cancer.org/>

### **About Sydney Children's Hospital, Randwick**

Each year, Sydney Children's Hospital, Randwick cares for more than 69,000 seriously ill and injured children from across NSW, Australia and beyond in a family-centred, multidisciplinary, expert environment. Sydney Children's Hospital, Randwick is one of the country's leading centres in paediatric clinical and research excellence and is part of The Sydney Children's Hospitals Network (SCHN), the largest network of hospital and services for children in Australia. For more information visit [www.schn.health.nsw.gov.au](http://www.schn.health.nsw.gov.au)

### **Zero Childhood Cancer Program Partners**

#### **About Sydney Children's Hospital Foundation**

Sydney Children's Hospital Foundation is the principal fundraising body for Sydney Children's Hospital, Randwick. The Foundation contributes significant financial support across four key pillars: medical, nursing and allied health specialists, high-tech equipment, ground-breaking medical research and capital works (ward refurbishments and new buildings). We also fund Child Life and Music Therapy activities, special outdoor spaces such as the Happy Garden and our innovative Art Program workshops and exhibitions, helping to create a positive, vibrant and healing environment for children and families. Our vision is to be a catalyst to inspiring better outcomes for sick and critically-ill children. For more information visit [www.schf.org.au](http://www.schf.org.au)

#### **About ACRF**

The Australian Cancer Research Foundation (ACRF) is a charity dedicated funding the best cancer research initiatives across Australia that focus on effective prevention, detection and treatment. ACRF funds are used to purchase essential equipment and provide state-of-the-art technologies that speed up the discovery process – ultimately working to save lives by saving time <https://acrf.com.au/>

#### **About Cure Brain Cancer Foundation**

Cure Brain Cancer is the largest dedicated funder of brain cancer research in Australia. Their mission is to increase five-year survival from the current 20% to 50% by 2023. Partnering with the research community, they are steering the national agenda – and influencing the global agenda – for brain cancer research <http://www.curebraincancer.org.au/>

#### **About The Kids' Cancer Project**

The Kids' Cancer Project is a leading Australian charity dedicated to funding medical research to find a cure for children's cancer. Col Reynolds founded the independent charity in 1993 when he learned research was the only way to help end the pain and suffering children and their family's experience. Today the charity is one of the largest funders of childhood cancer research in Australia and works together with families, the community, government, corporate, researchers and clinicians to help find the cure <https://www.thekidscancerproject.org.au/>

#### **About CTx**

Cancer Therapeutics CRC (CTx) is in the business of finding cures for cancer. It is a collaborative partnership of leading Research Institutes, Universities and biotechnology companies that is solely focussed on translating

Australia's innovative research discoveries into new cancer drugs ready for clinical development. The company's research and development capabilities span the full range of technologies and expertise required to discover novel small molecule cancer drugs and develop them to the clinical candidate stage <https://www.cancercrc.com/>

### **About Australian Government Department of Health**

The Department of Health is committed to achieving better health and wellbeing for all Australians, now and for future generations. For more information visit, [www.health.gov.au](http://www.health.gov.au)

### **About NSW Health**

NSW Health works to provide the people of NSW with the best possible health care that not only meets today's health needs but also responds to the health needs of the future. For more information visit, [www.health.nsw.gov.au](http://www.health.nsw.gov.au)

### **About UNSW Sydney**

At UNSW, we take pride in the broad range and high quality of our teaching programs. Our teaching gains strength and currency from our research activities, strong industry links and our international nature; UNSW has a strong regional and global engagement. In developing new ideas and promoting lasting knowledge we are creating an academic environment where outstanding students and scholars from around the world can be inspired to excel in their programs of study and research. Partnerships with both local and global communities allow UNSW to share knowledge, debate and research outcomes. UNSW Sydney (The University of New South Wales), is one of Australia's leading research and teaching universities. For more information visit [www.unsw.edu.au](http://www.unsw.edu.au)

### **About Lenity Australia**

Lenity Australia is an independent, not-for-profit, registered charity that provides additional financial support to established projects. Lenity Australia is supporting the Zero Childhood Cancer program through their association with The Sydney Children's Hospital Foundation [www.lenityaustralia.com](http://www.lenityaustralia.com)

### **About Lions Clubs of Australia**

The Lions Clubs of Australia have a decades-long history in supporting research in childhood cancer. In 2009, the Clubs formed the Australian Lions Children's Cancer Research Foundation (ALCCRF) to focus the efforts of Lions Australia's 1400 clubs into one foundation with the vision of achieving 100% survival for kids with cancer. ALCCRF has developed an ethos of 'donors without borders' – an approach to bringing together diverse individuals, institutions and states to unite behind a common goal of eliminating deaths from childhood cancer. <http://lionsclubs.org.au/>

### **About Tour De Cure**

Tour De Cure raise vital funds to support the doctors and scientists who have dedicated their lives to uncovering a cure for cancer. They pride themselves on their ability to work with others to achieve their mission. They fund the boldest research, the most talented scientists and the world-class cancer projects that they believe will have the biggest impact <https://tourdecure.com.au>