

## **The Outcomes of Emergency Pharmacist Participation during Acute Myocardial Infarction**

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### **Abstract**

**Background:** The American College of Cardiology/American Heart Association (ACC/AHA) guidelines for the management of patients presenting with ST-segment elevation myocardial infarction (STEMI) recommend door-to-balloon times of 90 minutes or less. Door-to-balloon times greater than 90 minutes have been associated with increased in-hospital and late mortality. An observational study performed at this institution found that pharmacist participation in trauma resuscitation was associated with a decrease in adverse drug events and potential adverse drug events (ADE/PADEs) as well as a decrease in time to intubation, time to CT scan, and time to the operating room. The role of the Emergency Department Pharmacist (EPh) during acute myocardial infarction (AMI) includes gathering patient specific information, evaluating appropriate medications and medication doses, facilitating medication administration for each patient, and preventing ADE/PADEs.

**Objective:** To determine if having a pharmacist present during the myocardial infarction (MI) team evaluation in the emergency department (ED) decreases time to medication delivery, consequently decreasing time in the ED and therefore decreasing door-to-balloon time. Secondary objectives include evaluating if the EPh prevents ADE/PADEs due to inappropriate prescribing or administration.

**Methods:** A retrospective database and chart review of AMI patients from the ED, where the MI team was called for patient evaluation and subsequent urgent cardiac catheterization at the University of Rochester Medical Center from August 15, 2005 through August 15, 2006 will be reviewed. Data will be extracted from an existing quality assurance database (maintained by the Department of Cardiology) that includes all AMI patients who presented to the ED that required urgent cardiac catheterization in the Cardiac Catheterization Laboratory (CCL). This database will be merged with an on-going Agency for Healthcare Research and Quality (AHRQ) funded EPh study database that will be used to define whether a pharmacist was present or not present during the study period. Data evaluated will include the time of day the patient arrived to the ED, means of arrival to the ED, medications administered including doses and timing of these medications, ADE/PADEs, door-to-CCL, electrocardiogram (ECG)-to-CCL, and door-to-balloon time. Data unavailable from the study databases will be captured by retrospective medical record review. After the data is collected, the two groups (EPh present vs. not present) will be compared to detect differences.