

## Safety And Compliance with an EMS Diversion Protocol to a Withdrawal Management 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 intoxicated patients to an alternate facility, Withdrawal Management Services (WMS). 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 intoxicated patients.

**Methods:** A retrospective analysis was conducted on patients presenting to EMS with alcohol intoxication from June 1, 2015 to May 31, 2016. 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 WMS discharge forms. Data was analyzed using proportions and 95% confidence intervals.

**Results:** EMS responded to 681 calls for intoxication, 568 were taken to the ED and 113 were diverted. Of the 568 transported to ED, 65 (11%) could have been diverted to WMS, these are cases of missed protocol opportunity. Of the 113 diversions, there was protocol noncompliance in 41 cases (36%), but 35 were due to incomplete sets of vital signs. Another 5 (12%) diversions involved vital signs documented outside allowed limits. 8 patients (20%) from the protocol noncompliance group presented to ED within 48 hours of diversion, none were admitted. Protocol failure occurred in 16 patients (22%), of which 1 was admitted. Overall, 24 patients (21%) presented to the ED after diversion, and 1 (1%) was admitted.

**Conclusions:** EMS providers had high protocol compliance when transporting patients directly to the ED. There was some protocol non-compliance in diverting patients to WMS, largely attributed to incomplete recording of vital signs. The protocol causes low levels of morbidity in diverted patients. Broader implementation of the protocol could reduce the volume of intoxicated patients in the ED.