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ABSTRACT

Background and Aims: The Institute of Medicine report “To Err is Human” highlights the need for increased attention to patient safety. The report identified Emergency Departments (ED) as the most error-prone environment in the hospital, but did not discuss the emergency medical services (EMS) or air medical transport environment. Air medical transport can provide the same advanced care as an ED, but do so in a less well-controlled environment. There are no published studies that systematically describe adverse events in air medical transport. This study will determine the frequency and describe the epidemiology of adverse events encountered in a large air medical transport system that utilizes a mandatory reporting system.

Methods: This retrospective study will review all aviation- and non-aviation-related adverse events using a mandatory reporting system and case-finding methods. Two independent reviewers will categorize events using the Joint Commission on Accreditation of Healthcare Organizations *a priori* taxonomy for adverse events. Discrepancies will be resolved by a third blinded reviewer.

Data Analysis: Adverse events will be categorized as discrete, unordered variables. Epidemiology of events will be reported using descriptive statistics. Inter-reviewer measure of agreement for categorization of adverse events will be computed using the K (kappa) statistic for each JCAHO major classification level. Frequency of adverse events will be calculated per 1,000 flights flown.

Significance: This is the first study to systematically collect and categorize all adverse events in the air medical transport setting. The results will permit identification of potential root causes for groups or clusters of events. This information may permit stakeholders in air transport to better target efforts to improve patient safety by decreasing adverse events and monitoring outcomes of such efforts.