

# Identification of factors associated with remaining longer than 8 hours in the Emergency Department for older people transferred from Residential Aged Care

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**Background:** Older patients, especially those from Residential Aged Care have complex care requirements, a high incidence of Emergency Department (ED) presentations, long length of stay in ED and high rate of admission to acute care.

**Aim:** To identify factors associated with remaining longer than 8 hours in ED (referred to as access block).

**Method:** In this retrospective matched cohort study of people aged over 65 years, two groups of participants were included: 150 people from the community and 150 people from Residential Aged Care presenting to one of three Eastern Health EDs between July-December 2011. Control participants from the community were matched to randomly selected study participants from Residential Aged Care on the following criteria; age, gender, presenting problem and triage category.

**Results:** The two cohorts were matched, with mean (SD) age of 86.2 (6.5) years and 68% female. More people from Residential Aged Care remained in ED longer than 8 hours compared to those from the community (51/150 (34%) vs 29/150 (19%);  $p=0.004$ ). The median (IQR) length of stay for those from Residential Aged Care was also longer (7.1 (4.7-8.9) hours vs 6.1 (4.6-7.6) hours;  $p=0.003$ ). Multivariate analysis using conditional logistic regression showed that the strongest predictor for remaining in ED longer than 8 hours was arriving out-of-hours (OR=8.3; 95%CI=1.5-46.1,  $p=0.015$ ), followed by number of investigations and interventions (OR=2.6; 95%CI=1.3-5.0,  $p=0.004$ ). Two measures of overcrowding, time from arrival to being seen by a doctor and average length of ED stay for all patients on that day, were also independently associated with remaining in ED longer than 8 hours ( $p=0.043$  and  $p=0.006$  respectively).

**Conclusions:** Factors associated with increased risk for older people from Residential Aged Care of remaining longer than 8 hours in ED can be identified. Systemic rather than clinical factors were most strongly predictive of access block.