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Acute coronary syndrome (ACS) continues to be a significant cause of morbidity and mortality in the United States. Acute MI includes both non-ST-segment-elevation myocardial infarction (NSTEMI) and ST-segment-elevation myocardial infarction (STEMI) (Basit et al, 2021). As such, it is proposed that Arkansas **Primary PCI hospital heart** registry participants begin submitting NSTEMI data within the Chest Pain – MI Registry with subsequent outcomes reported to the STEMI Advisory Council (STAC). While the Mission and Duties within the STAC Bylaws only speak to the STEMI population, including NSTEMI data and continuing to report Defect-Free Care, as well as other metrics included within the NSTEMI population, stands to improve Arkansas AMI-related outcomes.

The incidence of ACS in the United States is over 780,000 and of those, approximately 70% will have NSTEMI (Basit et al., 2021). Vetrovec (2019) reports “the incidence of ST-elevation myocardial infarction (STEMI) events has been dropping over the past 10 years, while for NSTEMI, the incidence has declined minimally” p. 634. The IJC Heart & Vasculature Journal (2021) states that 25-30% of NSTEMI patients have an acute total occlusion not recognized on ECG but found on an angiogram. For this population, angiogram is often delayed. The NSTEMI population “has significant risk of early and late adverse outcomes” (Vetrovec, 2019). “NSTEMI patients tend to be older and sicker, with higher risks of adverse events such as cardiogenic shock, than STEMI patients” (Vetrovec, 2019, p. 634) Mortality of these patients is doubled during the short and long term recovery compared to NSTEMI patients without acute total occlusion. On the other hand, 15-35% of patients that meet the perceived STEMI criteria are false positive, and many do not have a culprit lesion. Diagnosis can be made based on patient history, symptoms, electrocardiography findings, and cardiac biomarkers, which delineate between ST elevation myocardial infarction and non–ST elevation acute coronary syndrome (Basit et al, 2021). Rapid reperfusion with primary percutaneous coronary intervention is the goal with either clinical presentation (Basit et al, 2021). The important clinical significance of NSTEMI is that delay in diagnosis can lead to increased morbidity, risk of arrhythmia, and death (Lux, 2015).

With the initial focus placed on the STEMI patient population, most hospitals in Arkansas are now able to demonstrate the robustness of STEMI processes and outcomes throughout the state. However, a thorough cardiac program focuses on **all** MI patients and must include NSTEMI patients as well. NCDR data outcomes reveal that most hospitals have opportunities for improvement within the NSTEMI population. Often, the NSTEMI patient is undergoing a second heart attack and often requires coronary artery bypass grafting (CABG).

Improving NSTEMI performance will improve the hospital's overall cardiac program. Data collection stands to "address the ever-increasing, more-complex ACS population presenting with NSTEMI, who are at higher risk for cardiogenic shock, other in-hospital complications, and death" (Vetrovec, 2019). The AHA/ACC 2017 Clinical Performance and Quality Measures for Adults with ST-Elevation and Non-ST-Elevation Myocardial Infarction developed 24 measures that include 17 performance and 7 quality measures for **both** Type 1 STEMI **and** Type 1 NSTEMI patients (Jneid et al., 2017). The AHA/ACC states that implementation of these measures for all AMI patients will improve the quality of care and outcomes for STEMI and NSTEMI patients (Jneid et al., 2017).

It is evident that including both types of AMI for data analysis will improve the overall strength of our cardiac programs. Reporting data for Arkansas' "NSTEMI patients, provides an opportunity to improve outcomes while potentially reducing the high hospital costs of this population" (Vetrovec, 2019, p. 635). Because of this, we strongly urge the STAC to require inclusion of NSTEMI data in the Arkansas Heart Registry for collection and analysis.

References:

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Submitted 4/28/2021 to the Arkansas STEMI Advisory Council by DeeDee Moline, BSN, RN, STEMI Coordinator, CHI St. Vincent Infirmary and Lori Burris, BSN, RN STEMI Coordinator, CHI St. Vincent Hot Springs.