

# ED revisits revisited: a retrospective mixed-methods study

W Varndell,<sup>1,2</sup> L Perry,<sup>1,2</sup> S Lyons,<sup>1</sup> & K Foster<sup>1</sup>

1 Prince of Wales Hospital, Randwick, NSW, 2031, wayne.varndell@sesiahs.health.nsw.gov.au

2 Faculty of Health, University of Technology, Ultimo, Sydney, 2070

**Background:** Many chronic diseases are characterised by enduring health loss despite treatment, and are associated with frequent exacerbations and comorbidities requiring ED attendance, often multiple revisits to the ED.<sup>1-3</sup> The purpose of Stage One of this study was to identify factors associated with revisits: i) potentially amenable to inpatient clinical nurse consultant led intervention and patient navigation;<sup>2,3</sup> ii) suitable as components of future admission avoidance programs; iii) and to inform the development of re-presentation risk assessment tools. Subsequent stages will utilise these data for program development and implementation.

**Method:** Retrospective mixed-method study,<sup>4</sup> conducted in a large metropolitan ED.

**Results:** Analysis of ED revisits (n=6,889) between January to December 2014 by patients (n=1,465; 2.5%) diagnosed with chronic obstructive pulmonary disease, chronic heart failure, diabetes, elderly falls or chest pain, identified that the majority of revisits (n=5,191; 75%) resulted in admission to hospital, and that the shortest symptom-free period occurred between the first and second revisit (mean 19 days; SD 38 days). In financial terms, based upon the NSW average cost per admitted (\$960) and non-admitted (\$451) episode of ED care,<sup>5</sup> chronic disease revisits were costed at \$3.7m and \$0.7m respectively. For the 75% of revisits resulting in admission, based on an average cost (\$1,895/day) of acute inpatient care,<sup>5</sup> approximately \$9.8m expenditure accrued in the first 24hrs of hospitalisation. Document analysis (n=146; 10%) identified five factors associated with triggering revisits: i) exacerbation of index chronic disease; ii) development of infection, commonly respiratory or skin (e.g. cellulitis); iii) under/overdosing or poly-pharmacy adverse interaction of newly prescribed or altered medications for index chronic disease and/or comorbidities; iv) poor patient/carer medication/health literacy; and v), ability to access follow-up service. The document analysis did however highlight that patients were able to detect deteriorating symptom control within the first 48-72hrs of being discharge from hospital or prior to attend ED.

**Conclusion:** Strategies to improve self-management, symptom control and admission avoidance are essential to reduce the burden of chronic disease on patients, carers and the ED. Factors amendable to nurse-led intervention have been identified. Findings from this study will inform future ED models of care, nurse-led chronic disease services and extended scopes of practice.

1. Dajczman, E., Robitaille, C., Ernst, P., Hirsch, A.M., Wolkove, N., Small, D., et al., *Integrated interdisciplinary care for patients with chronic obstructive pulmonary disease reduces emergency department visits, admissions and costs: a quality assurance study*. Can Respir J, 2013. **20**(5): p. 351-6.
2. Enard, K.R. and Ganelin, D.M., *Reducing preventable emergency department utilization and costs by using community health workers as patient navigators*. J Healthc Manag, 2013. **58**(6): p. 412-27; discussion 428.
3. Ferrante, J.M., Cohen, D.J., and Crosson, J.C., *Translating the patient navigator approach to meet the needs of primary care*. J Am Board Fam Med, 2010. **23**(6): p. 736-44.
4. Shephard, L., Tattersall, H., and Buchanan, H., *Looking in the mirror for the first time after facial burns: a retrospective mixed methods study*. Burns, 2014. **40**(8): p. 1624-1634.
5. Independent Hospital Pricing Authority. *National Hospital Cost Data Collection Australian Public Hospitals Cost Report 2012-2013, Round 17*. 2015 [cited 2015 November]; Available from: [http://www.ihpa.gov.au/internet/ihpa/publishing.nsf/Content/CA25794400122452CA257E72007F65E1/\\$File/NHCDC%20Cost%20Report%202012-2013%20Round%2017.pdf](http://www.ihpa.gov.au/internet/ihpa/publishing.nsf/Content/CA25794400122452CA257E72007F65E1/$File/NHCDC%20Cost%20Report%202012-2013%20Round%2017.pdf).