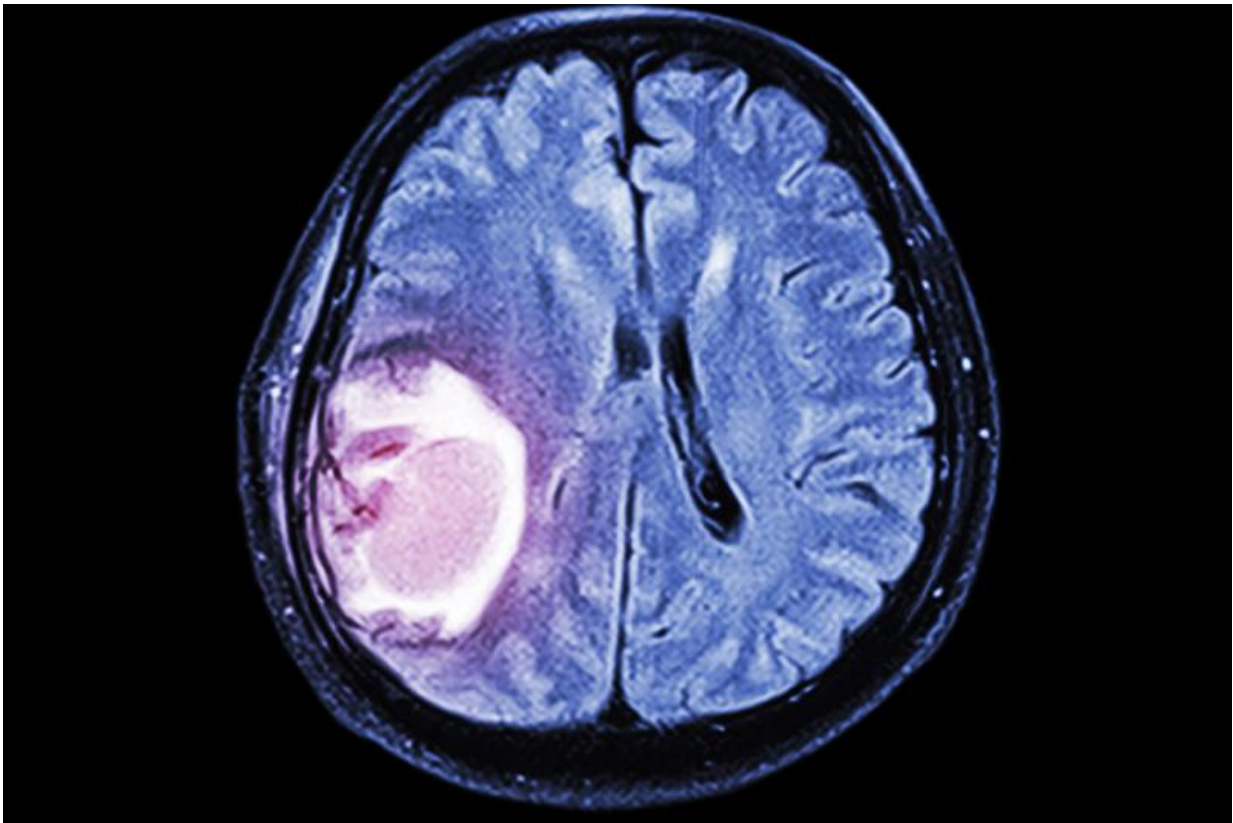# How a nurse's smart phone could prevent stroke

September 2 2016, by Fiona Mcgill

Credit: University of Technology, Sydney

One in four strokes – Australia's second largest cause of death and disability – is caused by atrial fibrillation (AF) or irregular heartbeat. Those strokes will be often larger, more severe and with worse

outcomes, but many are preventable.

Prevention is two-fold, relying on early diagnosis and correct treatment, with knowledgeable and proactive nurses able to play a key role, says UTS nurse researcher Dr Caleb Ferguson.

"Nurses are highly skilled professionals in patient education and counselling – on lifestyle, diet, and exercise, for example – and in advocating for patients and caregivers," says Dr Ferguson, who is a registered nurse and stroke nursing expert.

"They also have a role to play in risk assessment, but our recent study found that many are poorly informed about the importance of blood-thinning medications for stroke prevention in atrial fibrillation.

"One in four patients who starts on warfarin will stop within 12 months. Why is that? And what can nurses do to turn that around?"

Dr Ferguson says his team's previous research has shown that one in three patients hospitalised for atrial fibrillation with chronic heart failure did not receive blood-thinning drugs when they were discharged. Patients with atrial fibrillation may also suffer from frailty, cognitive impairment and other chronic diseases; they may also live alone or be homeless. All are factors that can complicate a treatment regimen, he says.

"The better informed and engaged the patient and caregiver are, the better the chances of someone taking their medication regularly and over time," he says.

That is where the importance of a well-informed nursing workforce comes in.

Dr Ferguson is leading a study to examine how an interactive education tool called Qstream, developed by Harvard Medical School, could help nurses keep their skills and knowledge up to date and be more hands-on in managing at-risk patients.

The tool, used as a smart phone app, uses a spaced learning approach – the user must answer questions correctly in order to move to the next stage. Studies have shown it to be effective in boosting long-term retention of knowledge.

Stroke and cardiovascular nurses at Prince of Wales and Royal Prince Alfred hospitals and rehabilitation nurses at Sutherland Hospital will participate in the study. It will examine the 150 nurses' knowledge across 12 patient scenarios over a six-week period.

Dr Ferguson hopes this is the precursor for a larger study that evaluates the impact of a spaced learning, smart-phone based intervention on patient outcomes.

More information: Caleb Ferguson et al. Education and practice gaps on atrial fibrillation and anticoagulation: a survey of cardiovascular nurses, *BMC Medical Education* (2016). DOI: 10.1186/s12909-015-0504-1

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