

## Nursing Affiliate Finalists

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### Access to Cardiac Rehabilitation and Secondary Prevention Services in Australia: Is Geography Really the Issue?

R. Clark<sup>1,\*</sup>, N. Coffee<sup>2</sup>, D. Turner<sup>3</sup>, K. Eckert<sup>3</sup>, v. Deborah<sup>3</sup>, S. Stewart<sup>4</sup>, D. Wilkinson<sup>5</sup>, A. Tonkin<sup>6</sup>

<sup>1</sup> QUT, Australia

<sup>2</sup> Social Epidemiology, University of South Australia, Australia

<sup>3</sup> The University of Adelaide, Australia

<sup>4</sup> Baker IDI, Australia

<sup>5</sup> The University of Queensland, Australia

<sup>6</sup> Department of Epidemiology and Preventive Medicine, Monash University, Australia

**Background/Aims:** Timely access is critical for optimising outcomes after a cardiac event. In Australia the overall attendance at cardiac rehabilitation remains low and in some communities' access to basic services for secondary prevention is limited. The Cardiac Accessibility and Remoteness Index of Australia (Cardiac ARIA) is an objective, geographic measure reflecting access to cardiac services.

**Methods:** Geographic information systems (GIS) were used to model the access to four basic services (general practitioner/nurse clinic, pharmacy, cardiac rehabilitation, pathology) within a one hour drive-time from each of Australia's 20,387 population locations. Australian Bureau of Statistics 2006 census data were used to identify key population characteristics within each of the five cardiac aftercare categories A (Access to all services  $\leq 1$  h) to E (No service  $\leq 1$  h).

**Results:** Eighteen percent of the population locations were within category "A" zones with the remaining 82% located in zones with some limitation to recommended services. Sixteen percent (73,000) of the Indigenous population resided in population locations that had access to none or only one service. From the location data we estimated that 96% or 19 million Australians lived within one hour of the four basic services to support cardiac rehabilitation and secondary prevention, including 96% > 65 years and 75% of the Indigenous population.

**Conclusion:** These results demonstrated that the majority of Australians had excellent "geographic" access to services after a cardiac event. Therefore further research is needed to identify which aspects of accessibility other than geographic distance to cardiac rehabilitation affect utilisation of services.

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### Acetazolamide Reduces Hospital Admissions and Length of Stay in Refractory Heart Failure Patients

M. Lucas\*, M. Brown

The Prince Charles Hospital, Australia

**Background:** End stage Heart Failure patients with refractory oedema have frequent hospital admissions and

increased length of stay (LOS) with resultant morbidity, mortality and cost, despite optimal medications and devices. Acetazolamide is a carbonic anhydrase inhibitor acting on the proximal nephron resulting in added diuresis to standard therapy.

**Method:** Over four years, 10 patients with refractory oedema and repeated congestive cardiac failure (CCF) admissions despite maximal tolerated medical therapy and use of multiple diuretics were treated with addition of Acetazolamide at either 125 or 250 mg bd for two of every three days. Hospital admissions and LOS for each patient pre and post Acetazolamide were analysed.

**Results:** Ten patients had 34 admissions in 72 months of patient monitoring with LOS 299 days pre Acetazolamide. Over 131 patient months post Acetazolamide there were 20 admissions with LOS 168 days. Mean LOS was reduced from 13.7% to 4.2% (ARR 9.5%, RRR 69%) of days monitored. The five surviving patients at average 13.6 months post Acetazolamide had mean admissions reduced from 3.4 to 1 and LOS reduced from 9% to 1.3% of days monitored (ARR 7.7%, RRR 86%). Mean reduction in LOS for five patients who died (four within 10 months) was from 19% to 7.3% (RR 11.7%, RRR 62%).

**Conclusion:** In end stage heart failure patients with refractory oedema and recurrent CCF admissions, the addition of Acetazolamide to standard diuretic therapy results in significantly reduced admissions and LOS thus reducing morbidity and health care costs.

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### Sex Differences in Symptom Presentation in Acute Myocardial Infarction: A Systematic Review and Meta-analysis

L. Coventry<sup>1,2,\*</sup>, J. Finn<sup>1</sup>, A. Bremner<sup>2</sup>

<sup>1</sup> University of Western Australia, School of Primary, Aboriginal and Rural Health Care, Australia

<sup>2</sup> University of Western Australia, School of Population Health, Australia

**Background:** Recognition of sex differences in symptom presentation of acute myocardial infarction (AMI) is important for timely clinical diagnosis. We sought to address two research questions in our review: do men and women equally present with chest pain as a symptom of AMI, and are there sex differences in other presenting symptoms of AMI.

**Methods:** A systematic review of research articles published between 1990 and 2009 was conducted using MEDLINE, CINAHL, EMBASE, Cochrane Library, Current Contents and ISI Web of Knowledge. A meta-analysis was performed and summary effect measures were calculated and expressed as odds ratios and risk ratios.

**Results:** Twenty-seven studies met the inclusion criteria. Meta-analysis showed women with AMI had 37% lower odds and a 7% lower rate of presenting with chest pain than men (OR = 0.63, 95% CI 0.59, 0.68; RR = 0.93, 95% CI 0.91, 0.95). Women were significantly more likely than men