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RESEARCH DIRECTIONS

Going with the flow

Associate Professors Anneke Fitzgerald and Terry Sloan and Dr Premaratne Samaranayake from the Centre for Industry and Innovation Studies Research Group along with Professor Simeon Simoff and Mr Mark Johnston from the School of Computing and Mathematics and Ms Amanda Larkin, General Manager of Campbelltown Hospital are working to optimise patient flow in hospital emergency departments to reduce waiting time and increase bed availability. This Linkage project is funded by the Australian Research Council and Campbelltown Hospital.

'Emergency department capacity is a pressing concern for patients, governments and health departments,' explains Associate Professor Fitzgerald. 'After admission as a patient, the waiting time for an available bed can be many hours. With an ageing population, better health education and more chronic illness, there has been an increase in the demand for hospital emergency department services. Shortage of general practitioners in the community has also contributed to this increase. Improving work processes in emergency departments is a complex issue involving rapidly changing conditions and limited resources and there is much room for improvement with many established processes being ad-hoc, rather than systematic. This research will develop innovative methods to produce a visual model, showing how different factors in emergency department processes can impact on efficiency and effectiveness.'

Analyses of documents, observations and interviews will be used to get an understanding of "real-world" processes in an emergency department which will be complemented by data available from information systems in the department. A computer model will be developed and tested using hospital data.

It is intended that this model will become a very powerful tool for streamlining hospital emergency department operations and for more effectively analysing and implementing changes.

Improvements in the efficiency and effectiveness of hospital emergency departments will lead to better and more timely patient care, reduce overcrowding, increase the number of beds available for patients and decease their length of stay. Better patient flow will also reduce ambulance diversions to other hospitals and save time and money. By successfully optimising patient management with this model, it may also be possible to provide improvement recommendations for other critical health services for the Australian community.

Project Title: Visual optimisation of patient flow in Hospital Emergency Departments.
Funding has been set at: $95,000
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