

Discharge Destination and Disparities in Postoperative Care

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Where patients are discharged after hospitalization for major surgery, such as elective joint replacement, is an important clinical and policy issue. Medicare is the largest payor of elective joint replacement surgery, and use of this procedure has increased substantially. Approximately 1.3 million elective hip or knee replacement surgeries were performed in 2014 in the United States, a 2-fold increase from 2001,¹ and projections indicate the demand for these operations will continue to increase as the population ages. The rapid growth in the volume of this procedure combined with high costs of care per episode have led to payment reform policies, such as Medicare's Comprehensive Care for Joint Replacement model. This model bundles acute and post-acute care payments for patients undergoing joint replacement, with the goal to incentivize hospitals as well as clinicians and health care centers that provide post-acute care to improve the quality and coordination of care from initial hospitalization through recovery.

After elective joint replacement surgery, about 70% of patients are discharged home (often with home health care services), and 30% are discharged to institutional post-acute care either in a skilled nursing facility (SNF) or inpatient rehabilitation facility.² These options present substantially different levels of patient support and cost. Currently, no evidence-based clinical guidelines are available to guide discharge decision making. As a result, uncertainty exists about which option is best. This uncertainty was captured in a 2013 Institute of Medicine report on geographic variation in health care spending in the United States that found variation in post-acute care use alone explained more variation in Medicare spending across regions than use of acute care, prescription drugs, diagnostic tests, and procedures combined.

Discretionary health care decisions that are not based on relevant evidence create opportunities for disparities in care and result in increases in health care spending. Despite the attention focused on post-acute care, there is little discussion about how discharge decision making and variation in post-acute care settings contribute to disparities and what this might mean for patients and payment reforms.

For example, a study by Singh et al³ found that in 1991, black patients were 40% less likely to receive a total knee arthroplasty and 50% less likely to receive a total hip arthroplasty than white patients, and by 2008 this disparity had either persisted (total hip arthroplasty) or increased (total knee arthroplasty) despite all these patients having Medicare coverage for the procedure. More recent data from a randomized clinical trial registry of patients with knee osteoarthritis found black patients were less likely than white patients to undergo total knee arthroplasty during the 3-year study ending in 2014 (10.5% vs 19.0%, respectively).⁴ However, in a study of 129 522 patients, black patients who underwent joint arthroplasty were more likely to be discharged to an institution vs home than white patients (black patients: 55.2% discharged to an institution vs 7.5% to home; white patients: 33.3% to an institution vs 18.9% to home).⁵

These differences in discharge location are problematic for 2 reasons. First, early randomized clinical trial data suggested that home care can lead to the same level of functional recovery as institutional post-acute care for patients undergoing joint replacement at significantly lower cost.⁶ Similarly, preliminary evidence from 1 hospital that began participating in bundled payments for joint replacement found a significant decrease in discharges to institutional post-acute care (from 68% to 34%) with a concomitant decrease in hospital readmissions (from 8% to 5%).⁷ Second, black patients are at further risk for poorer outcomes because they are more likely to receive SNF care in a lower-quality nursing facility. Because nursing home quality ratings and neighborhood socioeconomic status are correlated, black patients have fewer nearby options to receive high-quality post-acute care, thereby exacerbating disparities.⁸

While more research is needed to understand why these disparities exist, several factors likely contribute. First, hospital clinicians may have a desire to protect patients whom they perceive as vulnerable to adverse postdischarge outcomes. Hospital clinicians, who face pressure to make discharge decisions quickly, may promote institutional post-acute care as a “safer” alternative, particularly when the patient is perceived as socially frail.⁹ Racial/ethnic minorities, particularly those who reside in socioeconomically disenfranchised communities, may be perceived as more vulnerable than nonminority populations.

Second, there is a significant lack of prognostic data that can be used to match patient needs with resources at the time of hospital discharge. Patient assessment by hospital clinicians is not standardized and often relies on an overall perception about discharge location, generally without incorporating feedback from prior patient outcomes to iteratively improve decision making. Patients not only infrequently discuss postdischarge options prior to surgery, but they also rarely receive data about the relative quality of post-acute care options. In addition, fewer patients may realize that the post-acute care facility chosen may have a larger influence on their outcomes than the hospital care they have received.

Third, the role of patient and caregiver preference in discharge decision making is relatively unexplored and is likely an important factor in the process. Black patients who are eligible for joint replacement differ in their preferences for surgery primarily because of differences in their expectations regarding surgical outcomes. Patient preferences and expectations regarding post-acute care may be similarly shaped by social determinants of health. This may create a negative feedback loop, in which increased institutional rehabilitation after elective joint replacement at lower-quality facilities leads to poorer outcomes, contributing to fewer black patients considering the procedure in the future. Ironically, these procedures are intended to delay long-term nursing home placement related to impaired mobility.

The increased emphasis on post-acute care outcomes brought about by payment reform (most prominently, the Comprehensive Care for Joint Replacement model) provides an opportunity to start to address these important issues. First, there is a clear need to better understand each decision point along the care continuum for black patients undergoing joint replacement as an example of a broader issue surrounding post-acute care and value-based payments. For example, why are more black patients discharged to institutional forms of post-acute care? Does this reflect unmeasured confounding (ie, these patients are perceived to have less social support or more impaired mobility—aspects infrequently captured in administrative data), implicit bias, or aspects of both? Improvements in data gathered systematically at the time of discharge, such as the planned roll-out of the Continuity Assessment Record and Evaluation tool, may provide an opportunity to better answer these important questions and match post-acute care resources to patient needs in an evidence-based manner. Because institutional post-acute care and hospital readmissions are the largest contributors to costs in bundled payments, participating hospitals and health care systems should evaluate the care their patients are receiving and consider programs to reduce disparities and improve outcomes. Novel, enhanced forms of home support may need to be developed or adapted for vulnerable populations.

Similarly, the planned public reporting of readmission and community discharge rates by SNFs, mandated as a part of the Improving Medicare Post-Acute Care Transformation Act and Protecting Access to Medicare Act, is an important step forward in helping appropriate patients select a post-acute care facility. However, because preliminary evidence suggests publicly reported data only exacerbated disparities in nursing home use among minority patients,⁸ how can these data be used to improve outcomes and eliminate disparities? One approach to eliminating disparities at this decision point could be to adapt a novel approach that has demonstrated promise in addressing disparities in an earlier decision point in the same process—access to elective joint replacement. A 2017 randomized clinical trial found supporting patient decision making with a decision aid increased the rate that black patients underwent appropriate elective joint replacement.¹⁰ An analogous structured decision-making approach could be used to discuss post-acute care options, perhaps even at the same time as the decision is being made to undergo the procedure.

Whether these patients would be accepted at higher-quality facilities is unclear and important to explore as the next decision point in the process. Penalties for SNFs with higher readmission rates or lower community

discharge rates brought about by the Improving Medicare Post-Acute Care Transformation Act may lead to unintended adverse consequences for black patients if they continue current referral patterns because these SNFs may disproportionately serve disadvantaged populations and would have even less financial ability to improve care. Regulations to ensure equity in post-acute care choices may be required to improve outcomes in predominantly Medicaid or dual-eligible populations. Researchers, policy makers, and clinicians all have an important role in helping to eliminate disparities in these vulnerable populations.