**Emergency Medicine - Current Awareness: April 2018**

**Research Articles**


**Objectives** We described the population of people who frequently use ED for mental disorders, delineating differences by the number of visits for substance use disorders (SUDs), and predicted the receipt of follow-up services and 2-year mortality by the level of ED use for SUD. **Methods** This retrospective observational study included all Ontario residents 15 years and older who had five or more ED visits during any 12-month period from 2010 to 2012 (n=263 346). The study involved a secondary analysis of administrative health databases capturing emergency, hospital and ambulatory care. Frequent ED users for mental disorders (n=5416) were grouped into nested categories based on the number of ED visits for SUD. Logistic regression was used to examine group differences in the receipt of follow-up services and mortality, controlling for sociodemographics, comorbidities and past service use. **Results** The majority of frequent ED users for mental disorders had at least one ED visit for SUD, most commonly involving alcohol. Relative to people with no visits for SUD, those with ED visits for SUD were older and more likely to be men (Ps <0.001). As the number of ED visits for SUD increased, the likelihood of receiving follow-up care, particularly specialist mental healthcare, declined while 2-year mortality steadily increased (Ps <0.001). These associations remained after controlling for comorbidities and past service use. **Conclusions** Findings highlight disparities in the receipt of specialist care based on use of ED services for SUD, coupled with a greater mortality risk. There is a need for policies and procedures to help address unmet needs for care and to connect members of this vulnerable subgroup with services that are better able to support recovery and improve survival.


**Objective** To investigate factors predictive of short hospital admissions and appropriate placement to inpatient versus clinical decision units (CDUs). **Method** This is a retrospective analysis of attendance and discharge data from an inner-city ED in England for December 2013. The primary outcome was admission for less than 48 hours either to an inpatient unit or CDU. Variables included: age, gender, ethnicity, deprivation score, arrival date and time, arrival method, admission outcome and discharge diagnosis. Analysis was performed by cross-tabulation followed by binary logistic regression in three models using the outcome measures above and seeking to identify factors associated with short-stay admission. **Results** There were 2119 (24%) admissions during the study period and 458 were admitted for less than 24 hours. Those who were admitted in the middle of the week or with ambulatory care sensitive conditions (ACSCs) were significantly more likely to experience short-stays. Older patients and those who arrived by ambulance were significantly more likely to have a longer hospital stay. There was no association of length of inpatient stay with being admitted in the last 10 min of a 4 hours ED stay. **Conclusion** Only a few factors were independently predictive of short stays. Patients with ACSCs were more likely to have short stays, regardless of whether they were admitted to CDU or an inpatient ward. This may be a group of patients that could be targeted for dedicated outpatient management pathways or CDU if they need admission.

**Study objective** Emergency department (ED) crowding and patient boarding are associated with increased mortality and decreased patient satisfaction. This study uses a positive deviance methodology to identify strategies among high-performing, low-performing, and high-performance improving hospitals to reduce ED crowding. **Methods** In this mixed-methods comparative case study, we purposively selected and recruited hospitals that were within the top and bottom 5% of Centers for Medicare & Medicaid Services case-mix-adjusted ED length of stay and boarding times for admitted patients for 2012. We also recruited hospitals that showed the highest performance improvement in metrics between 2012 and 2013. Interviews were conducted with 60 key leaders (physicians, nurses, quality improvement specialists, and administrators). **Results** We engaged 4 high-performing, 4 low-performing, and 4 high-performing improving hospitals, matched on hospital characteristics including geographic designation (urban versus rural), region, hospital occupancy, and ED volume. Across all hospitals, ED crowding was recognized as a hospitalwide issue. The strategies for addressing ED crowding varied widely. No specific interventions were associated with performance in length-of-stay metrics. The presence of 4 organizational domains was associated with hospital performance: executive leadership involvement, hospitalwide coordinated strategies, data-driven management, and performance accountability. **Conclusion** There are organizational characteristics associated with ED decreased length of stay. Specific interventions targeted to reduce ED crowding were more likely to be successfully executed at hospitals with these characteristics. These organizational domains represent identifiable and actionable changes that other hospitals may incorporate to build awareness of ED crowding.


**Objective** Most published data on emergency department (ED) patients with septic shock have been generated from studies examining the effect of early protocolised resuscitation in selected cohorts. Consequently, these data do not generally represent patients falling outside trial inclusion criteria or judged unsuitable for aggressive treatment. Our aim was to determine the characteristics, treatment and outcomes for all ED patients fulfilling the criteria for septic shock. **Methods** Septic shock patients were identified from a prospective database of consecutive ED patients admitted with infection. Descriptive data were compared with those from previous studies and associations between ED processes of care and mortality were determined. **Results** A total of 399 septic shock patients were identified, with a 30-day mortality of 19.5%. The median ED length of stay was 9.2 h. Rates of vasopressor use (22.6%) and ICU admission (37.3%) were low. Subgroups fulfilling the lactate criteria alone, hypotension criteria alone and both criteria represented distinct shock phenotypes with increasing severity of illness and mortality. Mortality for patients with limitations to treatment determined in the ED was 65.6% and 6.1% for those without limitations. Greater volumes of intravenous fluid and early vasopressor therapy for appropriate patients were associated with survival. **Conclusion** Median length of stay over 9 hours may have enhanced identification of patients with limitations to treatment and fluid responders, reducing invasive therapies and ICU admissions. Distinct shock phenotypes were apparent, with implications for revision of septic shock definitions and future trial design. Liberal fluids and early vasopressor use in appropriate patients were associated with survival.

**Introduction** The role of emergency physicians is to identify patients in need of immediate treatment, but also to identify symptoms indicative of serious, if not immediately life-threatening conditions. **Aim** To assess whether symptoms described as nonspecific abdominal pain (NSAP) could be the first indication of an abdominal malignancy. **Materials and methods** This was a nationwide registry-based cohort study of all patients discharged with NSAP from Swedish Emergency Departments (EDs) during the year 2011, based on Swedish patient registries of inpatient and outpatient care, and the cause of death registry, studying patients diagnosed with de novo cancer within a year after their NSAP discharge. **Results** Of 24,801 patients discharged with NSAP in 2011, 2.2% were assigned a cancer diagnosis within 12 months. Almost 20% of patients diagnosed with a malignancy died within the year, and 16% of these deaths occurred within a month after the ED visit. The majority of patients with cancer were 60 years of age or older, and thus significantly older than the remaining NSAP patients. Patients with malignancies also had a greater number of comorbidities than the remaining NSAP patients (P<0.01). **Conclusion** A small percentage of patients discharged with NSAP from Swedish EDs are diagnosed with a malignancy within a year. Patients aged 60 years or older and with comorbidities were over-represented in terms of developing malignancies after discharge. Emergency physicians should be aware of the fact that diffuse abdominal symptoms in elderly patients could be the first sign of an underlying malignancy and more liberally refer such patients for follow-up in primary care.

**DynaMed Plus Updates** (published March 2018)
- Nausea and vomiting in adults
- Acute exacerbation of COPD
- Sepsis treatment in adults
- Sepsis treatment in children
- Urinary tract infection (UTI) in children
- Sepsis in adults
- Stroke (acute management)
- Topical treatment and dressing of burns
- Abdominal aortic aneurysm (AAA) rupture
- Asthma exacerbation in adults and adolescents
- Asthma in adults and adolescents
- Cardiac arrest in adults
- Thrombolytics for acute stroke

**New NICE Guidance** (published March 2018)

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Behind the Headlines (published March 2018)

- Global antibiotic use has increased - sparking fears of worldwide resistance
- Low back pain treatment 'needs improvements'
- Are there actually 5 types of diabetes?