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Curtin University

MEDIA STATEMENT

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BOOST FOR LIVER CANCER PATIENTS WITH NEW \$10.8 MILLION WORLD-CLASS RESEARCH CENTRE

Patients with primary liver cancer will benefit from a new \$10.8 million research centre to be established through a \$5 million grant from the Cancer Research Trust and \$5.8 million provided by charitable organisations, WA universities, a medical research institute and the State Government.

Primary liver cancer is where a malignant cancer starts in the liver. It is responsible for the third-most cancer related deaths worldwide, behind only lung and stomach cancer.

Rates of the most common form of primary liver cancers have been increasing steadily in Australia by 4-5% per year for the past three decades. Average survival after diagnosis is only 12 months and patients often present at an advanced stage when treatment options are limited.

Director of the Harry Perkins Institute of Medical Research, UWA Professor Peter Leedman, and Curtin University's Associate Professor Nina Tirnitz-Parker, from the School of Pharmacy and Biomedical Sciences and the Curtin Health Innovation Research Institute (CHIRI), will co-lead a large team that will apply the latest techniques to analyse patient tumours and test new treatments.

The Western Australian Liver Cancer Collaborative will include more than 50 researchers from UWA, the Harry Perkins Institute of Medical Research and Curtin University-CHIRI. It will also involve Perth's three main teaching hospitals as well as interstate and international collaborators.

Professor Peter Leedman said the new research centre would be a true collaboration of medical specialists, experts in liver disease and cancer researchers.

"It will establish a process, where patient samples are analysed and tested with a range of potential treatments.

"Interestingly, the diagnosis of primary liver cancer has typically been made with a blood test and an MRI, but not with a biopsy.

"We now have the latest advanced genomics technology in Perth that is able to analyse a liver tumour biopsy at the single cell level and look at each tumour's molecular fingerprint and individual pathology as well as compare a patient's early and late stage cancer," Professor Leedman said.

Some patient tissue will undergo advanced genomics analysis by UWA Professor Alistair Forrest at the Harry Perkins Institute while Curtin University will use patient tissue to grow organoids, or mini livers.

Associate Professor Nina Tirnitz-Parker said the new project aimed to improve outcomes for people with primary liver cancer.

"This new centre will establish organoids, miniaturised versions of an organ, from patient tumour samples that will be profiled," Associate Professor Tirnitz-Parker said.

“We will establish a repository of organoids that represent different tumour subtypes and then perform drug screenings and make informed decisions on the best possible treatment choices without any side effects to the patient.”

The Minderoo Foundation is providing \$2.5 million, Curtin University \$1 million, and \$500,000 each is being provided by UWA, the Harry Perkins Institute of Medical Research, the WA Health Department and the Sir Charles Gairdner Hospital Foundation. The McCusker Charitable Foundation is contributing \$300,000.

Professor Leedman says the team aims to develop a unique large resource of approximately 500 liver cancer samples over five years from across Australia, which on a global scale is a sizeable number.

“By defining the underlying biology of each tumour, we will be able to provide more precision in treatment selection, eventually matching the ‘right patient to the right drug’ but we also expect to uncover new pathways that can be attacked with new drugs,” Professor Leedman said.

Associate Professor Tirnitz-Parker said the team was incredibly grateful to the Cancer Research Trust for its \$5 million grant matched by further \$5.8 million from generous donations.

“Such a significant investment in liver cancer research will enable us to develop a world-class bio-bank and collect extensive data that will be available to researchers and medical specialists around the world,” Associate Professor Tirnitz-Parker said.

“Most importantly, the Centre will make a difference to the treatment of liver cancer and contribute to greater international understanding of the disease.”

WA Health Minister Roger Cook said it was a pleasure for the McGowan Government to contribute funding to The Western Australian Liver Cancer Collaborative, alongside eminent Western Australian institutions.

“Effective research is about more than giving dollars to help solve a problem,” he said.

“That’s why it’s so heartening to see this truly collaborative Western Australian approach, with interstate and international input, applied to liver cancer research.

“The application of substantial combined effort, strategic thinking and the latest advanced genomics technology is sure to advance us much further on the path to unlocking the mysteries of this aggressive cancer that devastates far too many lives.”

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