

EDITORIAL COMMENT

Not All Readmissions Are Created Equal*

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In a retrospective review by Hannan et al. (1) in this issue of *JACC: Cardiovascular Interventions*, 30-day readmission rates for percutaneous coronary intervention (PCI) patients were analyzed using both clinical and administrative datasets to determine overall readmission rates, planned or staged readmissions, and a determination of predictors for unstaged readmissions. The 30-day readmission rates categorized using administrative data in this study underscore the diverse sources of readmission data and the challenges involved in their evaluation. Readmissions are an important area of interest as they are a major cost item and, because they are considered a failure of the initial care, are often used as a surrogate of quality (2). Healthcare reform proposals from the federal government include payment withholdings for high readmission rates. The Center for Medicare Services' proposed Hospital Value-Based Purchasing Program includes penalties on the Inpatient Prospective Payment System for high rates of preventable readmissions.

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In the current study, although the use of the SPARCS (Statewide Planning and Research Cooperative System) and PCIRS (Percutaneous Coronary Interventions Reporting System) databases provide a robust volume of data, it is the clinical data from the New York State PCIRS that gives us a unique view of the demographic, clinical, and procedural predictors of readmission not previously reported for this population. These results will likely be useful in raising the awareness of providers to create systems for prevention. Lastly, readmission data from SPARCS, a claims dataset, produced a list of diagnoses for readmission that gives some indication of the reason but cannot identify whether these were preventable or inevitable.

Studies of hospital readmissions have generally used subjective reviews or claims data to answer the question of avoidable versus unavoidable readmissions (3). Studies using claims data are limited and subject to variability in the discharge diagnostic codes used for reimbursement. The claims profile for readmissions in the current study for cardiac-related conditions ranged from chronic ischemic heart disease in 22.9% of patients to acute myocardial infarction in 2.9%. The details of these admissions, the events that generated the discharge diagnoses codes, and whether readmission was avoidable is unclear without information that is more precise. Even in circumstances of clinical reviews, the subjective judgment of "avoidable" is often difficult and, thus, by their nature, these determinations are less than an exact science. In a study by Van Walraven et al. (4) using subjective reviews, 16% of 180-day urgent readmissions were deemed potentially avoidable. The factors contributing to readmission risk included management error, surgical complications, medication-related events, nosocomial infections, system failures, diagnostic errors, and a procedural event. These generic categories may be more directional to establish solutions than the claims data used in this analysis, but they are so ambiguous as to limit their use in driving performance improvement. The very nature of reviews based on either method makes assessments of potentially avoidable readmissions problematic as markers for quality ratings. If the data used are of sufficient quality and rigor for identification of patients at risk of readmission, then quality improvement systems of care can be designed for prevention and could then potentially be used as a surrogate marker for quality.

Although this retrospective review was not designed to determine the degree to which readmissions could have been avoided, it does yield important insights into the drivers of readmissions after PCI and the relative rates of staged versus unstaged readmissions. The former was a unique aspect to this study that has linkages to the national issues of appropriateness and national health expenditures. Staged readmissions, whether appropriate or not, currently have a negative connotation as being contrived or unnecessary. In the current study, the use of clinical data provides insight into the staged events for a second revascularization procedure that represented 63.8% of all repeat PCIs within 30 days. In the fee-for-service environment, the implication of the staged PCI is that it could have been done during the index admission in many cases. Current guidelines would suggest that staging is appropriate if the first PCI was done during an acute myocardial infarction event (5); there are other clinical circumstances that would also suggest a staged event, as well such as excessive contrast load or radiation exposure during the first procedure. As payment reform places providers at greater financial risk, the issues surrounding "staged" procedures may be less important. A recent RAND analysis (6) has shown that provider financial

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risk is an approach that successfully bends the financial cost curve of national health expenditures. The perverse financial incentive for providers to impart more care has been a subject for many aspects of healthcare reform discussions. As highlighted here, the determination of staged events and their clinical appropriateness is difficult based on claims data; however, a fixed longitudinal or capitated financial agreement may mitigate the negative connotation of staging by removing this incentive. Appropriateness of coronary revascularization has been under intense scrutiny with very high-profile cases in the national media (7). The American College of Cardiology Appropriateness criteria do not definitively address staging, but they do explicitly encourage the use of these criteria for the development of national payment strategies to ensure that patients receive care that is necessary, beneficial, and cost-effective rather than care provided for other reasons (8). In the future, a second PCI procedure performed during a separate admission may be part of a global payment and not reimbursed as a second event if there is no clinical reason for the delay. These delays, as pointed out by the investigators, could postpone the second procedure to a time beyond a defined readmission assessment period and, thus, have the potential for adverse patient outcomes. Also, one could construe this delay as “gaming” the system beyond the global payment period for better reimbursement.

An additional requirement for providers will include aggregation of longitudinal data to help determine the appropriate use of readmissions or staging as a strategy for improved outcomes. The relationship between longitudinal outcomes and cost will help determine the value of readmission and better answer the question of whether readmission is “good” or “bad.” In addition, the procedural variables that were shown to be predictive of readmission here will potentially guide better strategies for prevention as well as optimize care for the continuum of patients undergoing PCI. Strategies for optimizing length of stay in those PCI patients with higher rates of readmission may also assist in better establishing a fair reimbursement for sicker patients. The current reimbursement system arbitrarily determines admission versus outpatient status for PCI and tries to address that issue, but the system is variable and unevenly enforced. Some clinical criteria have been established to try to help frame this arbitrary distinction (9); however, it remains a subject of intense scrutiny by the government and commercial insurers.

This study is an important addition to the evolving body of knowledge regarding readmissions and their etiology. The causes, measurements, and implications for readmission in this study and from others are quite diverse. The determination whether “avoidable” readmissions are a failure of care, a complication, or are appropriate is a matter that requires further study. The current system, which uses readmission rates as a surrogate for quality, will continue to

be challenged due to the absence of rigorous objective data to measure avoidability. The reimbursement system may play a role in changing the paradigm in which additional care serves as a financial incentive for providers. Readmissions are not necessarily evil. They are recognized to be expensive but are often warranted. The healthcare system has yet to determine whether long-term costs or outcomes are improved with an early readmission despite greater short-term costs. The implication that readmissions always represent a clinical failure or an attempt at ill-gotten gain must be tempered. Studies, such as this retrospective review should provide the foundation for prospective predictable models of readmission to promote better clinical care in a more cost-effective environment.

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