Invited Commentary

The Case of Noninvasive Cardiac Testing—For Every Action There Is a Reaction

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From 1999 to 2005, the use of noninvasive cardiac tests (NCTs), such as stress tests and echocardiography, grew by 57.1%, from 140 to 220 tests per 1000 patient-years, driven almost entirely by increased use of these tests in outpatient clinicians' offices.[1] Concerned that this growth represented unnecessary overuse of testing, starting in 2005 the Centers for Medicare & Medicaid Services (CMS) reduced payments in the provider-based office (PBO) setting by half, from $600 to $300 per test on average. In this issue of *JAMA Internal Medicine*, Masoudi and colleagues[1] investigate how this change in Medicare reimbursement rates for NCTs influenced rates of these tests being performed in hospital-based outpatient (HBO) locations vs PBO locations.

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When CMS cut the PBO rate, the HBO rate stayed roughly the same. This change resulted in an increase in the HBO to PBO payment ratio from 1.05 in 2005 to 2.32 in 2015, effectively making it much more lucrative to perform the same test in a hospital-based location. Masoudi et al[1] demonstrate that, after these changes, the proportion of NCTs performed in HBO locations in Medicare fee-for-service beneficiaries increased from 21.1% in 2008 to 43.2% in 2015. This increase was strongly correlated with site-specific changes in payment rates for NCTs. The authors provide further support for a possible causal link for these changes by evaluating rates of NCTs among a control Medicare Advantage population, in which payment rates did not change meaningfully over time. Masoudi et al[1] found that the HBO proportion actually declined among the control population, from 18.3% in 2006 to 15.2% in 2015, and there was no correlation with payment rates.

The findings of this study are concerning and hold important lessons for policy makers. Although the reimbursement change had its intended effect, which was to slow (and in fact reverse) the growth in the use of NCTs seen in the early 2000s, the policy also contributed to 3 major unintended consequences.

The first unintended consequence is that total costs related to NCTs actually increased, given the preferential shift by clinicians to higher-reimbursed HBO testing. This outcome is obviously in contrast to the intent of the policy.

The second, even more concerning, consequence is that patients' out-of-pocket costs likely increased as well. Medicare beneficiaries are responsible for paying a certain proportion of their costs for outpatient services. Because HBO tests are more expensive than PBO tests, as the rate of HBO testing increased, patients had higher out-of-pocket costs. By one CMS estimate, those additional costs translated into $150 million per year in out-of-pocket expenditures.[2] It is likely that patients are not aware of the differences in costs between the 2 settings, or not given the option of selecting the less costly setting.

The third consequence is that payment discrepancies in HBO vs PBO settings are likely driving greater consolidation of the health care market. During the past 2 decades, hospitals have increasingly acquired physician practices that can then receive the higher HBO rate for providing the same care to the same population.[3,4] A recent study showed that vertical consolidation can increase physician prices by as much as 14.1%, despite no change in the case mix of the patient population.[3]

So what can policy makers do to address this problem? There are at least 3 potential solutions. The first solution is to equalize payments for NCTs between free-standing PBOs and HBOs. This change has been proposed by the Medicare Payment Advisory Committee, not only for NCTs, but for testing and care delivery more broadly.[5] A recent report found that Medicare spent an additional $2.7 billion on physician services between 2012 and 2015 just because those services were delivered in the HBO setting rather than the PBO setting.[6] The Centers for Medicare & Medicaid Services has issued a number of recent proposed and final rules implementing site-neutral payments for testing as well as clinic visits. However, many health care organizations oppose this solution, including the American Hospital Association and the American Association of Medical Colleges, who have recently filed a lawsuit against CMS for beginning to implement site-neutral payments.[7] In the lawsuit, the plaintiffs argue that testing is more expensive in the HBO setting because it costs clinicians more to perform the tests in that setting. The basis for the lawsuit on legal grounds is that the changes may be illegal because they reverse prior guidance around "grandfathered" sites and because they are not budget neutral.

A second potential solution is to empower patients to choose their preferred testing location when appropriate. To do so, the federal government can require clinicians to give Medicare patients options of testing locations and their prices, including how much they will pay out of pocket. Such actions may help deter clinicians from gaming the complex reimbursement system and allow patients to protect themselves financially.

The third potential solution is for CMS to continue moving more patients into alternative payment models, where clinicians are accountable for total costs of their patients. Particularly among clinicians who do not receive financial reimbursement for NCTs, such as primary care physicians, these models have the potential to influence clinicians to save costs by shifting their patients to lower-cost settings, which in this case would mean sending patients to undergo NCTs in PBO settings rather than in the HBO setting.

In conclusion, there are potential unintended consequences to every policy action. The lowering of payment in

PBO settings for cardiovascular tests actually led to increased total costs, including higher costs paid by patients, and likely encouraged consolidation among providers for monetary gain. By enacting site-neutral payments, requiring transparency of health care prices, and continuing to incentivize value-based care models, policy makers can ensure that patients are receiving the right care without needlessly paying more for it.

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