

Landmark Lions project to provide genome sequencing to hundreds of Aussie kids with cancer

May 14 2016

Hundreds of Australian children with high-risk cancer will have access to new genome sequencing technologies that could guide their treatment, following the announcement today of substantial Lions Club funding for the Lions Kids Cancer Genome Project - an important new component of the Zero Childhood Cancer Program for diagnosis and treatment of childhood cancer.

The Project, which was announced today at the Lions Australia 2016 National Convention in Echuca, Victoria, is supported by the Lions Club International Foundation (LCIF) and by the Australian Lions Childhood Cancer Research Foundation (ALCCRF). Together, the two organisations are contributing AU\$3.2 million - one of the largest single philanthropic gifts for children's cancer in Australia - with a commitment from ALCCRF to raise an additional AU\$0.8 million over the next three years.

The Lions Kids Cancer Genome Project is a collaborative partnership, bringing together Australia's national personalised medicine program in [childhood cancer](#) - the Zero Childhood Cancer Program, led by Children's Cancer Institute and the Kids Cancer Centre, Sydney Children's Hospital, Randwick - and state-of-the-art capability in whole genome sequencing and analysis at the Garvan Institute of Medical Research.

In its first three years, the Project will provide whole genome sequencing and analysis for 400 children with high-risk cancer in Australia who will be enrolled in the Zero Childhood Cancer Program - one of the most detailed genetic and biological analyses of a child's cancer globally to date. Whole genome sequencing will take place following diagnosis or relapse of cancers with the poorest prognoses, such as brain tumours.

Whole genome sequencing looks at the entire genome and its 20,000+ genes in order to define the genetic changes associated with a given cancer. This makes it possible to develop personalised cancer treatment by integrating this genetic information with other biological and clinical data.

In addition, the study will identify genetic changes in each child's DNA that might predispose to cancer, helping to build up a database of genetic risk factors that could assist with prevention and treatment strategies in the future. Genome sequencing and analysis for the Project will be carried out at Garvan's Kinghorn Centre for Clinical Genomics (KCCG), which is the largest genome sequencing facility in the southern hemisphere.

Barry Palmer AM (past International President (PIP) of Lions International and LCIF), a long-time advocate for research to improve outcomes for children with cancer, announced the funding.

PIP Palmer says, "I am delighted that LCIF and Lions Clubs internationally have taken a strategic step towards developing a genome database which will benefit clinicians and researchers who work tirelessly to help children with childhood cancers.

"Lions are renowned worldwide for their service to the community. This project is another wonderful example of how we Lions are making a difference by helping create a brighter future for young people who

deservedly need our help to have a better chance at a healthy life as they are growing up."

Professor John Mattick AO FAA, Executive Director of the Garvan Institute of Medical Research, has worked closely with the Lions Clubs of Australia in developing the Kids Cancer Genome Project.

"This project has the potential to help kids and their families, not only in Australia but also around the world, and shows once again the extraordinary vision and generosity of the international Lions community," Prof Mattick says.

Professor Glenn Marshall AM, Director of the Kids Cancer Centre at Sydney Children's Hospital, Randwick and Clinical Lead for the Zero Childhood Cancer Program, says, "This funding provides the hope that we can better individualise treatment to fight cancer in children at high risk of relapse. It is an honour to stand with Lions Australia in advocating for our youngest Australian citizens."

"This is a very exciting initiative that will revolutionise the way in which treatment decisions about childhood cancer will be made," says Children's Cancer Institute's Executive Director Professor Michelle Haber AM. "The global Lions community's extraordinary contribution will enable us to provide new knowledge and hope for improved outcomes for children with the most challenging forms of cancer."

The project will roll out through the Zero Childhood Cancer Program to children's hospitals across the country in 2017, and is ultimately intended to be implemented internationally, in accordance with the Lions' ethos that "Every child deserves a chance at a healthy life".

PIP Palmer says, "Lions will be focussed on making this project a success for all concerned but especially those children we want to see

benefit from this project. It's early days, but if successful in Australia this pilot project could well provide a mechanism for many other countries to join us in our fight to eradicate deaths from childhood cancer - so that one day 100% survival for children with cancers becomes a reality."

Provided by Garvan Institute of Medical Research

Citation: Landmark Lions project to provide genome sequencing to hundreds of Aussie kids with cancer (2016, May 14) retrieved 20 March 2024 from

<https://medicalxpress.com/news/2016-05-landmark-lions-genome-sequencing-hundreds.html>

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