

## **Is it cost - effective to introduce a stroke unit in Auckland?**

**Braden Te Ao<sup>1</sup>, Paul Brown<sup>1</sup>, Valery Feigin<sup>2</sup>**

<sup>1</sup>University of Auckland, School of Population Health, <sup>2</sup>National Research Centre for Stroke, Applied Neurosciences and Neurorehabilitation (NRCSANN), Auckland University of Technology

### **Background**

Despite reported clinical benefits, only six hospitals in NZ currently have a dedicated stroke unit. Stroke units are known to be more costly, but proponents claim the health gains will justify the expense. Little evidence is available on the cost effectiveness of existing stroke units in New Zealand. The purpose of this study is to compare costs and outcomes from patients admitted to a stroke unit in NZ with those admitted to a general ward.

### **Methods**

Data on 1735 stroke sufferers from the ARCOS III was used in the study. Costs, places of residency (home, residential care or death) were identified at 1 month, 6 months and 12 months post stroke. A system dynamic model was developed from interviews with key stakeholders and populated with data from the ARCOS III. The model was constructed to evaluate if and under what conditions stroke units could be cost effective.

### **Results**

Analyses from the results suggest no differences in costs of care (\$26,236 compared with \$24,454) or health outcomes (prob of being alive at 12 months of 68% compared with 67%) between patients admitted on a stroke unit vs. those admitted to a general ward. However, interviews with key stakeholders suggest significant barriers exist to discharging patients in a timely fashion. Simulation results suggest that under ideal conditions, a 15 bed Stroke Unit would have an incremental cost effectiveness ratio of \$707 per month alive and \$8,484 per full life year gain.

### **Conclusion**

Stroke unit care may possibly be cost effective, but significant barriers exist to realising the benefits.