



MEDIA RELEASE

EMBARGOED UNTIL:

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2 SEPTEMBER 2015

Australian First: Zero Childhood Cancer Program

- Personalised medicine program aims to push childhood cancer survival rates to 100% -

Children's Cancer Institute and The Sydney Children's Hospitals Network are proud to announce 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. 'Zero Childhood Cancer' will be launched on Wednesday, 2 September at Children's Cancer Institute and gives hope to children with the highest risk of treatment failure or relapse.

The Program, which is led by researchers from Children's Cancer Institute and clinicians from Sydney Children's Hospital, Randwick, will involve the detailed laboratory analysis of each child's unique cancer cells, to help identify the drugs most likely to kill their specific cancer. Researchers and clinicians will then work collaboratively to identify and deliver the most effective treatment plan, specifically tailored to suit each child's individual disease.

Despite the dramatic increase in childhood cancer survival rates over the last sixty years, from virtually 0% to 80%, nearly three Australian children and adolescents still die each week of cancer.¹ Of the 950 children diagnosed with cancer each year in Australia, 150 are either diagnosed with cancer types that have less than a 30% survival rate, or suffer relapse and then have less than a 30% chance of cure. It is these children - including those suffering from the most aggressive forms of childhood brain tumours, sarcomas, infant leukaemias and neuroblastomas - who will benefit from the Zero Childhood Cancer Program.

In the first stage of the Program, researchers and doctors will open a pilot study to high risk NSW cancer patients in 2016. Following successful completion of the pilot study, a national clinical trial involving 120 children will open in 2017. When fully implemented, the Program will be offered to children throughout Australia who are at highest risk of relapse or treatment failure.

"This is a very exciting initiative that will revolutionise the way in which treatment decisions about childhood cancer will be made," said Children's Cancer Institute's Executive Director Professor Michelle Haber AM.

"The challenge in curing every child is that each child's cancer is unique, which means they respond differently to anti-cancer treatment. As the Personalised Medicine Program is implemented, and as we gather more information, we will hopefully get better and better at identifying the most effective treatment for each child's cancer.

"We see this as a key step towards our vision of one day helping to cure 100% of children with cancer. Currently, for children with the most challenging forms of cancer, there is very little hope. This Program will offer them the best standard of care here in Australia."

Professor Glenn Marshall AM, Director of the Kids Cancer Centre at Sydney Children's Hospital, Randwick, and Head of Translational Research at Children's Cancer Institute is very optimistic about the potential of the Personalised Medicine Program to improve treatment and minimise the side-effects and suffering caused by chemotherapy.

“Knowing which drugs will not be effective in a patient is as important as knowing which drugs will be effective,” said Professor Marshall.

“Our ward is full of children suffering as much from the side effects of treatment as they are suffering from cancer. The data we will be gathering and using is exciting in two respects – we will have evidence-based treatment options in the present, and we will be building a powerful research repository for the future.”

Children’s Cancer Institute and The Sydney Children’s Hospitals Network are jointly recognised as international leaders in the field. In establishing this national child cancer personalised medicine program, they are collaborating with major research centres in the United States and Europe.

It is anticipated that total funding required for the Zero Childhood Cancer Program over the next six years will be more than \$40 million. Initial funding has been received from the Federal government-funded Cancer Therapeutics CRC (CTx) and also capital funding from the NSW state government. In addition, support has been committed by several funding partners including Australian Cancer Research Foundation, Cure Brain Cancer Foundation, The Kids Cancer Project and The University of New South Wales, Australia.

1. 0-19 years incidence data. *Australian Institute of Health and Welfare (AIHW) Australian Cancer Incidence and Mortality (ACIM) Books, 2015* <http://www.aihw.gov.au/acim-books>
Accessed 12 August 2015.

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Media Opportunity:

What: Media conference launching Australian-first Zero Childhood Cancer Program

When: 10am, Wednesday, 2 September 2015

Where: Children’s Cancer Institute, Corner of Botany and High Street, Randwick

Interviews with:

- Professor Michelle Haber AM, Executive Director, Children’s Cancer Institute
- Professor Glenn Marshall AM, Director of the Kids Cancer Centre at Sydney Children’s Hospital, Randwick, and Head of Translational Research at Children’s Cancer Institute
- Childhood cancer patients and their families

Filming/photography: Inside Children’s Cancer Institute Laboratories

About Children’s Cancer Institute

Children’s Cancer Institute is the only independent medical research institute in Australia, existing solely to cure childhood cancer and improve the quality of life for survivors. Originally founded by parents of children with cancer, the first laboratories opened in 1984. The Institute is now recognised to be a significant global contributor to the advance of childhood cancer research with particular strength in ‘translational research’ that aims to take discoveries from the ‘bench to the bedside’ as quickly as possible. The Institute receives funding from the government and grant funding bodies, but approximately 50% of all research funds must be sourced

from the donors, partners and supporters in the community. For more information, visit www.zerochildhoodcancer.org.au

About Sydney Children's Hospital, Randwick

Each year, Sydney Children's Hospital, Randwick cares for more than 45,800 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 the country's leading centres in paediatric clinical and research excellence and is part of The Sydney Children's Hospitals Network, the largest network of hospitals and services for children in Australia. For more information, visit www.schn.health.nsw.gov.au

Zero Childhood Cancer Program Partners

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.

About Cure Brain Cancer

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.

About The Kid's 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.

About CTx

Cancer Therapeutics CRC (CTx) is in the business of finding cures for cancer. They are 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.

About NSW Health

For more information visit, www.health.nsw.gov.au

About The University of New South Wales (UNSW)

For more information visit, www.unsw.edu.au



INFORMATION SHEET

Zero Childhood Cancer: The science behind the Program

Each child's cancer is unique at a molecular level, determining the responsiveness or resistance of that child's cancer cells to various anti-cancer drugs. Two children who have the 'same' kind of cancer – say acute lymphoblastic leukaemia – and who show the same symptoms, may nevertheless respond very differently to the same anti-cancer drugs. For that reason, the goal of Zero Childhood Cancer is to treat each child's cancer in the most targeted way possible, with a view to pushing survival rates towards 100%.

Cancer cells taken from each child will be analysed biologically and genetically in great depth, in the laboratories of Children's Cancer Institute. The genetic changes that allow the cancer to thrive, and that indicate likely resistance or sensitivity to particular anti-cancer drugs will be pinpointed, and the drugs most likely to kill that particular child's cancer will be identified in the laboratory, by rapid screening of hundreds of potential drugs and drug combinations.

In addition to growing a child's tumour cells in laboratory test-tubes, the individual child's tumour will be grown in a biological model to get further indications of which drugs are likely to be most effective for treating that child's cancer. The child's clinician will then receive a report outlining the various findings, and then with guidance from a specialist group of doctors and researchers will use this information to guide their treatment, as part of a new national clinical trial.

In order to collate all the essential data from each patient that will be used to guide treatment decisions, Children's Cancer Institute is in the process of customising a state-of-the-art Laboratory Information Management System, which will allow this information to be linked and stored.

In addition, existing state-of-the-art robotic instrumentation at the Institute's ACRF Drug Discovery Centre, allows rapid high-throughput screening of individual patients' tumour cells against thousands of drugs and drug combinations, within hours.

Once all the necessary standard operating procedures and other capabilities have been developed and optimised, Sydney Children's Hospital will then open a small pilot study to ensure feasibility, safety and timeliness of this approach, including the delivery of laboratory information to clinicians to enable clinical decision making in real-time.

Children's Cancer Institute and Sydney Children's Hospital have won awards for their delivery of molecular diagnostic testing in real-time to clinicians around Australia for children with acute lymphoblastic leukaemia, the commonest childhood cancer. This testing identifies those children with this disease who are at highest risk of treatment failure, and guides the introduction of intensified treatment in these children by their oncologists. This approach has resulted in a doubling of survival rates for these high risk children, and has now been adopted as standard of care for children with acute lymphoblastic leukaemia around the country.

Zero Childhood Cancer is now building on that expertise, and on the strength of the bench-to-bedside partnership which researchers at Children's Cancer Institute and clinicians at Sydney Children's Hospital have established over many years, to now offer a more personalised approach to cancer care for all children with high-risk malignancies, not just leukaemia.