The Safety of Non-Transport Decisions Made by Ambulance Personnel: A Retrospective Study of Subsequent Hospital Admission and 30-Day Mortality

Kjersti Amundsen (✉ kjerstiamu@hotmail.com)
University of Bergen: Universitetet i Bergen  https://orcid.org/0000-0001-9708-9889

Marie Svanes Elden
University of Bergen Faculty of Medicine and Dentistry: Universitetet i Bergen Det medisinsk-odontologiske fakultet

Lars Myrmel
Haukeland University Hospital: Haukeland Universitetssjukehus

Jörg Assmus
Haukeland University Hospital: Haukeland Universitetssjukehus

Audun Lange
Haukeland University Hospital: Haukeland Universitetssjukehus

Guttorm Brattebø
Haukeland University Hospital: Haukeland Universitetssjukehus

Original research

Keywords: Emergency medical services, Ambulance, Non-transport, Treat-and-leave, Patient safety, Mortality

Posted Date: March 11th, 2021

DOI: https://doi.org/10.21203/rs.3.rs-276252/v1

License: ☒ This work is licensed under a Creative Commons Attribution 4.0 International License. Read Full License
Abstract

Background

Ambulance missions do not always result in the patient being transported to a doctor or hospital after evaluation at the scene by ambulance personnel. Sometimes a patient is discharged at the scene but should have been transported for further examination and treatment. In this study, we aimed to identify and describe this group, and to investigate subsequent hospital admission within 72 hours and 30-day mortality, which may indicate the safety of leaving a patient at the scene after examination.

Method

This retrospective study was carried out in the Bergen health trust in western Norway and included ambulance missions from 2018. For each mission, we recorded the patient's demographic information (age, gender, time of day), initial reason for contacting the emergency medical service (EMS), hospital admissions after non-transport, and time of death if within 30 days, in addition to some other variables.

Results

Among 33,183 included acute and urgent ambulance missions, 7.3% of the patients were discharged at the scene after evaluation by ambulance personnel. The median age in this group was 47 years (IQR 28–70 years), compared to 64 years (IQR 39–80 years) for all included missions. Following a non-transport decision, 4.8% of the patients were admitted to a public hospital within 72 hours (median age, 59 years; IQR 35–76 years), with mental and behavioral disorders (ICD-10 chapter V) being the most common reason for admission (24.8%). The 30-day mortality rate following non-transport mission was 2.4%. In this group, the median age was 83 years (IQR 73–90 years), and the most common reasons for contacting EMS were breathing difficulties or lung diseases (25.4%), and injuries or fractures (18.6%).

Conclusion

Our present analysis revealed low rates of hospital admission within 72 hours, and 30-day mortality, among patients left at the scene following evaluation by ambulance personnel. These findings do not suggest an unsafe rate of non-transport in the Bergen EMS. There remains a need for further evaluation of the factors involved in the decision not to transport a patient, and the safety of these decisions.

Full Text

Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the latest manuscript can be downloaded and accessed as a PDF.

Figures
Figure 1

Flow chart showing identification of study population
Figure 2

Survival (Kaplan-Meyer) during the first 30 days after discharge at the scene according to age and number of ambulance requests

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Supplement1.tif