

CASE STUDY > Government > NSW > 2004

E-learning ambulance trainees top the class

Organisation Profile and Objective: Ambulance Service of New South Wales

The Ambulance Service of New South Wales (NSW) has incorporated innovative online medical simulations in its training program for paramedic staff.

The Ambulance Service of NSW employs close to 3,000 people at more than 228 locations across the State, and operates more than 1,100 ambulance vehicles, including support vehicles and ambulance aircraft.

The Service is an integral and dynamic part of the New South Wales health system. The men and women of the Ambulance Service are dedicated to maintaining excellence in the provision of pre-hospital emergency care and health related transport services to the people of NSW.

The Ambulance Education Centre (AEC) situated at State Headquarters in Rozelle, is the predominant centre for all Ambulance Officer training. All recruit training and in-service training for Ambulance staff is carried out at the AEC, which is proving to be a leader in utilising the benefits of e-learning to train its widely dispersed staff.

The Ambulance Service has developed a pre-hospital online emergency simulation program (ResusSim™), which contains 45 patients requiring different medication interventions to revive them and includes simulations of unexpected adverse reactions and treatment failures.

Trials carried out in 2003 by the Ambulance Education Unit (AEU) showed that paramedics with access to computers for resuscitation training achieved consistently higher average scores across a range of assessment measures than trainees who did not have access to e-learning support.

Getting there – the Framework connection

The trials were funded and supported under the Flexible Learning Leaders (Leaders) project, which is part of the Australian Flexible Learning Framework (Framework).



Ambulance Service of New South Wales Officers practice vital life-saving techniques on a mannequin (photo courtesy of the Ambulance Service of New South Wales)

Under the Leaders project, innovative education and training professionals from across the country applied for funding from the Framework to develop areas of expertise in flexible learning.

The Framework was established in 2000 to support the vocational and educational training (VET) system to meet the rapidly increasing demand for flexible learning, including e-learning, from industry, enterprise and clients. It aims to connect industry and enterprise with people who are experienced in using e-learning in training environments. It provides opportunities to make connections with useful networks and resources that can be accessed by the health industry.

2003 Leader and Ambulance Service of NSW Special Operations Training Coordinator Steve Matheson said the e-learning resources gave trainees access to a simulated real-life experience that evoked the similar pressure of trying to keep a patient alive.

"The trials involved a flexible, blended learning approach combining traditional face-to-face instruction and assessment with computer-based activities and immediate online critical feedback about the trainee's online responses to reviving a patient," Mr Matheson said.

"The assessment consisted of a simulated patient situation using a resuscitation mannequin, with the main focus of the assessment being the decision-making process and the application of knowledge in using the resuscitation equipment."

Mr Matheson said there were many benefits for the health industry to use computer-based simulations and other e-learning tools and described the Framework as an excellent resource for the health industry.

"We could not have got what we are doing off the ground without the Framework," he said.

The end result

The AEU trials funded by the Framework found that trainee paramedics with access to a computer-based simulator for resuscitation training outperformed (by an average of more than 10%) trainees who did not.

Mr Matheson said the ResusSIM™ simulations were incredibly close to 'real-life' emergency situations.

"The simulation shows a real-time electrocardiogram and images of a person being resuscitated. Each resuscitation scenario can develop differently each time the trainees engage with the simulation. At the end of each scenario the program gives trainees detailed feedback about what action they took in reviving the patient and advice on how they could have taken different action if they were unsuccessful in providing the appropriate treatment," he said.

"E-learning provides an ideal way of providing a large, diverse workforce with relevant and current training without the disadvantages of down-time and travel associated with traditional training."

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