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The Effect of Integration of Hospitals and Post-Acute Care Providers on Medicare Payment and Patient Outcomes

Abstract

Vertical integration between hospitals and skilled nursing facilities (SNFs) increases Medicare payments for the first 60 days of care by \$2,424 (17%), compared to hospital-SNF pairs that are not vertically integrated. These integrated hospital–SNF pairs also experience a decline in 30-day rates of rehospitalization or death of 5 percentage points on a base rate of 31.3%. Vertical integration between hospitals and home health agencies (HHAs) has little effect on Medicare payments and patient outcomes, nor does informal integration in either setting.

Keywords

vertical integration, post-acute care, Medicare, payment, rehospitalization

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Research BRIEF

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THE EFFECT OF INTEGRATION OF HOSPITALS AND POST-ACUTE CARE PROVIDERS ON MEDICARE PAYMENT AND PATIENT OUTCOMES

R. Tamara Konetzka, Elizabeth A. Stuart, and Rachel M. Werner

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KEY FINDINGS

Vertical integration between hospitals and skilled nursing facilities (SNFs) increases Medicare payments for the first 60 days of care by \$2,424 (17%), compared to hospital-SNF pairs that are not vertically integrated. These integrated hospital-SNF pairs also experience a decline in 30-day rates of rehospitalization or death of 5 percentage points on a base rate of 31.3%. Vertical integration between hospitals and home health agencies (HHAs) has little effect on Medicare payments and patient outcomes, nor does informal integration in either setting.

THE QUESTION

In light of emerging value-based payment reforms such as bundled payments, hospitals have turned their attention to post-discharge care as they seek to improve care coordination, reduce preventable hospital readmissions, and reduce spending. About 38% of all Medicare patients discharged from an acute care hospital go on to use post-acute care (PAC), most of which is provided in two settings: 49% by skilled nursing facilities (SNFs) and 43% by home health agencies (HHAs).

One strategy hospitals have used is to vertically integrate care through legal acquisition of post-acute providers, or through more informal arrangements, where legally separate organizations selectively form strong ties by mechanisms such as sharing physicians or nurses across settings.

A key question is whether integration between hospitals and PAC providers delivers on the promise of reduced costs and improved outcomes. The authors use 2005-2013

Medicare claims data to examine the effects of integration (both formal and informal) between hospitals and PAC providers (specifically, SNFs and HHAs) on three outcomes: Medicare payments, length of stay, and hospital readmissions.

THE FINDINGS

In this analysis of 109,023 hospital-SNF pairs and 74,597 hospital-HHA pairs, the authors found that 1.0% are vertically integrated and 1.2% are informally integrated. Among hospital-HHA pairs, 2.5% are vertically integrated and 2.6% are informally integrated.

Vertically integrated hospital-SNF pairs receive \$2,424 more in total Medicare payments for the first 60 days of care compared to hospital-SNF pairs that are not vertically integrated, a relative increase of 17%. The total length of stay increases by 3.9 days, or by 12.8%. Both outcomes are driven by SNFs rather than hospitals. This is unsurprising given SNFs are paid per-diem, and thus hospital-SNF pairs are incentivized to

lengthen stays in SNFs to maximize Medicare payment. Additionally, hospital-SNF pairs see a decline in rate of readmission or death by just over 5 percentage points on a base rate of 31.3% (a relative decline of 17%) (**Figure**).

In contrast, vertically integrated HHAs, where HHAs are paid by episode, experience a decline in total Medicare payments over the first 60 days, though smaller in magnitude (\$303, a relative reduction of 2.9%). Hospital-HHA pairs also saw a decline in length of stay driven by reduced length of HHA episodes. For this group, the effect of integration on readmission or death is close to zero.

Under informal integration, where hospitals face weaker incentives for coordination than vertical integration, the authors find little to no effect on either Medicare payments or patient outcomes.

FIGURE
EFFECTS OF VERTICAL INTEGRATION BETWEEN HOSPITALS AND SNFS ON MEDICARE PAYMENT, LENGTH OF STAY IN THE FIRST 60 DAYS FOLLOWING HOSPITAL ADMISSION, AND 30-DAY REHOSPITALIZATION RATE

	Non-vertically integrated	Vertically-integrated	Difference
Medicare payment	\$14,291	\$16,715	+ \$2,424 Hospital: +\$150 SNF: +\$2,274
Length of stay	30.5 days	34.4 days	+3.90 days Hospital: -0.74 days SNF: +4.64 days
30-day rehospitalization or death	31.3%	25.9%	-5.4%

THE IMPLICATIONS

The study demonstrates that the payment mechanisms for PAC – whether it is per-diem or episode-based payment – have important effects on the organization of health care delivery and provider behavior. These findings indicate that hospitals that vertically integrate with SNFs are able to take advantage of how payments are structured to increase Medicare payments overall, mostly by increasing the number of SNF days while reducing rehospitalizations. In promoting policies to increase coordination of care, policymakers should bear in mind that integration may be inherently anti-competitive and that coordination may be accompanied by higher spending. Despite a reduction of five percentage points in readmission rates, total Medicare spending is higher for beneficiaries receiving care in integrated hospital-SNF pairs. While reducing rehospitalization rates is an important outcome, it comes at a high price under vertical integration. If 10% of beneficiaries receive care from vertically integrated hospital-SNF pairs, the annual cost to Medicare could be \$209 million. This reinforces the challenge in designing financial incentives to increase

coordination of care and simultaneously controlling costs. As we move forward with payment reform aimed at constraining costs and improving quality, designing reforms that anticipate provider responses will be key to their success.

THE STUDY

The authors use Medicare claims data to observe all Medicare-reimbursed hospitalizations and post-acute care use in the U.S. between 2005 and 2013. They paired each hospital in a Hospital Referral Region (HRR) with each SNF and HHA in that region, limiting their study to regions that had at least one vertically integrated and one informally integrated pair for each PAC type. Their final sample of 109,023 hospital-SNF pairs and 74,597 hospital-HHA pairs included 2,651,748 beneficiaries discharged from hospital to SNF and 1,318,577 discharged to HHA. Formal vertical integration is defined as ownership of a SNF and HHA by an acute care hospital. Informal integration is based on patient flows and the concentration of relationships between hospital and PAC providers.

The authors identify the effects of integration on three outcomes of each 60-day episode: Medicare payments for both hospital and initial PAC stay, length of stay, and death or readmission to the hospital within 30 days of discharge. They used a number of techniques to account for patient selection into vertically integrated PAC providers, as well as the hospital's decision to vertically integrate.

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Rachel Werner, MD, PhD, is Professor of Medicine at Penn and the Department of Medicine's Director of Health Policy and Outcomes Research. She conducts research that seeks to understand the effect of health care policies and delivery systems on quality and equity of health care. In particular, she has examined the role of quality improvement incentives on racial disparities and was among the first to recognize that public reporting of quality information may worsen racial disparities.

Her study co-authors are R. Tamara Konetzka, PhD, Professor in Health Services Research in the Department of Public Health Sciences at the University of Chicago, and Elizabeth A. Stuart, PhD, Professor of Mental Health in the Johns Hopkins Bloomberg School of Public Health.