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THE HEART OF NEW ULM PROJECT: COMMUNITY SYSTEMS MODEL OF PREVENTION SHOWS EARLY INDICATIONS OF REDUCING EVENT AND MORTALITY RATES OF ACUTE MYOCARDIAL INFARCTION

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

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Session Title: Innovative Models for Practice, Education or Research

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Background: Community-based interventions have shown limited success in reducing population level coronary heart disease (CHD) incidence in short- to mid-term follow-up. The Heart of New Ulm Project recently implemented a systems model of prevention that integrates environmental, peer leadership, and individual interventions across multiple segments of a midsize rural Minnesota community including the healthcare system, worksites, and the general community.

Methods: A quality improvement analysis was conducted to quantify the absolute number of unique acute myocardial infarction (AMI) events (incident and recurrent) over 10 quarterly periods between January 2008 and June 2010. The first 5 quarters represented the period before active interventions began and the last 5 quarters represented the period since active interventions began. The population included all residents of the 56073 zip code (i.e., New Ulm, MN area) that were age ≥ 18 years ($N \approx 10,000$). Both fatal and non-fatal AMI events were recorded via an electronic surveillance system that screened for International Classification of Diseases (9th edition) code 410 in death certificate and hospital discharge data.

Results: A graphical descriptive analysis indicated a 24% reduction in the mean number of AMI events by quarter in the last 5 quarters compared to the first 5 quarters of CHD surveillance. In addition, there were no fatal AMI events in 3 of the last 5 quarters; but there were fatal AMI events in each of the first five quarters. Total AMIs were 62 versus 47 in control versus intervention quarters.

Conclusion: Preliminary quality control analyses indicate a reduction in the AMI rate among 56073 zip code residents with this systems-based approach. A more robust statistical analysis is needed to confirm if the observed trend is a significantly greater than other communities in the region. If corroborated, the Heart of New Ulm Project may serve as a model of how healthcare systems can implement and practice robust population-based CHD primary prevention programs in the communities they serve, advance the Triple Aim set forth by the Institute for Healthcare Improvement, and position themselves as truly accountable care organizations.