



Research Week 2020

Study protocol for the review of adverse safety events in the EMS care of children with out-of-hospital cardiac arrest in the United States

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Keywords

Patient Safety; Medical Errors; Cooperative Behavior; Patient Care Team; Emergency Medical Services; Teamwork; Child; Humans

Abstract

Introduction

Efforts to improve the quality of Emergency Medical Services (EMS) care for adults with out-of-hospital cardiac arrest (OHCA) have led to improved survival over time. Similar improvements have not been observed for children with OHCA, who may be at increased risk for preventable adverse safety events during prehospital care. The proposed study aims to identify patient and organizational factors that are associated with adverse safety events during the EMS care of pediatric OHCA.

Methods and analysis

We propose a large multi-site EMS study in the United States (US) consisting of chart reviews and agency surveys to measure, characterize, and evaluate predictors of adverse safety events in pediatric OHCA. Using the previously validated Pediatric prehospital adverse Event Detection System (PEDS) tool, we will review EMS charts for 1,500 children with OHCA from 2013-2019 to collect details of each case and identify severe adverse safety events (ASEs). Cases will be drawn from multiple EMS agencies in at least five states in geographically diverse areas of the US. EMS agencies providing charts will also be invited to complete an agency survey to capture organizational characteristics. We will describe the frequency and proportion of severe ASEs in pediatric OHCA across geographic regions and clinical domains, and identify patient and EMS organizational characteristics associated with severe ASEs using logistic regression.