



Dr Philip Choi, lead researcher and stroke neurologist

Eastern Health: Bridging the gap between urban and regional stroke care

Victorian stroke neurologist, Dr Philip Choi's 2021-22 pilot study, funded by an Avant Foundation grant, aimed to improve access to specialist care for regional stroke patients.

Dr Choi identified that while stroke patients living in metropolitan areas have access to specialist stroke unit care led by subspecialised neurologists or stroke physicians, most regional stroke patients receive care from junior medical staff supervised by general physicians or GPs. This inevitably impacts the management and recovery of regional stroke patients.

"While regional Victorians suffer from an over-represented stroke disease burden, they are disadvantaged from an under-serviced stroke system of care, particularly in the acute inpatient period," Dr Choi says.

Dr Choi and his team aimed to address this gap, with his Bridging the Urban and regional Divide in Stroke care (BUILDS) pilot study.

The primary aim of this research was to assess the feasibility of implementing a novel tele-stroke unit consultative service at Echuca Regional Health. The ambition was to improve the quality of acute stroke inpatient care by ensuring every admitted stroke or suspected-stroke patient has access to stroke subspecialist input during their inpatient stay.

The BUILDS stroke neurologist partners with local clinicians, including an adequately resourced Stroke Coordinator to provide 'true stroke unit care'. An additional aim was to foster interest and expertise in stroke care through medical stroke leadership and creation of a series of fit-for-purpose educational

presentations on acute stroke management tailored to medical staff working in regional areas.

"The technology-driven system-of-care addressed the inequality in acute stroke care in a regional hospital. Subspecialty stroke inpatient clinical support is provided through daily telemedicine ward rounds and case conferencing, as well as regular targeted educational presentations for local clinical staff," Dr Choi explains.

Existing telehealth models of care for greater efficiency

Dr Choi and his research team partnered with Echuca Regional Health for the 12-month program. The stroke service at Echuca, led by Lauren Arthurson (a speech pathologist by training) has a proven track record in quality innovation in telehealth stroke care.

Dr Choi used funds from the Avant Foundation grant towards purchasing basic equipment to enable tele-medicine consults, salary support of a local stroke coordinator and for the stroke neurologist's time.

Timely care and better outcomes

BUILDS aims to improve the outcomes of survivors of stroke in regional areas of Australia. With this in mind, Dr Choi collected clinical data as well as patient and staff feedback throughout the pilot. This information was used to refine the model and develop a case for continuity of the service at Echuca and has been utilised to commence planning for expansion into other regional areas in Victoria and beyond.

"A tele-stroke unit model ensures key components of stroke unit care; a well-resourced stroke coordinator and ready access to stroke medical expertise, are available to all admitted stroke patients. This ensures timely diagnosis, and therefore appropriate investigations and treatments," Dr Choi says.

Positive response leads to further funding

The BUILDS pilot program has received positive feedback from both patients and local clinicians. The Echuca Hospital executive team have been impressed by the patient outcomes and capacity building of the local clinicians and will transition this tele-stroke unit model into its usual care. The study was so successful it has secured further funding to expand into two more regional centres in 2023.

"Due to the success of the pilot, as supported by the Avant Foundation grant, we have secured further funding in July 2022 and we are looking forward to piloting BUILDS in two other regional health services in 2023: Burnie in Tasmania and Sale in Victoria," Dr Choi says.

Dr Choi of Eastern Health was the lead researcher of the project that received an Avant Foundation grant. He is an adjunct senior lecturer with Monash University and a stroke neurologist based at Box Hill Hospital in Melbourne.