Policy-driven Improvements In Crowding: System-level Changes Introduced By A Provincial Health Authority And Its Impact On Emergency Department Operations In 15 Centers

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Background: System-level changes that target both ED throughput and output show the most promise in alleviating crowding. In December 2010, Alberta Health Services (AHS) implemented a province-wide hospital overcapacity protocol (OCP) structured upon the Viccellio model.

Objectives: We sought to determine if the OCP policy resulted in a meaningful and sustained improvement in ED throughput and output metrics.

Methods: A prospective pre-post experimental study was conducted using administrative data from 15 community and tertiary centers across the province. The study phases consisted of the 8 months from February to September 2010 compared against the same months in 2011. Operational data for all centres were collected through the EDIS tracking systems used in the province. The OCP included 3 main triggers: ED bed occupancy >110%, at least 35% of ED stretchers blocked by patients awaiting inpatient bed or disposition decision, and no stretcher available for high acuity patients. When all criteria were met, selected boarded patients were moved to an inpatient unit (non-traditional care space if no bed available). The primary outcome was ED length of stay (LOS) for admitted patients. The ED load of boarded patients from 10–11 am was reported.
**Background:** Homelessness has been associated with many poor health outcomes and frequent ED utilization. It has been shown that frequent use of the ED in any given year is not a strong predictor of subsequent use. Identifying a group of patients who are chronic high users of the ED could help guide intervention.

**Objectives:** The purpose of this study is to identify if homelessness is associated with chronic ED utilization.

**Methods:** A retrospective chart review was accomplished looking at the records of the 100 most frequently seen patients in the ED for each year from 2005–2010 at a large, urban academic hospital with an annual volume of 55,000. Patients' visit dates, chief complaints, dispositions, and housing status were reviewed. Homelessness was defined by self-report at registration. Patients were categorized according to their ED utilization with those seen >4 times in at least three of the five years of the study identified as Chronic High Utilizers; and those who visited the ED >20 times in at least three of the five years of the study were identified as Chronic Ultra-High Utilizers. Descriptive statistics with confidence intervals were calculated, and comparisons were made using non-parametric tests.

**Results:** During the 5-year study period, 189,371 unique patients were seen, of whom 0.7% patients were homeless. 335 patients were identified as frequent users. There were patients who presented on the top 100 utilizer lists from multiple years. 67 (20%, 95%CI 16–25) patients were identified as homeless. 148 patients were seen >4 times in at least three of the 5 years and 23 (16%, 11–22) were homeless. 12 patients were seen >20 times in at least three of the 5 years and 5 (41%, 19–68) were homeless. Our facility has a 40% admission rate; however, non homeless Chronic Ultra-High Utilizers had admission rates of 24% and homeless Chronic Ultra-High Utilizers were admitted 14%.

**Conclusion:** Chronic Ultra-High Utilizers of our ED are disproportionately homeless and present with lower severity of illness. These patients may prove to be a cost-effective group to house or otherwise involve with aggressive case management. The debate over homeless housing programs and case management solutions can be sharpened by better defining the groups who would most benefit and who represent the greatest potential saving for the health system.