SURVIVAL FROM ACUTE MYOCARDIAL INFARCTION
DOES YOUR HOSPITAL HAVE THE ATTRIBUTES THAT MATTER MOST?

Coronary heart disease (CHD) presents as a familiar face of death to critical care nurses. In 2007, the year most recently reported for statistical purposes, CHD was responsible for 1 of every 6 deaths in the United States, representing 406 351 lives ended prematurely. Every year, another estimated 785 000 Americans will suffer a new coronary event and 470 000 more will experience a recurrent event. Off the statistical radar, it is estimated that another 195 000 Americans will unknowingly experience their first silent myocardial infarction. As the CHD clock ticks, every 25 seconds one American will be struck down by a coronary event and every 60 seconds one will die.[1]

Vexing Challenges

These concerning findings have long challenged researchers and staff at acute care facilities to identify strategies that can improve the statistical odds for patients to survive acute myocardial infarction (AMI). As critical care nurses who have participated in developing, evaluating, and refining these programs can attest, approaches to improve survival of AMI have included establishing standards of practice based on nationally promulgated recommendations by professional organizations such as the American College of Cardiology Foundation and the American Heart Association[2] and developing standard order sets, clinical guidelines, clinical practice algorithms, rapid response teams, and various

forms of evidence-based protocols. Although each program may tilt the odds of survival to some measurable positive degree, the collective effects of such endeavors continue to fall short.

Another intriguing conundrum is that even when health care facilities are adhering to established evidence-based procedures and even when differences in variables such as patient severity and socioeconomic status are taken into account, mortality rates among patients with AMI vary widely from one hospital to another.[3] If most hospitals are following comparable and research-based practices and protocols for management of patients with AMI, why aren't their mortality rates also comparable? Why do some hospitals have lower AMI mortality than others?

New and Enlightening Answers

A multidisciplinary team of researchers recently reported results of a study[4] designed to answer these vexing questions. The specific objective of this study centered on identifying the factors that related to lower mortality in hospitalized AMI patients. In the initial phase of the study, the research team examined hospital-specific, risk-stratified mortality data from the Centers for Medicare & Medicaid Services Hospital Compare Web site (www.hospitalcompare .hhs.gov/hospital-search.aspx) for patients hospitalized with AMI from 2005 through 2007 to distinguish hospitals that ranked in either the top or bottom 5% of performance. The best performing hospitals for that 2-year period had annual 30-day mortality rates after AMI ranging from 11.4% to 14%, whereas the worst performers had

When a hospital establishes leadership in pursuit of quality care and provides resources necessary for staff to join clinical forces in managing patient care to attain clearly defined clinical outcomes, patients benefit.

Table Distinguishing attributes of hospitals with high- and low-mortality from acute myocardial infarction (AMI)[a]

Distinguishing attribute	Low AMI mortality hospitals	High AMI mortality hospitals
1. Organizational values and goals	• Shared priority to provide exceptional, high-quality care filters through the entire staff as a central driving force of the organization.	• Staff do not report sense of common vision related to quality care.
2. Senior management involvement	• Senior management overtly and consistently demonstrates support for quality care by providing necessary resources and monitoring quality data for strategic planning.	• Executive rank involvement in quality is sporadic. • Much higher executive level turnover rates make fostering of excellence in care more difficult. • Resources targeted for quality are insufficient • Monitoring data not used consistently or effectively.
3. Broad staff presence and expertise in AMI care	• Visible expertise in both care of AMI patients and in engaged leadership of quality programs. • Staff report the presence of physician leaders, empowered nursing staff, and pharmacists directly involved with quality achievement.	• Physician championing for AMI quality improvement is weak or nonexistent. • Higher nurse turnover rates
4. Communication and coordination among groups	• Effective interpersonal communication exists between physicians and their teams. • Staff report strong communication and coordination across disciplines and departments. • Viewpoints of pharmacists, nurses, technical and even housekeeping staff are highly valued. • Staff recognize their interdependent roles in patient care.	• Flow of information is impeded by weak structural supports, such as ineffective data gathering, incomplete reporting or lack of follow-up. • Staff who work on quality often feel constrained and function as individuals. • Nursing staff not consistently treated as valued members of the AMI team. • Role of pharmacists on AMI team is limited.
5. Problem solving and learning	• Staff describe environment as a "learning culture." • Physicians tend to seek strength from other team members and are encouraged to rise to challenges and innovate. • When errors occur or problems arise, no blaming or criticism follow, so staff feel safe to speak up, make mistakes, and learn from mistakes. • Staff routinely use root-cause analysis to aggressively pursue errors, identify sources of problems, and fix them.	• Senior managers do not create an environment that encourages ownership of performance problems. • Staff describe a finger-pointing culture, where they are anxious about assigning responsibility. • Staff do not feel encouraged to be creative or innovative. • Management appears to focus on individual, rather than team performance. • Problem-solving is less constructive. • Mistakes used as reasons for punishment.

[a] Findings derived from research team's in-depth interviews with 158 hospital staff.
Based on Curry LA, Spatz E, Cherlin E, et al.[4]

mortality rates of 17.9% to 20.9%, approaching double for the extremes in each case.

From these polar performers, the study team selected 11 representative hospitals that demonstrated diversity in a number of key hospital characteristics thought to influence survival from AMI such as adherence to evidence-based protocols, use of hospitalists, teaching or non-teaching hospital, practicing medication reconciliation, location (urban, suburban, rural) of facility, and patient socioeconomic status. When the relationship between those characteristics and patient survival from AMI was examined relative to whether the hospital was in the high or low mortality group, it was found that those factors, while influential, explained very little (less than 20%) of

the wide variation in survival for these patients. The results suggested that other, considerably more influential, variables explained the wide divergence in mortality from AMI.

Suspecting that those other factors might relate to organizational attributes such as social interactions, which are difficult to measure with traditional research instruments, the research team conducted site visits and completed in-depth interviews with 158 hospital staff members who were most involved with AMI care at the 11 designated hospitals. Between December 2008 and December 2009, members of the research team interviewed physicians, nurses, pharmacists, other clinical staff as well as hospital administrators and then examined the information collected, using the constant comparative

method of qualitative data analysis (ie, data are collected, analyzed, categorized and then compared to determine whether the identified categories remain constant when new data are analyzed; findings are derived from the categories that persist throughout all sets of data).

The research team found that although standardized and evidence-based processes and protocols did not account for the differences in patient mortality from AMI among hospitals, the best- and worst-performing hospitals could be distinguished by the following 5 attributes[4]:

• Organizational values and goals
• Senior management involvement
• Broad staff presence and expertise in AMI care
• Communication and coordination
• Problem solving and learning

These findings and how they contrast in high- versus low-performing hospitals are summarized in the Table. As these results indicate, what separates the best- from the worst-performing hospitals, that is, what significantly increases or decreases a patient's likely survival from AMI, is not whether formal structures and processes are in place but whether the staff is able to anticipate, mitigate, and resolve problems in achieving their targeted level of care. When a hospital's organization establishes leadership in pursuit of quality care and provides resources necessary for staff to join clinical forces in managing patient care to attain clearly defined clinical outcomes, patients benefit. Evidence-based algorithms are important; however, they are not sufficient for achieving the optimal level of outcomes—in this case, saving lives. What this study reveals is that high-performing hospitals are characterized by a pervasive organizational culture that supports full staff engagement in quality efforts, strong and effective coordination, collaboration, communication, and respect among all members of the health care team, and an attitude toward problem-solving as a learning opportunity to be sought rather than as a blame dispenser to be avoided at all costs.

Summary

This study has illuminated an interrelated set of organizational factors that need to be in place for a hospital to be at the top of its game in saving patient lives following AMI. With this evidence in hand, now is an opportune time for critical care nurses to open a dialogue with their peers and colleagues who participate in managing care for these patients to gauge whether their

facility demonstrates each of these 5 operational attributes. Completing and acting upon that self-appraisal can be more than just an enhancement in quality improvement; it can be a lifesaver. CCN

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