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Living in the Readmission Era

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Is it too early to call this the Readmission Decade? Readmissions are on everybody's mind – identifying readmissions, preventing readmissions, considering the financial repercussions of having too many readmissions, lamenting the injustice of being held accountable for readmissions. Only time will tell if this is a passing storm or here to stay, but for the moment the issue of readmissions is having its moment in the sun.

Prior research has shown that a substantial proportion of patients undergoing percutaneous coronary intervention (PCI) are readmitted to the hospital within 30 days of discharge, ranging from 8% to 16%.[1–7] Early readmissions are often unplanned and potentially preventable events that are associated with increased 30-day and 1-year mortality.[2, 6, 8, 9] To date, however, the interventional community at large has not had to fully engage in efforts to prevent unplanned readmission. Although many of the heart failure and acute myocardial infarction patients included in the publicly reported hospital readmission measures[10, 11] undergo percutaneous coronary interventions (PCI), we have for the most part avoided being held accountable for readmissions following PCI. That privileged position may be in jeopardy, as recent events make it unlikely we will be able to remain above the fray much longer.

In December 2013, the Centers for Medicare and Medicaid Services (CMS) began publicly reporting what is commonly referred to as the "hospital-wide readmission" measure. In contrast to previously reported, condition-specific measures, the hospital-wide readmission measure includes all patients discharged from an acute care hospital. Given the volume of PCI procedures, hospitals will increasingly focus efforts to reduce readmission on this patient population. Furthermore, the American College of Cardiology (ACC) and CMS have collaborated to implement voluntary public reporting of hospitals' 30-day readmission rates following PCI. In March 2013, hospitals participating in the ACC's National Cardiovascular Data Registry received information regarding their risk-standardized unplanned readmission rates, the hospitals to which their patients were readmitted, and the principal discharge diagnosis.[12]

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While this work identifies a potential opportunity to improve the care and outcomes of PCI patients, we do not yet have the knowledge that will inform efforts to avoid unplanned readmissions. Researchers have shown that focusing on traditional quality improvement metrics may not be an effective approach to preventing unplanned readmissions. Yeh and colleagues observed that in-hospital complications and discharge medications were not significantly associated with risk of readmission.[4] If that is the case, where should we be focusing our attention?

In this issue of *Circulation: Cardiovascular Interventions*, Wasfy and colleagues present information that begins to address this gap in knowledge. The authors conducted a comprehensive medical record review at two Massachusetts hospitals within an integrated health care system and characterized both the reasons for 30-day readmission and the use of diagnostic testing and therapeutic procedures.[13] They considered both planned and unplanned readmissions, but were only able to conduct chart reviews of readmissions back to the institutions that performed the procedures. Consistent with prior studies, the authors demonstrated that the reasons for readmission were heterogeneous, and only a minority of readmissions was for procedural complications such as access site bleeding and stent thrombosis. What was striking, however, was the large proportion of patients who were readmitted for evaluation of recurrent chest pain or other anginal symptoms (38.1%). Despite the fact that these patients had recently undergone PCI, only a minority of these patients (6.2% of all readmissions) ultimately ruled in for a myocardial infarction. Virtually all of these patients underwent some form of diagnostic testing, but relatively few studies identified evidence of ischemia that required revascularization.

Certainly none of this is will come as a surprise to interventional cardiologists. It is hard to imagine a more reliable method of guaranteeing a hospital stay than telling an emergency medicine physician that you are experiencing chest pain soon after a PCI. At our institution, these patients are banned from being triaged to less resource intensive patient care areas such as our chest pain unit and our observation unit. Nevertheless, the findings of Wasfy and colleagues suggest that it may be time to reengineer our approach to these patients. As the authors note, every patient with stent thrombosis presented with a high risk feature such as dynamic ECG changes, elevated cardiac enzymes, or, in one case, cardiac arrest. The question is whether we can reliably sort through the remaining patients to identify a low risk population that would not benefit from an inpatient stay. There is a lot of work to be done. We need to develop and validate algorithms to define a low risk patient who could be safely treated at chest pain centers, in the observational setting, or even undergo expedited stress testing in the office setting. If we are successful, however, these efforts could have a meaningful impact on hospitals' 30-day readmission rates, reduce hospital length of stay, and lower overall health care costs by promoting a more deliberate approach to the use of diagnostic testing.

So maybe this represents a good place to start. Focusing on patients with chest pain is appealing in part because it sidesteps issues of whether or not cardiologists should be responsible for readmissions for seemingly non-cardiac issues such as cholecystitis (2.0% of readmissions), bronchitis (0.8%), or depression (0.4%). No one would argue that cardiologists should not play a central role in the evaluation of chest pain following PCI. Furthermore, collaborating with emergency medicine physicians on this issue builds on the relationships and past successes of efforts to reduce door-to-balloon times,[14, 15] and these efforts may in turn promote additional collaborative efforts to reduce readmissions more broadly.

As so often in medicine, the study by Wasfy and colleagues raises more questions than it answers. Nevertheless it represents an important first step in efforts to generate the

knowledge and insights that hospitals will need to reduce readmissions following PCI. The hope is that this study does not represent the end of the discussion but rather the beginning of a dialog that may very well carry over into the next decade.

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