



NEW JERSEY'S HOSPITAL SERVICE CORPORATION
4806 MEGILL ROAD • WALL TOWNSHIP, NEPTUNE, NJ 07753
PHONE: 732-919-3045 • FAX: 732-919-2735 • INTERNET: WWW.MONOC.ORG

A Non-Profit Cooperative to Improve Health Care and Reduce Members' Costs

Presented at the Centers for Disease Control WorkLife 2007 Symposium in Bethesda, Maryland

Ambulance Motor Vehicle Crashes: A Methodology to Reduce Frequency

September 2007

Over the years there have been questions within the ambulance industry as to how to prevent motor vehicle crashes. Another question that has been asked is how many crashes per mile or unit hour are too many. Unfortunately, there are very few benchmarking studies in this industry, despite the knowledge that these events occur on a daily basis. According to the NHTSA Fatal Accident Report, there are 8,500 collisions involving ambulances annually resulting in over 10,000 EMS injuries and one fatality per week.

We conducted a three and half year retrospective study of motor vehicle crashes that occurred in an ambulance service to determine a frequency base line and identify methodologies to implement a crash reduction program. The study examined an agency that provides Paramedic, Basic Life Support – emergency and non-emergency, and Specialty Care Transport services. The annual miles driven exceeded 4.2 million and were in both a suburban and urban environment with over 150 ambulances and 650 employees.

In order to establish a baseline for incidents, forty-five data points were collected in the study via an online incident reporting system, correlation with the New Jersey Police Crash Investigative Report and a review of an onboard video camera system. During this period, there were a total of 350 motor vehicle crashes in the data base of which 330 had sufficient data to be enrolled in this study.

While the data was being collected, administrative and operational controls were implemented. These included: screening of all employee Motor Vehicle Driver Abstracts prior to employment; completion of the National Safety Council's Coaching the Emergency Vehicle Operator's course prior to getting behind the wheel; monitoring of excessive speed via an onboard computer system integrated with the GPS which that advises the operator and management if they exceed a preset speed; ongoing review of the onboard video surveillance system that enables management to review collisions, driver behavior, and gravity based changes in the vehicle's lateral and horizontal planes.

Additionally, we have implemented multiple policies related to general operations of the ambulances, backing up, use of cell phones, seatbelt usage and when and when not to drive in emergency mode.

As a result, we established our baseline of 26 accidents per million miles driven. We are unable to compare this rate to other EMS providers as it is not captured by other agencies or they are unwilling to share the data. Our data shows that 57% of the time the ambulance was not assigned to a call, 75% of the collisions occurred in a non-emergency mode, the majority do not happen at intersections and most happen as sideswipe contact.

We continually refine the data being collected and are also attempting to create a severity scale to ensure that we are able to compare collisions fairly and accurately. This will enable us to show that from a loss prevention standpoint, the numbers of collisions are not the only indicator of success or failure