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\$41m for world-first cancer research project at Westmead

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The NSW and federal governments have announced a \$41 million boost in funding to expand world-first research at Westmead that is revolutionising the detection, diagnosis and treatment of cancer patients.

The joint investment will support the work of ProCan, a project at Westmead Children's Medical Research Institute (CMRI) that is analysing the proteins of 70,000 cancer samples.

Led by professors Phil Robinson and Roger Reddel, ProCan is using new technologies known as mass spectrometers to quantify the dif-



An artist's impression of the Blacktown Hospital revamp.

ferent proteins in the microscopic samples and map the results against drugs that have proven effective and ineffective for each case. In a cancer cell, faulty proteins are produced by mutations in the cell's DNA, allowing the cell to divide and multiply uncontrollably.

These proteins interact with, and affect the ability of, cancer drugs to treat patients, especially those with rare cancer forms.

"In order to understand cancer and, more specifically, to predict what will be the most appropriate treatment for any individual patient, we have to understand the proteins within cancer cells, as that is what makes everything happen [in the cell] and that's what most cancer treatments target," said Professor Reddel, who also serves as the CMRI director.

While many existing cancer drugs can target and break down specific proteins, ProCan is developing a globally available database that will make it possible to predict

with "increased accuracy" the best drug combination for any individual patient, Professor Reddel told the *Herald*.

The project was launched at the CMRI in 2016 thanks to a \$10 million grant from the Australian Cancer Research Foundation, one of the largest equipment grants in Australian history.

Since its launch, ProCan has developed the technology to "analyse thousands of proteins in thousands of cancers on a mass scale ... around the clock: 24 hours a day, seven days a week," Professor Reddel said.

It has already analysed 5500 proteome samples in the course of optimising the technology, well be-

yond what anyone has been able to previously examine.

The NSW government is investing a further \$21 million into the project, with the Commonwealth government fronting up the remaining \$20 million.

"This will also boost NSW's international competitiveness and reputation for being at the forefront of research and innovation," Premier Gladys Berejiklian said.

Ms Berejiklian and Health Minister Brad Hazzard also announced that the maternity, birthing and paediatric services will be expanded at Blacktown Hospital, which has broken records with more than 300 recorded births in a single month this year.