Dr Louise Ludlow, CCC Biobank Coordinator

VITAL EQUIPMENT TO SUPPORT THE CHILDREN'S CANCER CENTRE BIOBANK

In the world of paediatric cancer research, a freezer at -80°C isn't just a machine; it's a hope in the fight against childhood cancer.

At the RCH, the Children's Cancer Centre (CCC) Biobank is a specialised facility dedicated to the collection, preservation and management of biological samples obtained from patients. These samples are a crucial resource for advancing research and improving the diagnosis and treatment of paediatric cancer.

The collected samples are stored under extremely low temperatures. This includes freezing them at -80°C.

Thanks to philanthropy, the CCC Biobank has been able to purchase a new -80°C freezer and cryogenic unit, enabling them to stay at the forefront of biological sample storage and management, and ensuring the preservation of valuable research materials for generations to come.

"This equipment allows storage of samples required for ethically approved research projects including clinical trials and translational research projects.

"New research discoveries are only possible using samples of sufficient integrity; therefore, the freezer and cryogenic unit are essential for operation of the Biobank," said Dr Louise Ludlow, the CCC Biobank Coordinator.

The CCC Biobank plays a pivotal role in supporting cancer research efforts. Scientists and researchers rely on these samples to investigate the causes of cancer, develop new treatment strategies, and minimise the side effects of existing therapies.

In her role, Louise provides samples and related health information to scientists not only in Australia but worldwide. This vital work enables researchers to make groundbreaking discoveries, find better cancer treatments, and reduce the harmful side effects of cancer therapies.

"Advances in patient care rely on many factors, but the procurement of samples obtained in the operating theatre or in the clinic during the course of clinical investigation and treatment is crucial," Louise shared.

"The CCC Biobank is a resource for diagnostics and discovery. From a diagnostic perspective it allows for further testing to be done without the need for repeat patient samples or procedures.

"From a discovery perspective, the CCC Biobank has supported 44 translational research studies covering a wide range of tumour types and methods."

Louise shared a vision for medical advancements that is rooted in the CCC Biobank's mission and the impact it has on young cancer patients. She hopes for better treatment options, more years of life saved, and an improved quality of life.

"Our Biobank directly benefits every child and adolescent diagnosed with cancer at the RCH.

"Investigation into rare childhood cancers in the past has been limited due to paucity of biological material, and data from trials. This highly vulnerable group of children, with limited treatment options and potentially poor prognosis, including severe long term side effects from treatment, will have the greatest benefit."

She also emphasised the importance of continued collaboration between the CCC Biobank, oncologists, and translational research scientists. This collaboration fosters the sharing of information and data, and promotes the development of new technologies.

"The existence of our Biobank is central to the capacity to remain research active and nationally and internationally embedded in cancer research including cutting edge clinical trials."

Over the years, Louise has transformed the CCC Biobank into one of the largest and most respected of its kind. This remarkable achievement has been made possible through the support of the RCH Foundation and the Cancer in Kids Auxiliary (CIKA).

"The support and donations from CIKA are integral to advancing research into paediatric malignancy. The contribution of these samples to our national and international scientific research community and to our patients is immeasurable. We are extremely grateful that this funding of essential equipment allows us to operate in alignment with international biobanking standards," Louise shared.

"This equipment is essential for making new discoveries to cure cancer and to prevent the late effects of therapy. We are extremely grateful for the relentless and tireless work performed by CIKA to achieve these outcomes for our patients."

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Dr Louise Ludlow working with specimens in the CCC Biobank