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Effects of vertical integration on providers' billing and practice patterns in ESI (2018-2022)

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Background

Since 2012, more providers, defined as medical doctors and allied practitioners (e.g., nurse practitioners), are moving from operating independent practices to employment by hospitals, health systems, or other corporate organizations. This trend is often referred to as "vertical integration" or "vertical consolidation". Supporters of integration claim that it has the potential to lower costs and produce better patient outcomes through efficiencies such as coordination of care and economies of scale. On the other hand, such integration could create financial incentives for acquired providers to increase revenues for their employing health system. For example, providers may be more likely to bill higher intensity codes for services, steer patients away from lower cost non-facility services to higher cost hospital-based services, and/or steer patients to services within their health system, thereby increasing utilization. Overall, integration also could increase provider bargaining power to negotiate higher payment rates from insurers, due to the consolidation of providers in the market.

Previous research has found that such integration of providers' practices and health systems is associated with higher health care spending and prices. Additionally, cross-sectional analysis of geographic markets found high vertical integration is associated with higher prices and spending.

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In this report, we study changes in billing and practice patterns following providers' acquisition by health systems, from 2018 to 2022, using HCCI's unique dataset of people with employer-sponsored insurance. First, we looked at Evaluation and Management (E&M) visits to see if providers that had been acquired billed higher intensity visits following acquisition, which could increase revenue from office visits for the acquiring health systems. Second, we examined whether acquired providers were more likely to steer patients to a hospital facility as site of care for medical diagnostic tests following acquisition. Lastly, we assessed whether acquired providers billed add-on facility fees that they did not bill prior to acquisition.

As described below, we found evidence that providers billed for higher intensity E&M visits and were more likely to have hospital-based diagnostic tests following acquisition. We did not find, however, that providers acquired by health systems were more likely to bill a facility fee with office visits following acquisition.

Providers billed higher-intensity E&M visits following acquisition

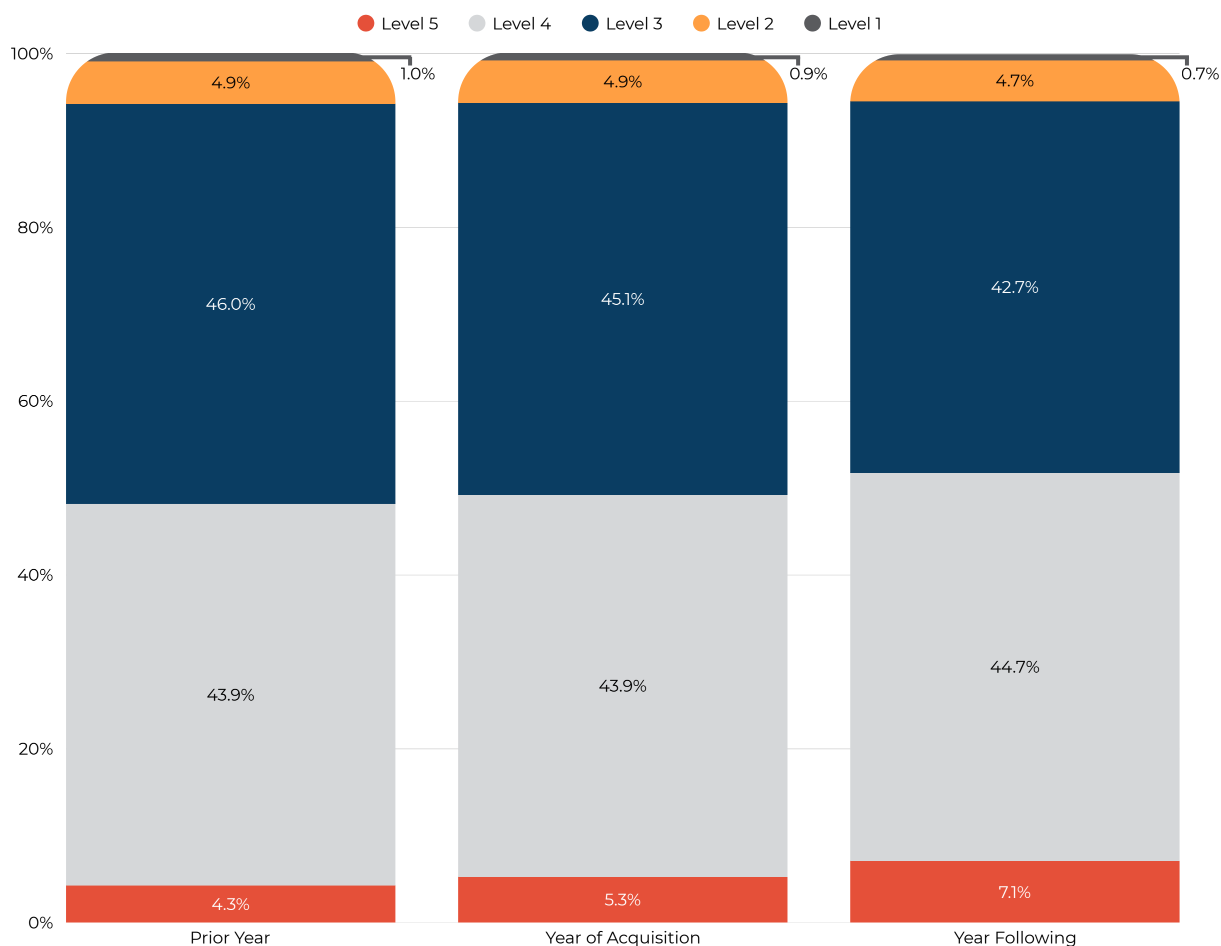
E&M services capture most office visits and typically involve a provider or other health care professional diagnosing and treating illness or injury. There are separate E&M codes for new and established patients. For each type of patient, there are five levels of E&M codes that are meant to capture the complexity of the visit. The Level 1 E&M code, for example, is for visits with minimal presenting problems. In contrast, the Level 5 E&M code is for visits that require a high level of medical decision-making.

To assess whether providers acquired by a health system changed their billing patterns after acquisition, we compared the share of E&M codes billed at each level of intensity in the year before, the year of, and the year following acquisition by a health system for established patients. If acquisition had no impact on billing patterns, we would expect the share of E&M visits at each level of intensity to be similar across years.

In the year following acquisition by a health system, we found that acquired providers billed a larger percentage of high-intensity E&M visits. **Figure 1** illustrates E&M visits for established patients. Specifically, the share of E&M visits that were billed at Level 5 increased from 4.3% to 7.1% after acquisition.

We also observe a modest (1.9%) increase in the proportion of E&M visits billed at Level 4 following acquisition. Over the same period, the share of E&M visits that were billed at Level 3 decreased from 46.0% to 42.7% after acquisition. We ran robustness checks and found similar shifts among E&M codes for new patients. We did not see similar changes in coding intensity among new and established patients within the broader ESI population (regardless of whether providers were acquired or not). (See downloadable data).

Figure 1: Share of established E&M codes among providers acquired by health system



Source: HCCI commercial claims data

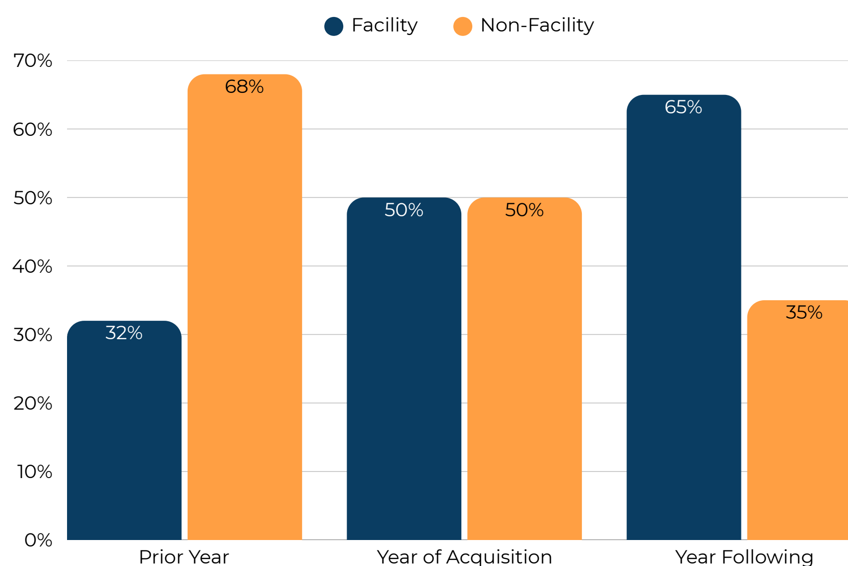
Post-acquisition shifts in site of care for ordered medical tests by acquired providers

A noted concern on vertical integration among researchers and policymakers is steering of patients towards the acquiree's health network for procedures and/or tests. Steering of patients can increase utilization, dilute competition, and limit choices for patients. In this analysis, we examined the site of care for medical tests that patients received following an office visit with the acquired providers in our sample. Medical tests are defined as either imaging or general laboratory tests. We limited our analysis to medical tests that patients received between the day of the office visit and 3 days following the office visit with the acquired provider.

As shown in **Figure 2a**, we found that, prior to acquisition, more than 68% of follow-up laboratory tests for established patients of acquired providers were rendered outside of facilities, such as independent laboratories. In the year of acquisition, the share of laboratory tests rendered outside of facilities decreased to 50% (See **Methods** for information on site of care). In the year following acquisition, the share fell to 35%.

This shift in site of care has cost implications. Previous HCCI research found that prices of common lab tests at hospital-owned laboratories are three times higher than prices at independent laboratories. These findings suggest that acquired providers may be steering patients towards a more expensive site of care within the health system that acquired them.

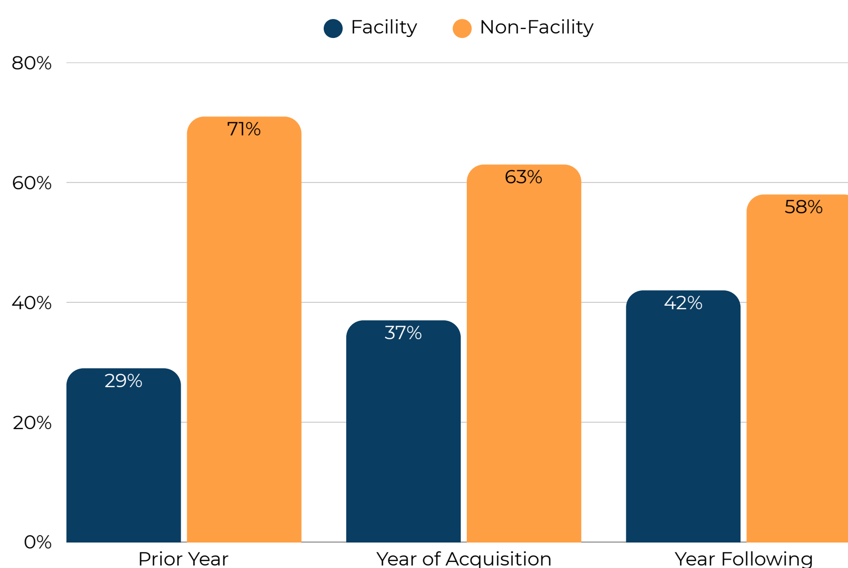
Figure 2a: Share of Follow-up Laboratory Tests by Site of Care



Source: HCCI commercial claims data

When we conducted the same analysis on follow-up imaging services, we observed a similar but more modest pattern **(Figure 2b)**. In the year prior to acquisition, we found that 29% of all follow-up imaging tests received by established patients of acquired providers were rendered at facilities such as hospital-owned imaging centers. In the year following acquisition, the share rose to 42%.

Figure 2b: Share of Follow-up Imaging by Site of Care



Source: HCCI commercial claims data

Facility fee billing for office visits remained low after acquisition

Previous media reports have raised the question of whether providers, following acquisition by health systems, would begin charging facility fees as part of their office visit bill. In this study, we found a low share (1.7%) of acquired providers that had a facility claim associated with their office visit. (See downloadable data). Although the share following acquisition was higher than the year before acquisition (0.6%), our analysis found evidence of a growing share of facility claims years before. This suggests the increase could reflect a trend unrelated to vertical integration.

Provider practice acquisition reduces competition with implications for health care costs

As more facets of the health care market (e.g., providers, pharmacy benefit managers) become increasingly consolidated, concerns about less patient choice and higher prices and spending remain front and center.

In this report, we found pronounced changes in billing and practice patterns following providers' acquisition by a health system. Providers were more likely to bill higher intensity E&M visits for established patients following acquisition. Higher intensity services come at a higher cost, which drives overall health care spending higher. Though we cannot establish with certainty that vertical integration is leading to higher intensity coding, we believe it is unlikely that the changes we observe were driven by factors such as patient panels becoming more complex. Further, our analysis studied established patients that providers have previously cared for as a strategy to help account for the influence of this factor.

We also found that the share of follow-up laboratory tests conducted in facilities doubled following a provider's acquisition. This is in addition to a modest shift to facilities among patients receiving imaging tests. As prices for the same service are higher at hospital outpatient departments, the shift in site of care also would lead to higher health care costs.

Methods

This report is accompanied by a few limitations, chiefly the absence of a control group, which limits our ability to make causal inference from our findings. For robustness checks, we ran analyses on our outcomes of interest on the broader ESI population to establish that trends observed among acquired providers were not consistent with the general ESI population. Additionally, the study period coincides with the COVID-19 pandemic which can limit generalizability due to decrease in health care use during that time period, but previous HCCI research has found the decrease in health care use associated with the pandemic disproportionately was confined to a few months in 2020. Lastly, we do not directly link orders, referrals, or follow-up utilization of imaging and laboratory tests by patients to acquired providers. This may lend to conservative estimates for patient steering.

In this report, we identified claims associated with providers whose practices were acquired by health systems between 2019 and 2021 using HCCI administrative claims data. We identified providers that were acquired by health systems by leveraging changes in billing identifiers associated with the individual providers following methods by Neprash et al. (2015). We restricted our analysis to adjudicated outpatient facility and professional claims with a health plan as the primary payer between 2018 and 2022 among employer-sponsored insured enrollees. We identified sites of care as facilities or non-facilities by the claim form submitted for reimbursements. Services rendered in facilities were billed using the UB-04 claim form, while services rendered in non-facilities were billed using the CMS-1500 claim form.

About

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Solely funded by philanthropists Gary and Mary West, West Health is a family of nonprofit and nonpartisan organizations, including the Gary and Mary West Foundation and Gary and Mary West Health Institute in San Diego and the Gary and Mary West Health Policy Center in Washington, D.C. West Health is dedicated to lowering healthcare costs to enable seniors to successfully age in places with access to high-quality, affordable health and support services that preserve and protect their dignity, quality of life and independence.