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New centre for pandemic therapeutics

A new Global Centre for Pandemic Therapeutics aims to accelerate the development of drugs thanks to an “astounding” AUS\$250 million gift. Jacqui Thornton reports.

The COVID-19 pandemic has shown that vaccines alone are not enough to deal with emerging or re-emerging infectious diseases, but effective antiviral therapeutics can take much longer to develop. So far, at least 21 vaccines have been authorised for limited or emergency use for COVID-19, whereas treatments have been developed more slowly and initially had limited effectiveness at reducing disease severity.

On August 31, the Cumming Global Centre for Pandemic Therapeutics was launched in Melbourne, VIC, Australia, with the aim to address this gap and emphasise the long-term exploration of new treatments for diseases with potential to cause pandemics. It will be part of the Peter Doherty Institute for Infection and Immunity, a world leader in pandemic virus research, which is led by its Director, Sharon Lewin. She said “we’re not competing with drug companies; we are going to focus on technologies that could eventually deliver antivirals in a much shorter timeframe than what we have now”.

The Centre has been made possible following a gift of AUS\$250 million (£147 million), the largest donation of its kind for biomedical research in Australian history, from the Canadian economist-turned-businessman Geoff Cumming. Prof Raymond Schinazi, Frances Winship Walters Professor of Pediatrics, Emory University, Atlanta, GA, USA, described the generosity as “awesome” and “unique”. Schinazi, who is renowned for the development of drugs for HIV and hepatitis B and C, added “I was astounded by the magnitude and very pleased that it’s going to the right place.”

The Centre was created after a series of meetings between Cumming and Lewin. The Doherty Institute came to the fore at the start of the COVID-19

pandemic when it became the first institution outside China to isolate and grow SARS-CoV-2 in cell culture.

Schinazi said that Lewin “thinks outside the box and way beyond the box sometimes”, while being respectful of other disciplines. “Sharon’s leadership, with her stature and knowledge, is absolutely essential for it to be successful.”

Cumming studied economics in the UK and Canada and first worked for the Government of Alberta, Canada. He then worked in the investment sector, oil and gas industry, and in property, but always had a philanthropic streak. He previously gave CAN\$100 million (£65 million) in 2013 to his alma mater the University of Calgary, for research at the medical school. Those who know him say that he understands governments and politicians.

At the launch of the Centre, Cumming paid tribute to his parents, Harold, a doctor, and Madeleine, who sat on the medical admissions committee at Queen’s University, Kingston, ON, Canada. “This gift is as much about honouring them—my father has now passed, and my mother just turned 100 years old—as it is about bringing more equality into the world by ensuring everyone has access to treatment from illness, which was brought to light by COVID-19.”

One difference with other research institutions is that funding will be given to researchers over 20 years, with reviews every 5 years, unlike the usual short grant-funding cycles, and 20% of its funding will be reserved for blue sky research. Prof Bruce D Walker, Director of the Ragon Institute of Massachusetts General Hospital, Massachusetts Institute of Technology, and Harvard University, MA, USA, which is also philanthropically endowed, said

that this structure is particularly significant. “The transformative impact of long-term flexible funding for science has been proven again and again, but I think it is the rare philanthropist who really understands this”.

“Rather than waiting sometimes years for a grant to be approved, these scientists will be able to take their most innovative ideas forward immediately. Grant funding agencies tend to be very conservative, tending to shy away from high-risk but potentially very high-impact projects. That makes the ‘blue sky’ funding this donor is providing extremely important.”

The vision is to enable the rapid design and testing of plug-and-play antiviral therapeutics using pre-existing molecular platforms, modified to generate new treatments hours or days after a new virus is identified. Because these platforms will already exist, the time needed for testing and regulatory approval should be reduced. This process will be assisted by computation, artificial intelligence, and machine learning technology. In the later research and development stages, there will be an increasing focus on partnership with global research bodies and industry. Schinazi hopes this approach will become a model not just for Australia but also other countries, with philanthropy providing significant funding.

For now, Cumming said his gift is in recognition of the incredible research talent that Melbourne has, which shone through during the COVID-19 pandemic. He added “however, it really is a gift to the world to ensure we are prepared for the next pandemic and that we can save lives”.

Jacqui Thornton