

Perspective

When Payment Models Distort Perceptions and Care Delivery for Patients With Heart Failure

BOBACK ZIAEIAN, MD, PhD,^{1,2} AND GREGG C. FONAROW, MD²*Los Angeles, California***Key Words:** Health policy, Patient readmissions, Heart failure, Medicare.

Behavioral economics is a social science that tries to understand how human and organizational psychological factors interact with incentive structures that drive micro- and macro-level decision making. Payment models for hospital services are known to influence medical documentation, coding practices, physician behavior, and patient experiences.¹ The Centers for Medicare and Medicaid Services (CMS) is the single largest payer for health care services in the United States. Shifts in CMS payment models can substantially influence documentation, coding, and care delivery, often with unintended consequences. The CMS “Hospital Quality Initiatives” include 3 large programs—the Hospital Readmission Reduction Program (HRRP), Hospital Value-Based Purchasing (VBP), and the Hospital-Acquired Condition Reduction Program (HACRP)—that administer substantial financial penalties (up to 3%, 2%, and 1% of the total annual CMS hospital payments, respectively) for risk-adjusted performance metrics for select discharge diagnoses. Patients admitted for acute decompensated heart failure (HF), a common and costly condition, are featured prominently in both HRRP and VBP payment models. Therefore, an index HF admission triggers several potential financial penalties from the perspective of a health care system related to 30-day readmission and mortality rates.

In the February 2019 issue of the *Journal*, Walkey et al used a representative administrative claims database of US hospitals and observed coding shifts for a growing

proportion of patients with HF away from a primary discharge diagnosis of HF to acute respiratory failure (ARF) from 2006 to 2014.² The prevalence of primary ARF and secondary HF was 0.4% in 2006 and increased 8.5-fold to 3.4% by 2014. This is concerning in that hospitals may have learned to game discharge diagnoses secondary to financial incentives that would offload the sickest patients with HF into an alternate diagnosis-related group category not monitored by the CMS quality improvement programs. One would expect this simple reclassification to improve both readmissions and mortality metrics for patients with a primary discharge diagnosis of HF without any actual change in care or clinical outcomes. The authors note that the shift in coding practices misrepresents risk-adjusted mortality rates when hospitals exclude these patients with HF from index events with the increasingly prevalent coding practice.

These observations add to concerns that policies that incompletely identify a cohort with HF or focus solely on outcomes that are not properly risk adjusted do not achieve their stated goals. The hospital risk-standardized 30-day readmission measures which serve as the basis for HRRP penalties use only administrative variables, consistently demonstrate poor discrimination, and fail to account for the competing risk of mortality. As a result, hospitals are profiled and penalized not based on the quality of care provided but based on the patients under their care. Furthermore, some policies may encourage lower-quality care that is not readily observable or easily measured. In parallel with the current work, health services researchers have demonstrated that patients with HF are increasingly triaged to observational status or discharged from Emergency Departments directly home to avoid being counted as 30-day readmissions.^{3,4} With the implementation of HRRP, recent studies identified likely up-coding of comorbid conditions along with changes in the CMS claims submission process that artificially lowered risk-adjusted 30-day readmission rates. What was initially touted as evidence of an early policy success turned out to be substantially overstated.^{5,6} Overall, the observable changes in practices after implementation of new CMS

From the ¹Division of Cardiology, David Geffen School of Medicine at University of California, Los Angeles, California and ²Division of Cardiology, Veteran Affairs Greater Los Angeles Healthcare System, Los Angeles, California.

Manuscript received February 22, 2019; revised manuscript accepted February 22, 2019.

Reprint requests: Gregg C. Fonarow, MD, Ahmanson—UCLA Cardiomyopathy Center, Ronald Reagan UCLA Medical Center, 10833 LeConte Avenue, Room A2-237 CHS, Los Angeles, CA 90095-1679. Tel: (310) 206-9112; Fax: (310) 206-9111. E-mail: gfonarow@mednet.ucla.edu

Funding: BZ is supported by American Heart Association SDG 17SDG33630113.

See page 228 for disclosure information.

1071-9164/\$ - see front matter

© 2019 Elsevier Inc. All rights reserved.

<https://doi.org/10.1016/j.cardfail.2019.02.017>

payment policies were the gaming of administrative coding and inappropriate triage rather than improvements in transitions of care, outpatient disease management, and use of evidence-based guideline-directed clinical practices. Had the quality of hospital-based HF care actually improved one would expect reductions all types of urgent returns to the hospital in the first 30 days and in both mortality and readmission rates.

The greatest concerns with releasing policies without prior testing and prospective monitoring is that vulnerable patients could be unintentionally harmed as a result. After CMS announced and instituted HRRP, initial reports focused only on changes in inpatient 30-day rehospitalization rates, cost savings, and claims of policy success. Subsequently, independent analyses have demonstrated that after the HRRP announcement and penalty phase, hospitalized patients with HF have had notable increases in postdischarge short-term mortality.^{7,8} The timing of the increases in 30-day mortality closely corresponded with the timing of the declines in rehospitalization and were not explained by increased use of hospice care. Furthermore, the increase in mortality associated with the HRRP was largely driven by patients who were not readmitted to the hospital but died within 30 days of discharge. These findings increase the likelihood that HRRP financially encouraged inappropriate triage and restricting of inpatient readmissions accounts for the harm observed. This occurred despite being a period of improved use of guideline-directed medical therapies and approvals for novel therapies shown to reduce both readmission risk and mortality.^{9,10} The most sensitive and vulnerable hospitalized patients with HF may have experienced unintended consequences related to inappropriate triage and arbitrary financial penalties to their hospitals that lowered the quality of care delivered.

To improve the likelihood of actual success and to minimize risks, new policies should be formulated in close consultation with clinicians actively involved in care, professional societies, patients, and caregivers. Policies need to be implemented with evidence-based guidance on how to safely and effectively achieve the stated goals along with provision of necessary resources. Prospective testing before national implementation is advisable as well. Prior testing of the HRRP in one or more demonstration projects might have allowed detection of policy-motivated increases in severity coding, shifts in primary diagnoses assigned, adverse triage strategies, and unintended harm. With such testing, significant modifications to the policy could have been made before national implementation and millions of patients being exposed to increased mortality risk. Rigorous, proactive, and truly independent monitoring and evaluation of policies should be mandatory to discourage and detect gaming, ensure that stated aims are being achieved, and rapidly detect if any unintended consequences emerge.

There is no evidence that the CMS financial incentives programs have significantly improved patient-centered outcomes in a meaningful way. It was misguided to base

national policies on an untested premise that the causal pathway between readmission penalties and improved care quality and outcomes was direct, not susceptible to gaming, and without potential risks. Absconding patients into diagnoses that avoid financial penalties and using higher-severity administrative codes does nothing to improve the quality of care. Failing to alter or halt policies that have been associated with patient harm would be egregious. Performance metrics that map to actual evidenced-based practices may be a more consistent way to encourage improved clinical care in a meaningful way. Much of the success in reducing variations and delivering evidenced-based care in acute coronary syndromes was based on direct actionable performance metrics.^{11,12} Refocusing efforts on improving transitions of care, greater access to HF disease management programs, and receipt of evidenced-based treatments are far more patient-centered and safer approaches to improve outcomes.

Disclosures

G.C.F. reports research support from the National Institutes of Health and consulting for Abbott, Amgen, Bayer, Janssen, Medtronic, and Novartis. B.Z. reports none.

References

1. Khullar D, Chokshi DA, Kocher R, Reddy A, Basu K, Conway PH, et al. Behavioral economics and physician compensation — promise and challenges. *N Engl J Med* 2015;372:2281–3. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/26061834>.
2. Walkey AJ, Sheih M-S, Pekow P, Lagu T, Lindenauer PK. Changing heart failure coding practices and hospital risk-standardized mortality rates. *J Card Fail* 2019;25(2):137–9.
3. Zuckerman RB, Sheingold SH, Orav EJ, Ruhter J, Epstein AM. Readmissions, observation, and the hospital readmissions reduction program. *N Engl J Med* [Internet] 2016;374:1543–51. Available from: <http://www.nejm.org/doi/10.1056/NEJMsa1513024%5Cnhttp://www.ncbi.nlm.nih.gov/pubmed/26910198>.
4. Venkatesh AK, Wang C, Wang Y, Altaf F, Bernheim SM, Horwitz L. Association between postdischarge emergency department visitation and readmission rates. *J Hosp Med* 2018;13:589–94. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/23562776>.
5. Ody C, Msall L, Dafny LS, Grabowski DC, Cutler DM. Decreases in readmissions credited to medicare's program to reduce hospital readmissions have been overstated. *Health Aff* 2019;38:36–43. Available from: <http://www.healthaffairs.org/doi/10.1377/hlthaff.2018.05178>.
6. Ibrahim AM, Dimick JB, Sinha SS, Hollingsworth JM, Nuliyalu U, Ryan AM. Association of coded severity with readmission reduction after the hospital readmissions reduction program. *JAMA Intern Med* 2018;178:290–2. Available from: <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2663252>.
7. Gupta A, Allen LA, Bhatt DL, Cox M, DeVore AD, Heidenreich PA, et al. Association of the hospital readmissions reduction program implementation with readmission and mortality outcomes in heart failure. *JAMA Cardiol* 2018;3:44–53.
8. Wadhera RK, Joynt Maddox KE, Wasfy JH, Haneuse S, Shen C, Yeh RW. Association of the hospital readmissions reduction program with mortality among medicare beneficiaries hospitalized for heart failure, acute myocardial infarction, and

- pneumonia. JAMA 2018;320:2542. Available from: <http://jama.jamanetwork.com/article.aspx?doi=10.1001/jama.2018.19232>.
9. McMurray JJV, Packer M, Desai AS, Gong J, Lefkowitz MP, Rizkala AR, et al. Angiotensin–neprilysin inhibition versus enalapril in heart failure. N Engl J Med 2014;371:993–1004. Available from: <http://www.nejm.org/doi/abs/10.1056/NEJMoa1409077>.
10. Abraham WT, Adamson PB, Bourge RC, Aaron MF, Costanzo MR, Stevenson LW, et al. Wireless pulmonary artery haemodynamic monitoring in chronic heart failure: A randomised controlled trial. Lancet 2011;377:658–66. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/21315441>.
11. Mehta RH, Chen AY, Alexander KP, Ohman EM, Roe MT, Peterson ED. Doing the right things and doing them the right way association between hospital guideline adherence, dosing safety, and outcomes among patients with acute coronary syndrome. Circulation 2015;131:980–7.
12. Chatterjee P, Joynt Maddox KE. US national trends in mortality from acute myocardial infarction and heart failure policy success or failure? JAMA Cardiol 2018;3:336–40.