

## Safety and Compliance with an EMS Diversion Protocol to a Crisis Intervention Centre

### ABSTRACT

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**Background:** Transportation to alternative destinations (diversion) has been proposed as part of a resolution to overcrowding in hospital emergency departments (ED). We aimed to evaluate compliance and safety of an EMS protocol allowing paramedics to transport medically stable mental health patients to an alternate facility, Crisis Intervention (CI). Patients were eligible for diversion if they were  $\geq 18$  years old, scored  $<4$  on the modified Prehospital Early Warning (PHEW) score, and did not have any vital sign parameters in the red zone (as per PHEW score criteria). We hypothesize this protocol is safe for the prehospital diversion of mental health patients.

**Methods:** A retrospective analysis was conducted on patients presenting to EMS with psychiatric complaints. Study outcomes were: missed protocol opportunities, protocol noncompliance, protocol failure (presentation to ED within 48 hours of appropriate diversion), and patient morbidity (hospital admission or adverse event within 48 hours of diversion). Data was abstracted from EMS reports, hospital records, and CI discharge forms. Data was analyzed using proportions and 95% confidence intervals.

**Results:** EMS responded to 695 calls with psychiatric complaints, 650 were taken to the ED and 45 were diverted. Of the 650 patients taken to ED, 18 (3%) could have been diverted to CI, these are missed protocol opportunities. Of the 45 diversions, there was protocol noncompliance in 36 cases (80%), but 34 were due to incomplete sets of vital signs. Only 1 (3%) diversion involved vital signs documented outside allowed limits. 13 patients (36%) from the protocol noncompliance group presented to ED within 48 hours of diversion, 6 were admitted. Protocol failure occurred in 3 patients (33%) who met diversion criteria but presented to ED within 48 hours, 2 of which were admitted. Overall, 16 patients (36%) presented to the ED after diversion, and 8 (18%) were admitted.

**Conclusions:** EMS providers had high levels of compliance with the protocol when taking patients straight to the ED. There was poor protocol compliance in diverting patients to an alternate destination, though this is largely attributed to incomplete recording of vital signs. The protocol provides moderate levels of safety in diverted patients.