The Spillover Effects of a Nationwide Medicare Bundled Payment Reform

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Sector(s): Health, Social Protection

Location: United States

Sample: 171 Metropolitan Statistical Areas

Initiative(s): US Health Care Delivery Initiative (HCDI)

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Research Papers: Randomized trial shows healthcare payment reform has equal-sized spillover effe...

Partner organization(s): Centers for Medicare and Medicaid Services

Changes in how one health insurer pays health care providers may not only directly affect the insurer's patients, but may also affect patients covered by other insurers. In a randomized evaluation carried out by the Center for Medicare & Medicaid Services, independent researchers studied the spillover effects of a nationwide Medicare bundled payment reform on privately insured Medicare Advantage (MA) patients who were not targeted by the reform. Researchers found that the bundled payment reform's spillover effect on non-targeted MA patients was similar to the bundled payment reform's direct effect on targeted Traditional Medicare patients.

Context of the evaluation

In 2018, about two-thirds of the 60 million Medicare enrollees were covered by the Traditional Medicare (TM) program that provides a publicly administered health insurance plan. The remaining one third of Medicare enrollees opted for the Medicare Advantage (MA) program under which they are covered by private insurance plans. In 2016, the Centers for Medicare and Medicaid Services (CMS) launched a randomized controlled trial of the mandatory Comprehensive Care for Joint Replacement (CJR) bundled payment program that covers hip and knee replacement procedures (also known was lower extremity joint replacement, or LEJR) for TM patients. The LEJR category, with 530,000 procedures and $7.1 billion in Medicare inpatient spending in 2016 alone, represents about 5 percent of TM hospital admissions and 5 percent of inpatient spending. While there are multiple health insurers in the US healthcare system—including public options like TM and Medicaid, and a large number of private insurers—TM is large enough that changes in its payment system may affect the care received by non-TM patients. In 2016, TM accounted for 40 percent of LEJR admissions. Importantly, the reform only affected how Medicare pays providers for patients in the TM program and did not change how Medicare pays providers for patients in the Medicare Advantage program.

Patient with a bandage compression knee brace on a hospital bed.

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Details of the intervention

In this CMS-designed randomized controlled trial, bundled payment reform was randomized across different geographic areas. The bundled payment reform applied only to TM patients. Independent researchers evaluated spillover on the health care received by MA patients during the first two years of the five-year randomized evaluation (2016-2017).

The study included 171 Metropolitan Statistical Areas (MSAs), which are geographic areas with large populations that are socially and economically tied, that consisted of 400,000 patients and 1,500 hospitals. CMS divided the 171 MSAs into different subgroups based on MSA population and historical LEJR spending; within these subgroups, CMS randomly assigned 67 MSAs to the treatment group and 104 to the control group:

Control: Hospitals in these MSAs continue to pay for hip and knee replacements for TM patients within the current FFS model. This represents the status quo.

Treatment: Hospitals in these MSAs were required to participate in the CJR bundled payment model for TM patients during the two years of the spillover study. Under this bundled payment system, hospitals receive a single payment and are responsible for the medical spending over the entire LEJR episode for TM patients. Measures were put in place to limit risk for the hospitals and to ensure minimum quality standards are met.

Results and policy lessons

Researchers found that the bundled payment reform's spillover effect on non-targeted MA patients was similar to the bundled payment reform's direct effect on targeted TM patients, both in terms of sign and magnitude. Consistent with previous studies measuring the direct effect of changes in payment policies, the researchers found that bundled payment reform reduced the share of targeted TM patients discharged to institutional post-acute care by 3.4 percentage points, a 10 percent decrease relative to the control group average. For non-targeted MA patients, researchers found that the bundled payment reform also reduced the share of MA patients discharged to institutional post-acute care by 3.3 percentage points, nearly a 12 percent decrease relative to the control group average.

The researchers present suggestive evidence that the fixed cost of changing health care provision (e.g., undertaking efforts to overhaul discharge practices at the hospital) is likely an important driver of the spillover effects on non-targeted patients. In particular, they find that hospitals that experience larger direct effects for TM patients also experience larger spillover effects for MA patients, and that hospitals with a higher volume of targeted TM patients experience larger spillover effects.

The study results support the idea that health insurance payment practices for one group of patients may affect the care received by other patients. Given that the US health care system has multiple insurers, this study suggests that in analyses of health care policies for one type of insurer, accounting for spillover effects on non-targeted patients who may be indirectly affected may provide a more accurate estimate of the overall impact of the policy. As seen in this randomized evaluation, policies that are narrowly focused on one set of patients, in this case those covered by TM, may impact the way providers treat non-TM patients.

Einav, Liran, Amy Finkelstein, Yunan Ji, and Neale Mahoney. "Randomized trial shows healthcare payment reform has equal-sized spillover effects on patients not targeted by reform." *Proceedings of the National Academy of Sciences* 117, no. 32 (2020): 18939-18947.

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1. Dummit, Laura, et al. "CMS Comprehensive Care for Joint Replacement Model: Performance Year 1 Evaluation Report." The Lewin Group, 2018.
https://innovation.cms.gov/files/reports/cjr-firstannrpt.pdf

2. Barnett, Michael L, et al. "Two-Year Evaluation of Mandatory Bundled Payments for Joint Replacement." New England Journal of Medicine 380 (2019): 252-262. DOI: 10.1056/NEJMsa1809010

3. Finkelstein, Amy, Ji, Yunan, Mahoney, Neale, and Jonathan Skinner. "Mandatory Medicare Bundled Payment Program for Lower Extremity Joint Replacement and Discharge to Institutional Postacute Care." *JAMA* 320, no. 9 (2018): 892-900. doi:10.1001/jama.2018.12346