



It's not if. It's when.

ANNUAL REVIEW HIGHLIGHTS 2018



Children's
Cancer
Institute

A message from the Institute

2018 was a landmark year for the Institute, with some truly exciting progress made towards achieving our goal of saving the lives of all children with cancer.

A highlight of the year was the launch of our 5-year Strategy. This sets out bold plans to build on our 35 years of translational research with a new structure for our research teams to encourage collaboration and leverage new areas of technology. We have recruited two new, innovative research groups at the Institute: Associate Professor Mark Cowley joined us from the Garvan Institute of Medical Research to establish our child cancer Computational Biology Group, and Associate Professor Paul Ekert, previously a close collaborator based at the Murdoch Children's Research Institute, is establishing a Translational Tumour Biology Group. These world-class researchers and their teams add enormous strength and depth to our research program.

Moving towards Zero Childhood Cancer

Zero Childhood Cancer, Australia's first ever personalised medicine program for children with high-risk cancer, which we are leading in partnership with the Kid's Cancer Centre at Sydney Children's Hospital, Randwick, has moved ahead in leaps and bounds. The national clinical trial, launched in September 2017, now has more than 200 children enrolled from across Australia. For some children, this program has been life-changing, children like Ellie, whose story we are proud to share. We are on a path that will revolutionise how children with high-risk cancer will be treated.

New Hope for Terminal Brain Cancer

We made major inroads into improving the outlook for children with an incurable brain cancer called DIPG ('diffuse intrinsic pontine glioma'). Our research is taking a 'total therapy approach' – based on the belief that a combination of drugs, as well as other treatments such as radiotherapy, is most likely to lead to a cure. We have identified five drugs as potential new treatments for DIPG and, in November, were thrilled to see the first of these go to clinical trial at Sydney Children's Hospital. We now have hope to offer the parents of children with this devastating disease, when before there was none.

Our Future Vision – Children's Comprehensive Cancer Centre

Looking to the future, we are thrilled with the announcement that a Children's Comprehensive Cancer Centre – the first of its kind in Australia – will be built at Randwick, providing a new home for our growing team, closely intergrated with an expanded Kid's Cancer Centre at Sydney Children's Hospital. This will mean that over 500 researchers and clinicians, focused on curing children's cancer, will be working side by side, delivering outstanding research and world-class clinical care.

Your support makes success possible

While our researchers continue to deliver at the highest level, our Executive has continued to operate as a close-knit and effective team, and our Board remains extremely supportive. Add to this the outstanding work of our support staff, and it is easy to see that the Institute's success is all about its people.

Of course, none of us could continue our work without the Institute's many supporters. To cover the full costs of medical research, we need to match every dollar of grant funding with funding from the community. Our successes so far, and our future successes, rest on this support. We do hope you will remain with us on this most exciting of journeys, towards a future we all want to see: one that is free from childhood cancer.

Our Year in Review

Balmoral Swim

Since 2006, the Balmoral Swim has raised \$2 million for Children's Cancer Institute. Led by a volunteer committee, over 1000 swimmers participated and raised over \$200,000 for vital childhood cancer research.

New role created for emerging research leaders

A new role – Research Team Leader – was announced to help outstanding early-career researchers establish their own teams and become independent research leaders. In September, Dr Joshua McCarroll was appointed as the Olivia Lambert Team Leader to work in the Cancer Nanomedicine Theme. Dr Charley De Bock commenced in January 2019 to work on one of the most difficult-to-treat blood cancers in children: T-cell acute lymphoblastic leukaemia.

New hope for deadliest of brain cancers

Our Brain Tumour Group identified potential new treatments for a currently incurable brain cancer called diffuse intrinsic pontine glioma (DIPG). After testing thousands of drugs, the team has found five that show strong activity against DIPG. A new clinical trial testing the first of these drugs opened at Sydney Children's Hospital in November, with more trials set to follow.

CEO Dare to Cure

The inaugural CEO Dare to Cure campaign attracted 55 CEOs and Business Leaders, from a variety of industries to step out of their comfort zone and take on a dare challenge to raise over \$470,000 for our research.

Our most successful Diamond Ball



To commence Childhood Cancer Awareness Month, we held Diamond Ball in Sydney. 700 guests attended this magical night raising \$1.127 million, the equivalent to funding 11 senior researchers including all their consumables working at the lab bench for an entire year.

Translational Tumour Biology group established

Associate Professor Paul Ekert was recruited as leader of a new research group in Translational Tumour Biology. As well as playing a key role in the Zero Childhood Cancer clinical trial through the genomic analysis of tumour samples, Paul and his team aim to develop a new research program that applies novel findings from these analyses, to improve our understanding of tumours and how they might be targeted.

Mechanism behind chemotherapy resistance revealed

Research by our Leukaemia Biology Program has revealed how the most common cancer in children, acute lymphoblastic leukaemia (ALL), can become resistant to an important class of chemotherapy drugs called glucocorticoids. The discovery could lead to the design of new, more effective treatments for children with ALL.



Jan

Feb

Mar

Apr

May

June

July

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Sept

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Nov

Dec

Nanomedicine provides new way to target cancer

Our Tumour Biology and Targeting team showed that tiny particles called nanocells can successfully deliver chemotherapy directly to neuroblastoma cells, without harming normal tissues. A clinical trial of nanocells in children is well underway at Sydney Children's Hospital, Randwick, and the Children's Hospital, Westmead.



Townsville to Cairns Bike Ride celebrates 20 years

The Townsville to Cairns Bike Ride celebrated its 20th year, with 360 riders aged from 12 to 75 years cycling 358kms over 3 days raising \$460,000 for Children's Cancer Institute. Since 1999, this cycling challenge has raised over \$6.6 million for our childhood cancer research.

MRFF provides \$5 million funding boost

The Prime Minister announced \$5 million from the Medical Research Future Fund (MRFF) to boost the Zero Childhood Cancer program as part of the Australian Brain Cancer Mission. The funding will establish the program nationally for all children with high-risk brain cancer, fast track access to national and international brain cancer clinical trials and establish an immune profiling platform for the program to expand therapeutic recommendations for immunotherapy.



12-month results for Zero Childhood Cancer clinical trial

We announced the results from the first 12 months of the Zero Childhood Cancer national clinical trial, which is being led by our Institute in partnership with the Kid's Cancer Centre at Sydney Children's Hospital. In the first year of this trial over 130 children were enrolled from around Australia and a personalised treatment plan was recommended in almost 70% of cases in just 9 weeks.

New expertise in computational biology

Associate Professor Mark Cowley joined us to establish a new Computational Biology Group at the Institute. Computational biology is critical for our future success, developing innovative computational approaches to analyse the masses of data being generated through the latest genetic technologies. Mark's team are supporting all our research groups, in particular their analyses form an essential component of the Zero Childhood Cancer program.



On the cover - Mackenzie Kane was diagnosed with acute lymphoblastic leukaemia at just nine years old.
Top left - Kane was diagnosed with acute lymphoblastic leukaemia at just three years old.
Above left - Associate Professor David Ziegler, Group Leader Targeted Therapies, Clinical Research Fellow, Children's Cancer Institute.



How our research is helping kids like Ellie



Ellie was just eleven months old when she was admitted to the Sydney Children's Hospital, Randwick having been unwell for a couple of weeks. A scan revealed a tumour in her chest so large it was pushing her tiny heart and lungs to one side. Within days she was in the

Intensive Care Unit on life support because she could no longer breathe unaided. The tumour was aggressive, rare and resistant to chemotherapy.

"We waited 8 years for Ellie to arrive, to be told she may not survive broke my heart; I wanted to take the cancer away from her and would have taken it on myself rather than see her suffer as she did," Ellie's mum Mina said.

Ellie was immediately enrolled onto the Zero Childhood Cancer Program. This personalised medicine program, led by scientists and clinicians from Children's Cancer Institute and the Kid's Cancer Centre, Sydney Children's Hospital, Randwick, tailor's treatment to individual cancers through scientific analysis of their tumours.

Ellie's tumour biopsy was subjected to detailed genetic analysis, with the Zero team working around the clock to get results as soon as possible. Following sequencing of the entire genetic material of Ellie's tumour, through our partnership with the Garvan Institute of Medical Research, the specific genetic change likely to be driving Ellie's cancer was found.

The Zero Childhood Cancer team were able to identify her cancer as infantile fibrosarcoma with a rare translocation

likely to be driving her cancer's growth. They also identified and sourced a new drug that specifically targeted that genetic change. The treatment had an extraordinary impact. Within four weeks the cancer had shrunk to a point where Ellie could be taken off life support and could breathe on her own. Four weeks later she was moved out of ICU into the ward.

We know that if Ellie had been diagnosed with this cancer even two years ago she would have died, she is only alive today because of the Zero Childhood Cancer program."

– Ellie's mum, Mina

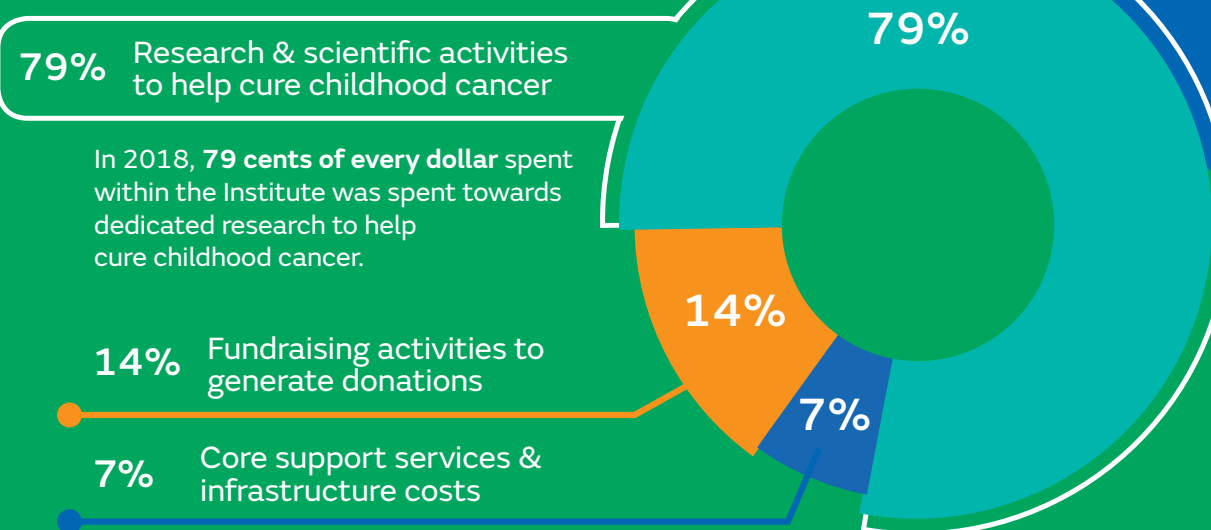
Today, Ellie and her family can't stop smiling. This happy, healthy young girl is looking forward to a year full of ballet, soccer and less hospital visits.

The Zero Childhood Cancer Program is a globally leading personalised medicine program for children with aggressive cancer and is one of the most exciting childhood cancer research initiatives ever undertaken in Australia. All eight Australian pediatric hospitals are participating in the national clinical trial with 21 national and international research partners supporting the program so that we can achieve the best possible results and ensure outcomes are shared in real time to help all children with cancer.

Together we are curing childhood cancer

“At this moment in time, more than any other in the Institute’s history, we are in a position to make a real difference.”

– PROFESSOR MICHELLE HABER AM
EXECUTIVE DIRECTOR,
CHILDREN’S CANCER INSTITUTE



FINANCIAL REPORT

Statement of comprehensive income For the year ended 31 December 2018

	2018 (\$'000)	2017 (\$'000)	2018 (%)
REVENUE			
Research (excl. Capital)	27,786	26,958	58%
Research - Capital	589	4,044	(incl. in above)
Fundraising	20,336	17,388	41%
Other	301	199	1%
	49,012	48,589	100%
EXPENSES			
Research and scientific activities	37,563	32,996	79%
Fundraising	6,797	6,272	14%
Support and administration	3,033	2,585	7%
	47,393	41,853	100%
Total comprehensive income for the year	1,619	6,736	

Statement of financial position As at 31 December 2018

	31 Dec 2018 (\$'000)	31 Dec 2017 (\$'000)
ASSETS		
Current assets	24,695	22,113
Non-current assets	19,930	20,902
Total Assets	44,625	43,015
LIABILITIES		
Current liabilities	5,773	5,795
Non-current liabilities	260	247
Total Liabilities	6,033	6,042
NET ASSETS	38,592	36,973
EQUITY		
Reserves	13,099	10,227
Retained surplus	25,493	26,746
TOTAL EQUITY	38,592	36,973



We can.
We will.

**CHILDREN'S
CANCER INSTITUTE**

Lowy Cancer
Research Centre
UNSW Sydney

1800 685 686
ccia.org.au
info@ccia.org.au

