Recalculating Readmissions: A Work in Progress

The rate of unplanned 30-day readmissions has a storied pedigree in quality measurement. Popularized in part by the Institute for Healthcare Improvement and implemented nationwide by the Centers for Medicare & Medicaid Services (CMS) in 2012, unplanned readmissions were taken as evidence—at least in some cases—of inadequate treatment, poor discharge planning, and problematic postacute care.

Drawing on observations from manufacturing, experts argued that early failures (that is, readmissions) were attributable to defective processes early in the product life cycle. In contrast, late failures due to wear and tear were gradual and occurred toward the end of the life cycle. The pattern of early manufacturing-related failure and delayed use-related breakdown resembled the shape of an old-style claw-foot bathtub, hence the "bathtub curve."

The rate of readmissions within 30 days of discharge was interpreted as an example of early failure and possibly of defective care. This interpretation had strong face validity. Under diagnosis-related group–based payment models, clinicians felt strong pressure to discharge patients promptly to reduce costly lengths of stay. Although many patients did well with timely discharge, others "bounced back" to the hospital. Subsequent research correlated readmissions with poor discharge planning and coordination of care (1). Hospital discharge heralded a period of increased vulnerability to medical errors due to deficiencies in communication among clinicians, patient education, medication management, and monitoring (2). Implementation of checklist-driven safe practice bundles, such as medication reconciliation, discharge teaching, and early follow-up, reduced the number of avoidable readmissions (3). The CMS; commercial insurers; state regulators; and quality-rating agencies, such as U.S. News and The Leapfrog Group, embraced unplanned readmissions as a target of efforts to reduce cost and improve care. The federal Hospital Readmissions Reduction Program (HRRP) put teeth in this approach, with financial penalties that affected 2583 acute care hospitals in 2019 (4).

Although premature discharge is profoundly problematic, the unplanned-readmissions metric is showing cracks in the tub. Health care organizations can game the measure by managing readmissions in the emergency department or under "observation status" (5). The measure fails to identify avoidable hospitalizations or to distinguish between early early failures (within 14 days) that are attributable to in-hospital services and late early failures (15 to 30 days) that are often attributable to outpatient care (6). It does not account for patients who die within 30 days of discharge, nor does it account for patients with more than 1 readmission during the 30-day window or those with an extended length of stay. Particularly troubling, the measure fails to account adequately for organizations that care for a disproportionate number of patients with food and housing insecurity or behavioral and substance use disorders—conditions that increase the risk for readmission (7). Accordingly, the penalty is regressive in that it falls disproportionately on small and rural hospitals and on safety-net institutions that have fewer resources than their well-heeled cousins to build out programs to prevent readmissions (8). Finally, troubling evidence exists that readmission disincentives may delay essential care and lead to higher disease-specific mortality rates for such conditions as heart failure (9). In short, the claw-foot tub may have clay feet.

Enter Wadhera and colleagues' thoughtful and timely contribution to the readmission measurement literature (10). In their rigorous analysis of 3173 short-term acute care hospitals that participated in the HRRP in fiscal year 2019 (reflecting discharges among Medicare fee-for-service beneficiaries aged ≥65 years from 2014 to 2017), the researchers compared the impact of the standard 30-day readmissions measure with an alternative metric—excess days in acute care (EDAC)—for 3 conditions: pneumonia, acute myocardial infarction, and heart failure.

The EDAC measure allows a more accurate estimate of acute care use than the HRRP's readmissions metric. A key feature is that it accounts for emergency department visits and observation admissions, multiple readmissions, extended lengths of stay, and mortality within the 30-day postdischarge window. Wadhera and colleagues make a compelling argument for replacing the HRRP's 30-day readmissions measure with EDAC, given its enhanced ability to capture relevant information compared with the readmissions metric.

Working through the implications of adopting the EDAC measure, Wadhera and colleagues examined its impact on hospital rankings and financial penalties. They found that about half of the hospitals in the highest-performing group under the readmissions measure would shift to a lower-performing group if EDAC were used, and a similar fraction would move from the lowest-performing stratum to a higher one. Of equal importance, about 1 in 4 hospitals would see its CMS penalty status change if the EDAC rather than the readmissions measure were used. This change would have a particularly beneficial effect on the financial penalty assessed on the small rural hospitals that are disproportionately harmed by the HRRP.

Wadhera and colleagues' analysis is clearly a step in the right direction, at least as a measure of resource use. Although it incorporates the CMS's recent risk adjustment enhancement using "dual-eligible" Medicare and Medicaid enrollment status, it suffers from the same problem as the readmissions measure in its limited ability to adjust for frailty, medical complexity, and social determinants of health—major drivers of rehospitalization. Like other measures of unplanned readmis-

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sions, it also fails to account for the few rehospitalizations that represent lapses in care. We know that readmission for heart failure or cancer is a life-saving intervention that often indicates appropriate escalation of care for a progressive disease.

Although the EDAC measure captures the use of acute care hospital resources, both it and the readmissions metric are poorly designed to measure quality of care and patient safety. The continued use of readmission measures as a reflection of quality of care in national rankings and pay-for-performance programs is empirically suspect and an ongoing source of frustration and confusion among health care leaders and researchers. We can do better.

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