

# Researchers find key to stroke survival

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Credit: University of Aberdeen

The number of trained nurses available to treat patients immediately after a stroke is the most reliable health services predictor of survival according to research from the University of Aberdeen and University of East Anglia.

Having the optimal number of trained nurses available to look after patients in an acute stroke unit was consistently found to be the best predictor of survival from stroke - after personal health factors were accounted for, such as age, stroke severity and blood pressure.

The study found that just one additional trained nurse per ten beds could reduce the chance of death after thirty days by up to twenty-eight per cent, and after one year by up to twelve per cent.

The number of consultants, type of hospital and level of support offered at discharge were some of the factors compared in the analysis to find which aspect of health service is the most valuable. Patient survival at seven days, thirty days and one year after stroke was recorded.

In the study, funded by the National Institute for Health Research's (NIHR) Research for Patient Benefit (RfPB) Programme, the results showed that at each time point, the ratio of trained nurses to patients predicted whether or not the patient would survive. Also, nurse to patient ratio was the only factor that could reliably predict whether the patient would have survived or not at one year post-stroke.

The full paper is published today (October 28) on the eve of World Stroke Day, in *Age and Ageing*, the Journal of the British Geriatrics Society.

Professor Phyo Myint, Professor of Old Age Medicine at the University of Aberdeen, led the study with colleagues from the University of East Anglia, Norfolk and Norwich University Hospital, Anglia Stroke & Heart Clinical Network, and Addenbrooke's Hospital, Cambridge. The data were gathered from an audit of eight hospitals in the East of England and supplemented to investigate predictors of survival from stroke.

Professor Myint said: "This is surprising - we didn't expect to find this.

"We might expect more obvious aspects of health care to have a greater impact on survival, such as, having a team to support early hospital discharge, or the proportion of acute and rehab beds on the unit.

"Instead, we found that, when controlling for all other variables, an increasing nurse to patient ratio has a substantial effect on reducing likelihood of death after stroke. This proved to be a very clear and consistent predictor of stroke survival.

"Our figures show that there aren't too many extra [stroke](#) nurses required to significantly improve survival - in fact, only one extra trained nurse per 10 beds would see a reduction in mortality at 30 days by up to twenty-eight percent and up to twelve percent at one year. "

Amanda Cheesley, Professional Lead for Long Term Conditions and End of Life Care at the RCN said: "The importance of having the right number of nurses in place can't be overstated. This research echoes findings in other areas of health care where there is a clear link between the number of registered nurses and patient safety.

"It also once more highlights the vital difference that specialist nurses can make. Too often senior and specialist nursing posts have been cut to save money, but their expertise and experience has a measurable positive impact on patients."

**More information:** undefined undefined. OUP accepted manuscript, *Age And Ageing* (2016). [DOI: 10.1093/ageing/afw175](https://doi.org/10.1093/ageing/afw175)

Provided by University of Aberdeen

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