

Stroke-capable ambulances are coming

from The Australian Stroke Alliance

Standard road ambulances, equipped with digital links to a stroke neurologist, are being developed for two very different regions of New South Wales. They will be the first of six to be trialled around the country within the next 18 months under the Australian Stroke Alliance's Golden Hour program.

Not to be mistaken with the large mobile stroke unit which carries a CT scanner and a medical team including a radiographer, the latest initiative uses standard Mercedes Benz Sprinter ambulances.

Known as stroke-capable road ambulances, the digitally connected vehicles are being designed as part of a collaboration with South Western Sydney Local Health District, The Ingham Institute for Applied Medical Research, and John Hunter Health and Innovation Precinct. The teams aim to have the two enhanced ambulances on the road in the first quarter of 2021.

According to NSW Ambulance Commissioner, Dr Dominic Morgan: "When a patient suffers a stroke, time is critical and early treatment options are vital".

"The trial of these new stroke-ready ambulances in Sydney's south and Hunter region will allow for important communication between paramedics and offsite neurological teams who can assist in the initial treatment of the patient and in turn have crucial diagnostic information ready for the patient's arrival at hospital," says Dr Morgan.



► NSW Ambulance Mercedes Benz Sprinter to be used for the stroke-capable ambulances.

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Dr Dominic Morgan,
Commissioner, NSW Ambulance



▲ Dr Dominic Morgan



► Prof Chris Levi, Director,
John Hunter Health and Innovation Precinct

Professor Chris Levi, director of the John Hunter Health and Innovation Precinct, and the NSW statewide advisor for emergency medical records, is driving the project in his region. “We’re creating enhanced stroke diagnosis and treatment support for paramedics without changing the build of any ambulance,” he says.

“It’s essential that we deliver a model that breaks down barriers to urgent pre-hospital stroke care, regardless of location,” he says.

What type of stroke?

As any paramedic will attest, stroke is a notoriously difficult condition to treat, given the time constraints and the need to accurately diagnose an ischaemic or haemorrhagic stroke.

The stroke-capable road ambulances will use an integrated digital communication platform to assist paramedics in early identification of stroke. The digital platform will be linked via a phone-based app to a cloud-based network and is being co-designed by paramedics, enabling clinical data entry, clinical decision support, and more effective communication between pre-hospital and in-hospital teams.

This will include video conferencing between the paramedic and off-site neurologist as they make treatment and transport decisions.

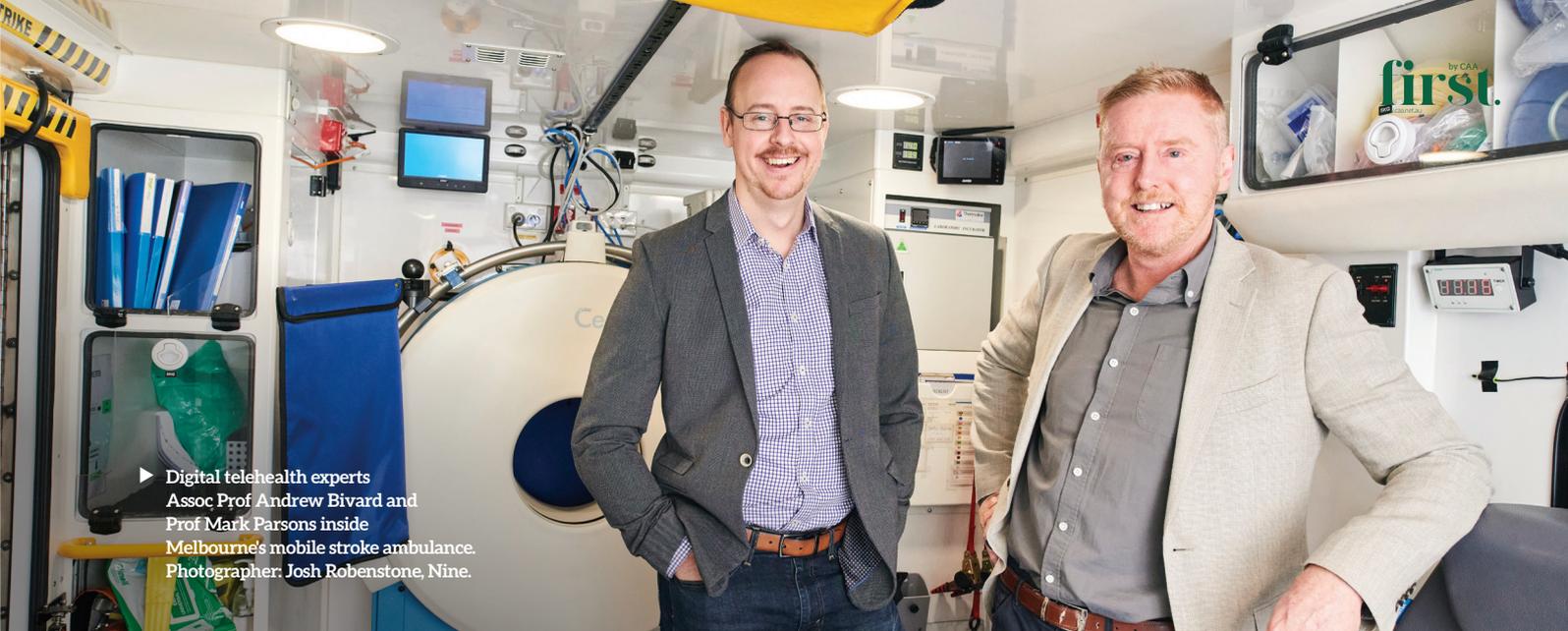
The digital platform will pre-notify an incoming stroke patient, ‘scrambling’ the hospital emergency, stroke, radiology, and interventional teams into earlier action and brain-saving stroke treatment.

It will be invaluable for patients suspected of having a large vessel occlusion requiring clot retrieval. Use of the stroke digital platform app will mean an ambulance can potentially go directly to a specialist clot retrieval centre where a neurointerventional team is waiting.

“This has the potential to prevent multiple interhospital transfers in rural areas, saving three or four hours before treatment typically begins,” Prof Levi says.

“The Hunter region, like other parts of regional Australia suffers from inequity of access to advanced stroke care. Bringing neurologists and paramedics together in a virtual care model builds on the Hunter’s foundation work in establishing the platform for hospital-based telestroke now running statewide.”

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▶ Digital telehealth experts Assoc Prof Andrew Bivard and Prof Mark Parsons inside Melbourne's mobile stroke ambulance. Photographer: Josh Robenstone, Nine.

Familiar clinical scoring tools

According to Professor Mark Parsons who is spearheading the South Western Sydney rollout, the stroke-capable ambulance digital platform will be a one-stop-shop, allowing paramedics to use clinical scoring tools relevant to their locality, such as the ACT-FAST and HUNTER8 scores.

"Paramedics in different regions have different exposure to stroke scoring tools. For the first time, we're condensing the dialogue and bringing together the multidisciplinary team involved in the chain of stroke care with a user-friendly application integrating diagnostic tools that our paramedic colleagues are familiar with," says the Executive Director of the Sydney Partnership for Health Education, Research and Enterprise (SPHERE).

"Southwestern Sydney serves more than 1 million people and is unique for its socioeconomic and cultural diversity. We are determined to ensure our community receives the highest standard of stroke care. Timely access to brain saving acute stroke treatments is the key to better outcomes. This project is an important step to achieve gold standard stroke care."

The two Hunter and Liverpool vehicles, to be launched in late 2021, will be the first of six to be rolled out across the next 24 months in Victoria, Queensland and South Australia. According to Australian Stroke Alliance CEO, Dr Damien Easton: "We are working closely with ambulance partners to develop solutions for each state and territory as part of our mission to enhance access to early stroke care in regional communities across Australia".

"We hope NSW and Victoria will be delivering data within 12 months and SA and Queensland within 24 months."

As reported in First previously, the Australian Stroke Alliance is overseeing the design and construction of lightweight, affordable brain scanning devices for road and air ambulances. It is hoped trials will begin by 2023. The stroke-capable road ambulances will be the first to test the devices.



▲ Dr Damien Easton
CEO Australian Stroke Alliance



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