Hospital Performance Improvement Efforts: What Works?

Bradley EH, Holmboe ES, Mattera JA, et al. A qualitative study of increasing beta-blocker use after myocardial infarction: why do some hospitals succeed? JAMA 2001;285:2604–11.

Study Overview

<u>Objective</u>. To identify factors associated with hospital-based performance improvement initiatives for increasing β-blocker use after acute myocardial infarction (AMI), to construct a taxonomy to classify these factors, and to determine how these factors varied between higher- and lower-performing hospitals.

<u>Design</u>. A qualitative study using open-ended interviews with clinical and administrative hospital staff. Investigators were blinded to hospital β-blocker use, and hospitals were visited until no new concepts were identified (the point of theoretical saturation).

<u>Setting and participants</u>. Hospitals were eligible if they participated in the National Registry of Myocardial Infarction for 30 consecutive months during the study period and had at least 40 patients admitted annually with an AMI. Eligible hospitals were then divided into 20 quantiles based on their change in β-blocker use over the study period. Hospitals were selected randomly from the 2 lowest, middle, and highest quantiles to reflect a range of sizes, geographical regions, and AMI volume. Directors of quality assurance or quality management at selected institutions identified important local personnel involved in efforts to improve β-blocker prescribing on discharge after AMI. These staff members, including physicians, nurses, quality management personnel and administrators, were interviewed. 4 to 7 individuals were interviewed at each hospital.

<u>Main outcome measures</u>. Outcome measures were initiatives, strategies, and approaches to improve care for patients with AMI. Interviews were audiotaped and transcribed. Responses were repeatedly analyzed until a coding structure comprising 72 individual codes was identified. Using this coding structure, reviewers independently coded all interview transcripts. This coded data was then compared between hospitals with ≥ 65% of patients with AMI receiving β blockers on discharge (higher-performing hospitals) versus those in which < 65% of patients received β blockers on discharge (lower-performing hospitals).

<u>Main results</u>. 45 respondents at 8 hospitals were interviewed. Responses were grouped into 6 broad factors: (1) goals for improvement; (2) administrative support for improvement efforts; (3) support among clinicians for such efforts; (4) design and implementation of initiatives for performance improvement; (5) use of data concerning β-blocker use; and (6) contextual variables. Due to the design of the study, statistical associations could not be tested; however, several factors differed between the higher-performing and lower-performing hospitals. 4 characteristics were in higher-performing hospitals but not in lower-performing hospitals: (1) a high degree of shared goals within the institution, (2) a substantial level of administrative support, (3) strong physician leadership, and (4) high-quality feedback. The nature of the initiative and the style of implementation were similar between higher-performing and lower-performing hospitals. All hospitals reported using multidisciplinary approaches to implementation.

<u>Conclusion</u>. This study developed a taxonomy for classifying and evaluating efforts to improve patient care. Furthermore, specific elements of this taxonomy appeared more likely in hospitals with higher rates of β-blocker use in AMI patients than those with lower rates.

Commentary

Bradley et al's paper generates many interesting hypotheses concerning why some hospitals appear to be more successful at implementing patient care improvement initiatives than others. Most interesting is that higher-performing hospitals and lower-performing hospitals used similar performance improvement strategies and implementation styles yet had different rates of post-AMI β-blocker use. This result would suggest that the actual initiative chosen and traditional management techniques for implementation might not be enough to ensure the success of patient care improvement efforts. This is particularly important because the factors identified by Bradley et al are often not discerned in evaluating the success of performance initiatives. As the authors suggest, prior failures in performance improvement measures might have used too narrow a scope to determine the cause of failure and missed important organizational

characteristics that could have influenced the program's success.

While this is a valuable study, it is limited in several respects. Although the researchers interviewed key personnel until they reached the "theoretical saturation point," they only evaluated 8 institutions in all, which may limit the generalizability of the study. Another limitation is that all performance improvement initiatives were self-reported by the institutions. Thus, the initiatives reported might have been influenced by prior knowledge of β-blocker use. Finally, this is a qualitative study designed for hypothesis generation, and no statistical inferences can be drawn.

Applications for Clinical Practice

This study provides a valuable taxonomy for characterizing and evaluating performance improvement initiatives. While firm conclusions cannot be drawn, it does suggest certain factors that might be important to the success of patient care improvement efforts aimed at increasing post-AMI β-blocker use at hospital discharge. These factors include sharing common goals, administrative support, strong local physician leadership, and high-quality data feedback.

– Review by Harvey J. Murff, MD