Patterns of utilization and time-course of events for cancer-related emergency department visits following same-day outpatient oncology appointments

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Introduction: Nearly 50% of Canadians will develop cancer in their lifetime (1), and the vast majority of those with cancer will visit the emergency department (ED) in their last 6 months of life (2). Considering the aging population, improvement in cancer survival and current practice of managing cancer in outpatient settings, cancer-related emergencies are becoming a significant aspect of emergency medicine. The presenting symptoms and rates of hospitalization for cancer-related ED visits have largely been established. The current study characterizes the patterns of ED utilization and time-course of events for cancer-related ED visits following same-day outpatient oncology appointments resulting in admission to hospital compared to those not admitted. Methods: A retrospective chart-review was used to identify 231 adult patients who visited the ED at a large academic hospital (i.e., Toronto General Hospital) following a same-day outpatient oncology appointment at an affiliated cancer centre (i.e., Princess Margaret Hospital) from March to May 2019, using administrative data. Results: All visits occurred on weekdays (avg = 4 visits/d) and 57% of visits resulted in hospitalization. Between those admitted and not admitted to hospital, there was no difference in triage time [17:23 ± 0:14 vs. 17:01 ± 0:20 h, p = 0.47; mean(SD)]. Visits resulting in hospitalization were more urgent (median CTAS score = 2 vs. 3, p < 0.001) and required more consultation services (64 vs. 17% of visits, p < 0.001), but did not differ for imaging (36 vs. 33% of visits, p = 0.63). The length of stay in the ED was longer for those admitted [16:6(0.9) vs. 5:3(0.3) h, p < 0.01], they waited longer for their initial assessment [2.6(1.9) vs. 1.8(1.3) h, p < 0.01] and spent 10.1(9.9) h waiting for a bed on the ward. There was no difference in time from initial assessment to disposition, imaging or consult reports (p > 0.05) between groups. The patients transferred from oncology clinics were triaged at 17:13(0:11) h compared to 13:56(0:03) h for all ED visits during the same time frame. Conclusion: Most patients sent from oncology clinics to the ED are admitted, and when admitted they spend an additional 10 h waiting for a bed on the ward. These patients tend to arrive later in the day compared to other ED patients. Understanding utilization patterns and time-course of events allows for objective identification of quality improvement initiatives. 1 Canadian Cancer Society, 2015 2 Barbera et al. CMAJ, 2010

Keywords: cancer, emergency department, oncology

Extending the trimodal distribution of death: trauma patients die at increased rates after discharge. Linking trauma registry data to vital statistics and hospital datasets identifies opportunities to save life

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Introduction: The New Brunswick Trauma Registry is a database of injury admissions from eight hospitals throughout the province. Data tracks individuals in-hospital. By linking this information with vital statistics, we are able to observe outcomes post-discharge and can model health outcomes for participants. We want to know how outcomes for trauma patients compare with the general population post discharge. Methods: Using data from 2014-15, we followed over 2100 trauma registry observations for one year and tracked mortality rate per 1,000 people by age-group. We also compared the outcomes of this group to all Discharge Abstract Database (DAD) entries in the province (circa. 7500 total). We tracked mortality in-hospital, at six months, and one year after discharge. We truncated age into groups aged 40-64, 65-84, and 85 or older. Results: In-hospital mortality among those in the trauma registry is approximately 20 per 1,000 people for those age 40-64, 50 per 1,000 people for those aged 65-84, and 150 per 1,000 people aged 85 or older. For the oldest age group this is in line with the expected population mortality rate, for the younger two groups these estimates are approximately 2-4 times higher than expected mortality. The mortality at six-month follow-up for both of the younger groups remains higher than expected. At one-year follow-up, the mortality for the 65-84 age group returns to the expected population baseline, but is higher for those age 40-64. Causes of death for those who die in hospital are injury for nearly 50% of observations. After discharge, neoplasms and heart disease are the most common causes of death. Trends from the DAD are similar, with lower mortality overall. Of note, cardiac causes of death account for nearly as many deaths in the 6 months after the injury in the 40 -64 age group as the injury itself. Conclusion: Mortality rates remain high upon discharge for up to a year later for some age groups. Causes of death are not injury-related. Some evidence suggests that the injury could have been related to the eventual cause of death (e.g., dementia), but questions remain about the possibility for trauma-mitigating care increasing the risk of mortality from comorbidities. For example, cardiac death, which is largely preventable, is a significant cause of death in the 40-64 age group after discharge. Including an assessment of Framingham risk factors as part of the patients rehabilitation prescription may reduce mortality.

Keywords: epidemiology, mortality, trauma