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Analysis of Ambulance Response for Patients with Medical Chest Pain Based on the Severity of Potential Cardiac Symptoms

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Thirty-eight percent of male Hispanics age 15-18 years reported riding in the preceding 30 days with a driver who had been drinking (35% of those 15 yrs, 42% of those 18 yrs). The percent who rode with a drinking driver was 11% higher for male Hispanics than for male non-Hispanics. Fifteen percent of male Hispanics reported driving when drinking in the preceding 30 days (9% of 15 yrs. and 24% of 18 yrs). The percent who drove when drinking was 8% higher for male Hispanics than for female Hispanic.

Conclusion: While Latino adolescent males are subjected to the risk of crash injury by their own behavior, the data suggests that they are also subjected to significant risk by their willingness to ride with impaired drivers. These findings have implications for ED-based interventions.

20 Determining the Quality of Comprehensive Care for Non-Traumatic Chest Pain through a Composite Measure

Christopher Colwell, MD; Phillip Mehler, MD; Allison Sabel, MD; Justin Harper, EMT-P; Luke Johnson; Lisa Cassell, MS.

Denver Paramedic Division, Denver Health and Hospitals, Denver, Colorado; University of Colorado at Denver and Health Sciences Center, Denver, Colorado

Background: Comprehensive care for non-traumatic chest pain is becoming increasingly important as a quality indicator for the inpatient setting. These quality measures, which are based on evidence-based guidelines that improve patient outcomes, have not been extended to the pre-hospital arena. Previous studies have indicated that pre-hospital care providers may not adequately utilize aspirin for patients with cardiac ischemia¹. A potential cause of this oversight could be a lack of appreciation of a cardiac cause to chest pain.

Objective: To determine how well paramedics in an urban, public hospital system delivered high quality care for patients with non-traumatic chest pain.

Methods: Patients with a primary complaint of non-traumatic chest pain between January and March of 2006 were systematically randomized and a retrospective audit was completed. Seven parameters were identified by the medical direction of the Denver Health Paramedic Division. A composite metric was created to assess comprehensiveness of care. The bundle score was considered unmet if any single variable was not present.

Results: Two-hundred and ninety-two patient care reports were evaluated. Overall, 95.4% of the patients were provided with oxygen, 61.2% were given aspirin, 98.6% had lung sounds assessed, 99.7% had vital signs recorded, 85.8% had an IV established, 93.0% received an ECG, and 78.1% were assessed for cardiac risk factors. The overall composite measure was met in 36.5% of the patients. The bundle score

ranged from 22.0% in patients 20-39 years old to 42.0% in patients older than 50 years.

Conclusions: In the pre-hospital setting, there was good adherence to individual metrics yet poor adherence to the composite measure. Future studies are needed to determine appropriateness of certain interventions on medical chest pain patients and the implications of the composite intervention on optimizing outcome.

1. McVane K, Macht M, Colwell C, Pons P. Treatment of suspected cardiac ischemia with aspirin by paramedics in an urban emergency medical services system. *Pre-hospital Emergency Care*. 2005; 9:282-284.

21 Analysis of Ambulance Response for Patients with Medical Chest Pain Based on the Severity of Potential Cardiac Symptoms

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Background: When patients call 911 with a complaint of chest pain, they generally receive an ambulance responding emergently. However, less than 10% of these calls result in an emergent return to the hospital. Studies have shown that emergent response whether to or from a scene results in an increase in ambulance accidents and litigation¹.

Objective: To determine if the implementation of an EMD (Emergency Medical Dispatch) system resulted in a decrease in emergent responses to the source of the 911 call.

Methods: This study is based on a retrospective audit of non-traumatic chest pain calls. A pre-post intervention design was used with the EMD system going into effect on July 1, 2006. Baseline data obtained from the first and third quarter of 2006 represented the post-EMD intervention. Systematic randomization was used within each quarter to select the cases. Calls were identified as being chest pain in nature because of the type of patient that the healthcare provider noted in the patient care report.

Results: Out of the 292 patient care reports reviewed in the first quarter, 262 of the calls (89.7%) were responded to emergently. However, none of these calls (0%) returned to a hospital emergently. From the third quarter, 296 cases were reviewed. Outgoing emergent responses were used in 242 calls (81.7%) and 21 calls (7.1%) returned emergently to a hospital.

Conclusions: Patients complaining of medical chest pain often do not need an outgoing emergent response. Further understanding of when an emergent response is necessary for the patients complaining of non-traumatic chest pain will help

to maintain quality patient care and improve the safety of both the pre-hospital care providers as well as the general public. 1. Colwell C, Pons PT, Balanchet J, Mangino C. Claims against an ambulance service: a ten year period. *J Emerg Med.* 1999; 17:999-1002.

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