

CASE STUDY 8: NUCLEUS NETWORK (CLINICAL TRIALS VICTORIA)

The Victorian Government’s investment in Clinical Trials Victoria was instrumental in building the State’s current strength in early-phase clinical trials through what is now known as the Nucleus Network. This capability would not have existed without this support from the Victorian Government.

AUSTRALIA’S LARGEST
Phase 1 clinical trial organisation

MORE THAN 800 
Phase 1 clinical trials for biotechnology and pharmaceutical companies

 **OVER 200**
beds across Australia and the United States

AUSTRALIAN WORKFORCE OF AROUND
400 specialists

IDENTIFIED PROBLEM/GAP

Victorian Government investment in Clinical Trials Victoria aimed to increase the Victorian systems’ capability and capacity in early clinical trials. Prior to this investment, there was limited clinical trial capability within Victoria and very few other sources of financial support. Existing capability was mostly limited to cancer research. Clinical research organisations that conduct early clinical trials usually go on to secure later trials, hence the identified gap in early-stage trials was limiting for Victoria’s entire clinical trials capacity.

OVERVIEW OF THE INVESTMENT

Originally known as Clinical Trials Victoria, the organisation was part of a consortium that received \$8 million in funding in 2003 through the Second Round of the STI First Generation Infrastructure Program. Clinical Trials Victoria received approximately \$2 million in funding for its operational costs, with the Centre for Clinical Studies and Cancer Trials Australia sharing the remainder. Clinical Trials Victoria was required to administer the \$2 million to develop a 24-bed Phase 1 trials unit as part of a Centre for Clinical Studies. The funding provided to Cancer Trials Australia was used to establish and operate two research Positron Emission Tomography scanning machines, along with laboratory capacity at Royal Melbourne Hospital.

In 2005, the Baker Heart Research Institute took over Clinical Trials Victoria to improve its reach and impact. The Baker Institute merged the Centre for Clinical Studies with Clinical Trials Victoria to form the Nucleus Network. In 2018, Nucleus Network was sold to an Australian private equity firm, Crescent Capital Partners, which continues to invest in the organisation today.

This document provides an extract of KPMG’s findings during the course of the work undertaken for the Department of Jobs, Precincts and Regions under the terms of the engagement letter dated 29 September 2020. The contents of this document do not represent our conclusive findings, which are contained in our final detailed report available at djprvic.gov.au/victorias-lead-scientist

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IMAGE CREDIT: PATRICK ROCCA, ABC

IMPACT

The formative funding provided to Clinical Trials Victoria was integral to its establishment. Nucleus Network is now Australia's largest Phase 1 clinical trial organisation. With clinics in Melbourne, Brisbane and the United States, Nucleus Network has conducted more than 800 Phase 1 clinical trials for biotechnology and pharmaceutical companies. It has over 200 beds and an Australian workforce of around 400 specialists. Within Victoria, Nucleus Network employs around 170 staff, with support from additional casual staff. Its facility in Melbourne is co-located with the Alfred Research Alliance Precinct, which houses 2,000 to 3,000 medical professionals and researchers.

In 2008, 75 percent of Nucleus Network's revenue came from international customers. This has increased to over 90 percent today. In recognition of the important role Nucleus Network played in building an export capability for the State, the Nucleus Network received the Victorian Export Award for Innovation Excellence and the Emerging Exporter Award at the 2008 Governor of Victoria Export Awards. A 2009 review of the *STI Initiative* estimated that export revenues to that point had generated around 85 new permanent jobs and 50 part-time jobs at Nucleus Network.

The education arm of Nucleus Network also played an important role in training staff in the clinical trials sector to raise the awareness

and standard of Good Clinical Practice. This work enabled the success of other clinical trial organisations across Australia. Between 2003 and 2008, Nucleus Network Education trained 1,198 industry professionals across Australia and in New Zealand.

The work of Nucleus Network also generates indirect flow-on benefits for the Victorian economy. A 2009 review of the *STI Initiative*, found that each trial conducted generates additional activity from local trial monitors, from sponsor companies or from other contract research organisations. The flow-on benefits are estimated to be around 30 percent of the revenue earned by Nucleus Network. This additional activity would not have occurred without the initial investment and was estimated to have generated an additional 30 FTE jobs. In addition, Nucleus Network helped establish Pharmaceutical Packaging Professionals Pty Ltd, a company dedicated to specialist drug development and manufacturing.

In April 2020, Nucleus Network was tasked by biotechnology company Novavax to begin Phase 1 clinical trials of a new COVID-19 vaccine – the first time a COVID-19 drug had been trialled in humans outside of the United States and the United Kingdom. Nucleus Network had previously worked with Novavax as part of the development of their Ebola vaccine in 2015. Nucleus Network is also working with the Serum Institute of India and Accelagen on Phase 1/2 trials for another COVID-19 vaccine.