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HOSPITAL OVERCAPACITY & EMERGENCY DEPARTMENT OVERCROWDING AT UHNBC:

IDENTIFYING REASONS AND SOLUTIONS FOR SHORT-TERM ADMISSIONS

BACKGROUND

To run efficiently and effectively, and to minimize the risk of Adverse Events, literature suggests that hospitals best function at approximately 85% bed capacity(1). When this number is exceeded, it becomes difficult to move patients out of the Emergency Department (ED) to inpatient wards, leading to overcrowding inside EDs and longer lengths of stay (LOS). CIHI data from 2020 shows that on a national level, admitted patients' LOS in the ED increased from 29.3hrs (2015) to 38.3hrs (2020), which is a direct result of blocks to department throughput(2). Increasing ED congestion and longer ED lengths of stay place patients at higher risk of adverse events, compromise patient care and erodes the morale of department staff.

From May 2019 to March 2021, UHNBC operated at overcapacity levels between 113% - 131%; the majority of overflow beds were stationed in the Emergency Department, leading to significant overcrowding inside the department. During the same time frame, Emergency Physicians at UHNBC admitted an average of 14 patients/month who had LOS < 48hrs. Because every admission from the ED to the hospital has the ability to contribute to overcrowding and overcapacity, it seemed important to identify if there were admissions occurring that could potentially be avoided. An analysis of inpatient costs showed that if each of these admissions was avoided, the hospital could save approximately $800,000 over two years.

AIM STATEMENT

This project aimed to determine the three most common reasons for short-term admissions to Family Medicine at UHNBC, and to identify community supports or hospital process changes that could help to reduce these admissions.

METHOD

This project reviewed charts of patients admitted to Family Physicians at UHNBC between January 2019 and December 2020 that had a LOS < 48 hours. Each patient's reason for admission was assessed and common themes for admissions were analyzed. The review included information from the Emergency Department Information System (EDIS), Powerchart (UHNBC's Electronic Health Record) and paper charts.

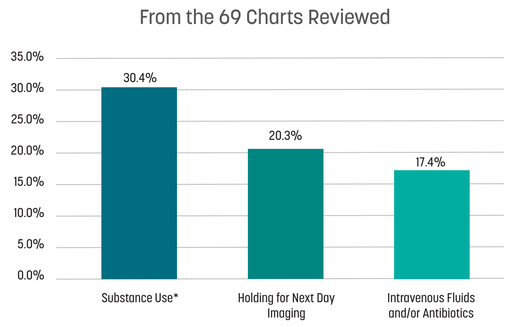
Inclusion Criteria:
- adult patients
- admitted under Family Medicine
- length of stay < 48 hours

***Exclusion Criteria:**
- short-term admissions with missing charts
- deceased patients, as their paper charts were not available for review

1998 ED Admissions to Family Medicine 2019 & 2020
329 < 48 Hour Admissions
151 Appropriate for Chart Review
85 Charts Randomly Selected for review
69 Charts Reviewed*

RESULTS

Three main categories emerged as possible areas for enhanced community supports or hospital process improvements in order to reduce potentially-avoidable short term admissions under Family Medicine.
These included:
1) substance-use, *85% EtOH
2) holding-for-imaging,
3) intravenous fluid/antibiotic
Of patients held for imaging, detailed chart review revealed that approximately 78% of these patients required other medical services including intravenous medications or observation after head injury. As such, the number held solely for imaging was felt to be lower than 20.3%.



DISCUSSION

In 2019 and 2020, substance use disorder accounted for the greatest number of patient admissions to UHNBC with LOS < 48 hours. It accounted for >11,300 admissions throughout British Columbia during the same time frame, which made it the 2nd highest admission diagnosis in hospitalized patients in the province(3). Given the burgeoning opioid epidemic in British Columbia, it is likely that this number has greatly increased since the start of the Covid pandemic. Inpatients with substance use disorder require special attention from hospital staff in order to safeguard their safety and optimize outcomes. A congested, overcrowded ED does not lend itself well to providing best care for these individuals.

Furthermore, based on examples of care found elsewhere, the need to formally admit any of this review's 329 patients can be questioned. Many centres throughout Canada, including in British Columbia, have created "Observation Units" or "Rapid Discharge Units" for patients who can likely be safely discharged home within 24-48 hours of their ED visit. These areas may be staffed by Emergency Physicians, Family Physicians or Hospitalists, but they have the same goals in common: to reduce hospital costs associated with admissions, to reduce hospital overcapacity, and to reduce ED overcrowding. This is certainly something that could be considered at UHNBC.

The data gathered in this project included approximately nine months of chart review during the initial stages of the Covid pandemic. Because UHNBC was largely "cleared out" of many admitted patients during this time, and there were fewer patient visits to the ED, it is likely that the historical and future true numbers of short-term admissions at UHNBC is higher than was reflected in this review. As such, any improvements made in future could be presumed to have a greater effect on ED overcrowding than might be expected otherwise from this project's data. This will be important to remember when discussions around costs and savings come into play.

NEXT STEPS

Initiatives in this area, especially surrounding enhanced community supports for substance related issues, could help to reduce short-term admissions and ED overcrowding at UHNBC. Next steps might include:

1. Connect with community services involved in the support and treatment of substance use disorder, including Northern Health's Mental Health and Addictions providers
2. Connect with Northern Health's Detox Program about collaboration of services between the ED and the Detox unit
3. Determine potential monetary savings and improved patient outcomes:
   - cost savings in beds/year
   - decrease in rate of Adverse Events
   - decrease in frequency and degree of ED overcrowding
   - improved patient and provider satisfaction
4. Determine potential costs associated with implementing solutions, for example:
   - increasing Social Work & Addictions Services hours in the ED
   - enhancing services provided at the Detox unit.

PATIENT/CUSTOMER

Emergency Department Patients and Staff and UHNBC Inpatient Units and Staff

TEAM MEMBERS

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