On-Scene Times [OST] for Critical Care Transport in Nova Scotia, Canada: A Retrospective Cohort Study

J Armstrong, *M Butler, J Goldstein, D Fidgen, J Foster, H Flemming, G Kovacs*

Introduction

Transport of acutely ill patients is a critical, though expensive and limited, resource. Understanding differences in on-scene time for different patient populations is important to system planning and resource utilization. This study examined the effect of several patient-related variables on on-scene time (OST) by Nova Scotia's EHS Life Flight transport service.

Methods

We performed a retrospective cohort study of all transports provided by EHS Life Flight from May 1 2014 to Dec 31 2016. Pediatric scene missions, and missions where team type and patient type did not align were excluded. Data was collected from LifeFlight and EHS electronic databases. Collected data included OST, mission type and code, patient age category (adult, pediatric, or neonatal), comorbidities, and need for or presence of an airway intervention. Descriptive statistics were used to describe the cohort. Comparisons between subgroups used parametric testing.

Results

We identified 2021 missions; 1185 adult, 274 pediatric, 159 obstetrics, and 403 neonatal. Mean OST for Code 1 adult interfacility transfer missions was 34.1 (95% CI 32.3 - 35.7) minutes, which was shorter than mean OST for obstetrical (45.1 [95% CI 37.7 - 52.4] minutes), pediatric (69.5 [95% CI 63.4 - 75.6] minutes), and neonatal (100.7 [95% CI 94.1 - 107.3] minutes) missions. Compared with unintubated patients (mean OST = 43.8 [95%CI 41.6 – 46.0] minutes), patients both intubated prior to LifeFlight arrival and intubated by the team had longer mean OST (65.8 [95%CI 60.8- 70.8] minutes], 115.4 [95%CI 99.3- 131.5] minutes respectively]). Regression analysis found that compared to non-intubated patients, OST for patients requiring intubation prior to team arrival was increased by 30.1 [95%CI 25.7-34.4] minutes, while patients requiring intubation by the team on-scene added 36.6 [[95%CI 28.4-44.8]) minutes to the OST.

Conclusion

Patient age group and need for airway intervention impact OST by the Life Flight Critical Care teams.