Health Care Affordability Lab at Yale

Review of Expert and Academic Literature Assessing Vertical Integration in Health Care

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This memo summarizes the most rigorous academic literature available on how vertical integration in the health care sector affects competition, prices, and quality. By vertical integration, we refer to common ownership across two or more stages of the health care supply chain. We focus on hospital acquisitions of physicians, insurer acquisitions of providers, and insurer integration with pharmacy benefit managers (PBMs) and pharmacies.

Executive Summary

While policymakers have historically focused on horizontal consolidation (e.g., the merger of two hospitals), vertical integration is increasingly drawing attention for how it is influencing the health care sector. Vertical integration refers to transactions between firms in complementary parts of the supply chain (e.g., hospitals and physicians merging), rather than substitutes (e.g., two physician practices merging). Vertical integration is not a new phenomenon, with examples outside of health care including the technology and media sectors. For instance, a large vertically integrated technology company may design its hardware, software, services, and retail all under one roof. Today's biggest health care conglomerates similarly operate like "platforms," with one parent company owning firms spanning the health care ecosystem—including insurers, physicians, hospitals, PBMs, and more.

Three dominant strands of vertical integration are hospital acquisitions of physicians, insurer acquisitions of providers, and insurer integration with PBMs and pharmacies. In the past two decades, hospitals have significantly expanded their acquisitions of physician practices: the share of physicians integrated with hospitals rose by 71.5 percent between 2008 and 2016. In more recent years, insurers have emerged as major employers of physicians. For example, UnitedHealth Group's provider division, Optum, employs or affiliates with 10 percent of all physicians in the

United States. Insurers are also increasingly integrated with PBMs and some pharmacies, which gives them significant influence over where patients purchase medications and how much they pay.

Theory suggests that vertical integration can have mixed effects. On one hand, vertical integration could drive more efficient care delivery by reducing provider markups, enabling shared investment in technology, and improving coordination across care teams. On the other hand, vertical integration could harm competition and enable regulatory gaming by, for instance, limiting competitors' access to critical inputs and customers—such as by steering referrals or offering worse terms to rivals. Integration could also create opportunities for integrated entities to take advantage of site-based payment differentials or game medical loss ratios (MLRs) to boost revenue and profits.

The weight of the evidence suggests that vertical integration most reliably raises prices, with effects on competition that vary by deal, and some evidence suggesting that it leads to moderate efficiency gains in specific contexts. The evidence thus far does not suggest that vertical integration drives improvements in clinical quality, though some research finds hospital-physician integration can improve care coordination.

For example, hospital acquisitions of physician practices are associated with price increases of 3-5 percent for the acquiring hospital and 14-15 percent for acquired physicians. These price increases are driven largely by Medicare payment rules that pay higher rates for hospital-owned practices and reduce competition. Insurer acquisitions of physician practices show mixed efficiency effects but raise concerns about upcoding in Medicare Advantage, MLR gaming, and dampened competition. In the pharmaceutical supply chain, one study of an insurer-PBM merger found that rival insurers' Medicare Part D premiums rose about 42 percent, compared to integrated (insurer-PBM) plans. Specific to Medicare Part D, it has also enabled profit "tunneling" and steering that can increase costs for patients, even as integration may lower premiums in the short run.

Taken together, these findings illustrate concerns across various types of health care vertical integration, with the most consistent evidence pointing to higher unit prices for payers. Effects on competitors vary by market segment and transaction, and the literature on insurer-driven integration in particular is still developing.

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Key Findings

- **Key Finding 1** – Hospital acquisitions of physician practices lead to higher prices and dampened competition with little evidence of clinical quality improvements.

- **Key Finding 2** – Insurer acquisitions of providers can enable regulatory gaming, along with anticompetitive effects in larger deals and modest efficiency gains in isolated cases.

- **Key Finding 3** – Insurer-PBM-pharmacy integration raises rivals' costs and enables regulatory gaming in Medicare Part D, with mixed evidence on consumer benefit.

Vertical Integration in Health Care

Today's largest health care conglomerates operate like "platforms," with one parent company owning firms spanning the health care ecosystem—including insurers, physicians, hospitals, pharmacy benefit managers (PBMs), and more (Kanter and Gaynor, 2025). Three dominant strands of vertical integration are hospital acquisitions of physicians, insurer acquisitions of providers, and insurer integration with PBMs and pharmacies.

Hospital-physician integration has notably increased over the past two decades. The share of physicians employed by hospitals rose by 71.5 percent between 2008 and 2016 (Cooper et al., 2025). While all practice types are integrating, specialties like cardiology and oncology have experienced the highest rates of integration (Nikpay et al., 2018). Much of this integration stems from the fact that Medicare pays physicians markedly higher rates for identical services when they work in hospital-based practices (Capps et al., 2018; Cooper et al., 2023).

Insurers are also increasingly acquiring physician practices (Grasley and Guido, 2025). Optum, the provider-focused division of UnitedHealth Group, employs or affiliates with about 10 percent of physicians in the United States (KFF, 2024). The largest private health insurers—including UnitedHealth, CVS Health, and Humana—have expanded into care delivery through acquisitions spanning physician practices, surgical centers, and home health care, among other provider types (Gaynor and Starc, 2026). Insurers like UnitedHealth are expanding their ownership of primary care practices, particularly in areas with high Medicare Advantage enrollment (Adler et al., 2025).

PBMs help manage drug benefits for insurers, negotiating manufacturer rebates and the terms under which patients access and pay for their prescription drugs. The three largest PBMs—CVS Caremark, Express Scripts, and OptumRx—are each owned by an insurer that also owns mail order and specialty pharmacies, with CVS owning a retail pharmacy too (FTC, 2024). Together, these PBMs manage nearly 80 percent of all prescription drug claims in the United States (FTC, 2024). Vertical integration in the pharmaceutical supply chain has attracted significant legislative attention at both the federal and state levels in recent years, as policymakers seek to lower prescription drug costs, curb anticompetitive practices, and increase financial transparency.

The Theory of Vertical Integration

The theoretical research on vertical integration's effects is nuanced, describing the potential for both benefits and risks (Hart and Tirole, 1990; Riordan, 2008). While vertical integration could lead to greater efficiencies and coordination, it could also disadvantage non-integrated competitors and enable regulatory gaming to the ultimate harm of patients.

Potential Benefits

More Efficient Spending

Vertical integration could enable firms to achieve more efficient spending in a few key ways. The simplest framework predicts that vertical integration can increase efficiency by reducing "double marginalization" (Spengler, 1950). Double marginalization occurs when two non-integrated firms—with market power at different points of the supply chain—independently mark up their prices to maximize their respective profits. If the two firms were integrated, they could theoretically reduce these markups, setting a lower price that would maximize consumer demand for their products—and earn them more in the long run. By enabling the firms to share in each other's profits, vertical integration can encourage more efficient joint investments, such as in facilities and technology (Grossman and Hart, 1986). It can also reduce transaction costs between the firms (Williamson, 1985).

In the hospital-physician context, integration could reduce the costs associated with negotiations, contracting, and other administrative overhead by streamlining those decisions in-house, as opposed to negotiating as separate firms. Integration could also allow the hospitals and physicians to set their prices more efficiently, reducing the cumulative markup that patients and payers would face.

Insurer-provider integration could offer similar cost efficiencies. For instance, an independent hospital may take advantage of its market power and mark up the price of a procedure significantly above cost. Then, an independent insurer absorbs that inflated cost, adds a markup for its own profit, and passes on those costs to enrollees in the form of higher premiums. By integrating, the firms internalize each other's profits, which tends to reduce overall markups. It may also encourage more efficient resource use, such as when integrated physicians direct patients to more cost-effective providers (Grasley and Guido, 2025).

Insurer-PBM-pharmacy integration could eliminate additional layers of markup in the prescription drug supply chain. An independent PBM may engage in "spread pricing," where it retains a portion of manufacturer rebates instead of fully passing on the rebate to the insurer, or charges an administrative fee markup for its services (Brot et al., 2022). When a PBM and insurer integrate, the PBM no longer has an incentive to withhold the rebate because the merged entity internalizes its full value. Integrated insurers and PBMs may also face the same incentives when it comes to formulary and benefit design (Gray et al., 2026). A standalone PBM may prefer drugs with higher list prices and rebates, since those dollars accrue to them rather than the insurer's enrollees. But after integrating, the combined firm designs its formulary and benefits with a shared objective in mind.

Improved Care Coordination and Quality

Vertical integration could theoretically improve chronic disease management and care coordination between multiple providers on a care team. By being under one organizational structure, providers could more readily share information necessary for coordination (Arrow, 1975; Williamson, 1985).

In the hospital-physician context, bringing together multiple specialties under common hospital ownership could enable patients with complicated care needs to be treated in a more coordinated fashion at lower cost. If this integration were to drive higher quality care, it could increase consumers' willingness to pay for care and lead to (justifiably) higher prices (Grennan and Swanson, 2022).

Insurer-provider integration could theoretically allow insurers to better align physician incentives toward high-quality, cost-effective care. Post-acquisition, an insurer can more easily invest in technology and staff to enable better care coordination—investments that are challenging for independent practices to bear on their own (Grasley and Guido, 2025). Through integration, insurers may leverage these investments to reduce unnecessary care and strengthen incentives for preventive services.

Insurer-PBM-pharmacy integration could potentially offer better coordination of medical and pharmacy benefits. By housing medical and pharmacy data under one organizational structure—through common ownership of the insurer, PBM, and pharmacy—an integrated firm could more readily identify issues with drug adherence, flag harmful drug interactions, or encourage appropriate drug substitution.

Potential Risks

Disadvantaging Rivals[1]

A key concern with vertical integration is that it may allow integrated firms to limit their competitors' access to critical inputs and customers (Salop and Scheffman, 1987; Salinger, 1988; Hart and Tirole, 1990). Intuitively, limiting a competitor's access to inputs or customers reduces its profits, which the vertically integrated firm may in turn be able to recapture or "steer" back to itself (Riordan and Salop, 1995; Moresi and Salop, 2013).

Hospitals, for example, rely on physicians to provide care and refer patients to them. A hospital that acquires a physician practice could reduce other hospitals' access to those physicians (and

[1] In economics, "disadvantaging rivals" refers to actions a firm takes—beyond simply competing on merit—to make it harder for competitors to operate or grow.

those physicians' patients), putting its competitors at a disadvantage. In the extreme, patients may switch to the integrated hospital, allowing it to recapture profits lost by its rivals.

An insurer that is integrated with hospitals could steer enrollees away from competing hospitals or limit other insurers' access to its hospital network (Cuesta et al., 2025). This concern goes beyond the more familiar issue of narrow network design, where an insurer excludes providers from coverage altogether; rather, it refers to how an integrated insurer may design its coverage and cost-sharing tiers to make its own facilities more attractive to patients than rival hospitals in the network.

Insurers rely on PBMs to negotiate lower drug prices. An insurer that acquires a PBM could prevent it from negotiating for other insurers or encourage it to offer worse terms to rival insurers. As competing insurers' drug prices increase, their enrollees may switch to the integrated insurer. An integrated insurer may also steer its enrollees to its affiliated pharmacies, reducing patient volume for competing pharmacies (Yde, 2025). Even though the integrated insurer might offer lower-cost coverage to enrollees in the short term, the lack of competition may pose cost issues for consumers in the long term.

Regulatory Gaming

Vertical integration may enable opportunities for regulatory gaming, in which the integrated corporate entity satisfies the letter of the law while circumventing its intent (Gaynor and Starc, 2026).

In the hospital-physician context, a hospital system that employs physicians can influence the volume and site of care in ways that exploit payment rules (Capps et al., 2018; Cooper et al., 2023). Procedures done in hospital outpatient settings command higher Medicare reimbursement rates than in independent physician offices. Thus, physician practices acquired by hospitals can provide the same service at the same location and bill a higher rate without changing care quality.

Regulatory gaming in insurer-provider integration may manifest in an insurer's tactics to satisfy the Medical Loss Ratio (MLR). The Affordable Care Act requires insurers to spend at least 80 percent of premiums on medical care and quality improvement (specifically, 80 percent for individual and small group plans and 85 percent for large group plans). The remainder covers administrative costs and profits. Importantly, the MLR is calculated at the level of the insurance entity, not the broader corporate parent. As a result, an integrated insurer could increase payments to its affiliated providers and count these higher payments as "medical care." This satisfies the MLR requirement while keeping profits within the integrated corporate structure—known as profit tunneling. Because the MLR constrains the share rather than the absolute level of profits, an insurer can increase its total dollar profits through these tactics. Integrated insurers with greater market power may be more likely to be constrained by the MLR and thus face stronger incentives to raise affiliated

provider prices (Arnold and Fulton, 2025). Another example is "upcoding," in which insurers document more diagnoses on a patient's record to garner higher payments (most notably seen in risk-adjusted payment systems in Medicare Advantage; Geruso and Layton, 2020).

An insurer can similarly circumvent the MLR through the pharmaceutical supply chain. Vertically integrated insurers may tunnel their profits to an affiliated PBM by paying them administrative fees which fall outside the MLR. The insurer could also raise the prices they pay to their own pharmacies, keeping profits within the same corporate structure (Kakani et al., 2026).

Hospital Acquisitions of Physician Practices Lead to Higher Prices and Dampened Competition with Little Evidence of Clinical Quality Improvements.

Evidence on Prices

The empirical literature broadly suggests that hospital acquisitions of physician practices lead to higher health care prices and spending (Koch et al., 2017; Dranove and Ody, 2019; Lin et al., 2021; Cooper et al., 2025). The evidence suggests that post-acquisition, prices increase among the acquiring hospitals by an average 3 to 5 percent and among acquired physicians by 14 to 15 percent (Capps et al., 2018; Lin et al., 2021; Cooper et al., 2025). Physician price increases tend to be larger when the acquiring hospital has greater inpatient market share (Capps et al., 2018). Cooper et al.'s estimates are drawn from OB-GYN acquisitions and labor and delivery outcomes specifically, while the other studies use broader inpatient and outpatient samples.

A key driver of price increases is Medicare fee-for-service payment rules, which reimburse physicians more at hospital-owned facilities than physician-owned ones. These payment rules also affect the commercial market, since private insurers tend to follow Medicare's lead (Capps et al., 2018). The payment differential encourages hospitals to employ more physicians and steer more procedures to their facilities (Koch et al., 2017; Dranove and Ody, 2019; Capps et al., 2018). Approximately 45 percent of physician price increases after acquisitions stem from these payment rules (Capps et al., 2018). Dranove and Ody (2019) find that payment differentials explain 20 percent of the increase in physician employment at hospitals and 75 percent of the increase in the share of Medicare procedures billed in hospital facilities from 2009 to 2013.

In addition to Medicare payment rules, these price increases also appear to stem from less competition through disadvantaging of rivals, recapture, and greater physician market concentration—not via improvements in clinical quality (Cooper et al., 2025). Cooper et al. find that prices for physicians who are already integrated with a hospital rise about 9 percent after that hospital acquires additional physicians in their specialty—reflecting a change in market power rather than the physicians' own quality or bargaining position. Notably, Cooper et al. (2025) study

the near universe of hospital acquisitions of physician practices between 2008 and 2016 and find that virtually all the transactions fell under Hart-Scott-Rodino merger reporting thresholds, which makes them less likely to receive regulatory scrutiny.

Evidence on Disadvantaging Rivals

While hospital-physician integration can reduce markups and improve efficiency, it can also drive anticompetitive steering within the vertically integrated system (Brot and de Vaan, 2019; Venkatesh, 2024). Referring physicians strongly influence where patients receive care (Chernew et al., 2021). Vertically integrating with physicians enables hospitals to capitalize on these referral opportunities, steering care away from office-based settings and into hospital outpatient departments (Koch et al., 2017). When a hospital owns a physician practice, its patients become much more likely to receive care in that hospital (Baker et al., 2016). Even for standardized procedures like MRI scans, patients treated by hospital-employed orthopedists tend to receive more expensive scans—often bypassing cheaper options on the way to their physician-referred scan (Chernew et al., 2021). Acquired physician practices may also steer patients away from ambulatory surgical centers (ASCs) and toward more expensive hospital settings. In a study using Florida hospital discharge records, physicians move about 10 percent of their Medicare and commercial patients from ASCs and toward hospitals after integration and are 18 percent less likely to use an ASC at all (Richards et al., 2022).

Evidence on Quality

There is not conclusive evidence that hospital-physician integration leads to quality improvements. In fact, some evidence suggests that integration steers patients toward lower-quality, higher-cost hospitals (Baker et al., 2016). Hospitals' acquisition of providers shows little evidence of improving traditional Medicare beneficiaries' outcomes for diabetes and hypertension—two of the most prevalent conditions among Medicare enrollees (Koch et al., 2021). There are also no observed improvements in Medicare 30-day mortality or readmission for heart attack, heart failure, and pneumonia post-integration (Lin et al., 2021). In some instances, quality may arguably decrease post-integration due to higher rates of procedures that are already deemed overused, like C-sections (Cooper et al., 2025; American College of Obstetricians and Gynecologists, 2025).

Distinct from clinical quality, some research does find benefits to care efficiency and coordination from greater integration. Agha et al. (2023) find that switching to a primary care provider (PCP) who keeps more of a patient's care within the same organization improves care adherence for patients with diabetes. Encinosa and Dor (2025) look at how hospital-physician integration affects care coordination. They find that moving to an area with more integrated physicians leads to less care fragmentation and more continuity of care for commercially insured enrollees. Specialty care integration in particular leads to more team referrals between primary and specialty care

(Encinosa and Dor, 2025). The authors do not find net cost savings overall: coordination gains from specialty integration tend to reduce spending, but primary care integration tends to increase it.

Insurer Acquisitions of Providers Can Enable Regulatory Gaming, Along with Anticompetitive Effects in Larger Deals and Modest Efficiency Gains in Isolated Cases.

The research on insurer-provider integration is relatively small but growing (Handel and Ho, 2021; Gaynor and Starc, 2026). The most rigorous work to date finds evidence that insurer-provider integration can have anticompetitive effects. This is an extremely nascent literature, such that the best evidence we have comes from Chile. This research shows that insurer-hospital integration can lead insurers to shut out rivals by skewing their networks to favor their own integrated hospitals (Cuesta et al., 2025). This, in turn, weakens hospital competition and increases prices. The integrated hospital also raises prices charged to competing insurers. While vertical integration eliminates double marginalization, it is ultimately network redesign that makes patients worse off in the Chilean context, outweighing the gains from reduced markups.

In the United States' context, research suggests that vertical integration's effects vary across health insurance segments. While some evidence suggests that it can lead to higher spending in the Medicare Advantage market, it has also been found to lead to more efficient care provision in the commercial market. Marr et al. (2026) find that after UnitedHealth Group acquired physician practices through its subsidiary Optum, risk scores for UnitedHealthcare patients enrolled in Medicare Advantage plans increased by 6 percent, implying a $265 million increase in federal MA spending due to increased coding intensity. The authors do not find evidence of quality changes and find only limited evidence of disadvantaging rivals overall. Rather, physicians' changes in coding intensity spill over to non-UnitedHealth patients, meaning UnitedHealth captures about 37 percent of the additional risk adjustment revenue while the remaining 63 percent flows to rival MA insurers. The primary fiscal burden therefore falls on taxpayers rather than on competitors. Grasley and Guido (2025), studying a single 2017 Optum acquisition of a primary care practice in Colorado, find similar evidence of greater Medicare Advantage coding intensity. However, they also find that the acquisition improved efficiency in the commercial market by increasing referrals to less expensive specialists, which reduced costs by about $300 per inpatient referral (Grasley and Guido, 2025). As the authors note, assessing the net impact of the acquisition requires weighing this potential efficiency against the taxpayer costs of increased MA coding. Whether these findings generalize beyond this single acquisition is an open question.

When insurers own physician practices, vertical integration can enable them to raise their payment rates to their own physicians and circumvent the MLR through internal transfers rather than true efficiency gains. A descriptive study shows that UnitedHealth pays its integrated providers 17

percent more than non-integrated ones (relative to its rival insurers) (Arnold and Fulton, 2025). In markets where UnitedHealthcare has at least 25 percent market share, this relative price difference grows to 61 percent. While this study describes correlations rather than causal effects, the authors raise concerns over the potential for regulatory gaming of the MLR and the disadvantaging of competing physician practices.

Optum's provider acquisitions are also associated with higher prices for *competing insurers* in certain instances. For example, Lake et al. (2025) study Optum's acquisition of twelve physician practice groups with 1,268 physicians and do not find, on average, that it led to higher prices for competing insurers' enrollees. The exception is the single largest acquisition: DaVita Medical Group, a division previously owned by DaVita Inc. This acquisition was associated with a roughly 4.5 percent increase in prices for rival insurers—an effect the authors attribute to DaVita's greater market power compared to other acquired practices (Lake et al., 2025). Another study finds Optum's acquisition of 24 ASCs is associated with an 11 percent price increase for competing insurers, driven by broad increases in facility fees and by professional fee increases specific to Optum-employed physicians (Lake et al., 2026). Together, these papers suggest a pattern of strategic selection: Optum tends to acquire providers that already have high prices, significant market power, and high rates of referring patients to ASCs. Because ASCs are a lower-cost site of care than hospital outpatient departments, acquiring practices with established ASC referral patterns reduces spending for UnitedHealthcare on its own enrollees, while also allowing Optum to capture facility revenue that might otherwise go to a competitor (Lake et al., 2026).

Insurer-PBM-Pharmacy Integration Raises Rivals' Costs and Enables Regulatory Gaming in Medicare Part D, with Mixed Evidence on Consumer Benefit.

Vertical integration among the largest insurers, PBMs, and pharmacies has enabled their parent companies—CVS Health, the Cigna Group, and UnitedHealth Group—to control wide swaths of the pharmaceutical market for about 270 million people (FTC, 2024). By owning complementary parts of the market, these conglomerates have considerable influence over which drugs patients can access, where they purchase them, and how much they pay. In the short term, this integration could theoretically reduce double marginalization and lower premiums; integrated firms may also steer patients toward drugs that cost less to the insurer but more for the patient. In the long run, it could enable regulatory gaming and raise costs for competitors and patients—including by making it more costly for rival insurers without integrated PBMs to compete and squeezing out competing retail pharmacies.

Recent legislative and regulatory developments have targeted certain PBM business practices. The Consolidated Appropriations Act of 2026, enacted in February 2026 with most provisions taking

effect in 2028-2029, requires PBMs to pass through 100 percent of rebates for group health plans governed by ERISA. In Medicare Part D, the law shifts PBM compensation to flat administrative fees unlinked from drug prices and requires full rebate pass-through to plan sponsors. All 50 states have passed legislation to regulate PBMs in some way (NASHP, 2026). In February 2026, Express Scripts settled FTC litigation alleging anticompetitive rebate practices, agreeing to delink its compensation from drug list prices, require benefit design based on net drug costs, and offer a standard plan option that eliminates spread pricing (though adoption of that option by plan sponsors is voluntary). CVS Caremark reached a proposed settlement with the FTC on similar terms in March 2026; as of this writing, the agency remains in active settlement discussions with OptumRx. These policy developments are reinforcing ongoing industry changes. As of 2026, all three major PBMs have announced transitions to cost-plus pharmacy reimbursement models that delink compensation from drug list prices. Other industry efforts, such as increasing transparency in pricing or formulary design, are also underway to various degrees across these companies.

The research reviewed below concluded prior to administrative and legislative activity and suggests that vertically integrated firms can adapt their business through other channels: tunneling profits, steering to affiliated pharmacies, or shifting markups elsewhere in the supply chain. It remains a relevant baseline for understanding how vertical integration shapes firm behavior, even as the specific mechanisms under scrutiny continue to evolve.

It is also important to note that the papers discussed below focus on the Medicare Part D market, so these findings may not generalize to other insurance markets. That said, the commercial PBM market structurally resembles the Part D market, in the sense that the three largest PBMs have integrated with large insurers and left limited options for standalone PBM services (Gray et al., 2026). Moreover, the MLR rule also exists in commercial insurance markets, so insurers plausibly face the same incentives for regulatory gaming.

Gray et al. (2026) study the impacts of UnitedHealth's 2015 merger with the PBM Catamaran in the Medicare Part D stand-alone prescription drug plan market. They find that after the merger, nonintegrated plans increase premiums by about 42 percent (roughly $22 per month, against an average monthly premium of about $53) relative to integrated plans (Gray et al., 2026). This increase is consistent with the loss of Catamaran as a credible independent PBM outside option: once Catamaran was integrated into UnitedHealth, nonintegrated insurers had fewer viable alternatives for PBM services, making it easier for vertically integrated PBM-insurer firms to disadvantage rival non-integrated insurers through higher costs or less favorable contract terms. The merger also did not lead to lower premiums for UnitedHealth's own enrollees.

Brot et al. (2025) study the integration between CVS Caremark (a PBM) and SilverScript (an insurer) in the context of Medicare Part D. Using a structural model estimated on administrative Medicare data, they simulate counterfactual outcomes from this integration. They find that integration may

have led CVS Caremark to reduce the amount of rebate that it shared with rival insurer First United American by about 2 percentage points, a real but small disadvantage to rivals. This is a notably smaller rival effect than Gray et al. (2026) find above, indicating the literature has not yet converged on the magnitude of harm to rivals from insurer-PBM integration. The authors suggest that integration could lead to lower premiums in the short run by eliminating double marginalization. In the long run, the highly vertically integrated state of the PBM market may dampen insurance market competition and harm consumers (Brot et al., 2025).

Vertically integrated insurers show evidence of profit tunneling in Medicare Part D to circumvent MLR requirements, which ultimately harms patients through higher cost-sharing in certain benefit phases and the federal government through higher subsidy payments (Yde, 2025; Kakani et al., 2026). In this context, tunneling occurs when insurers inflate payments to their own affiliated pharmacies, allowing the insurers to count those dollars as medical spending and meet the MLR threshold on paper while recapturing the revenue through their pharmacy subsidiary. The authors find that once MLR rules took effect, insurers raised prices at their integrated pharmacies by 9.5 percent on the typical claim; plans at greatest risk of violating the MLR increased prices by 17.8 percent (Kakani et al., 2026). The authors estimate these effects increased total Part D spending by about $1.2 billion from 2014-2016; they note this is modest relative to total insurer profits but meaningful relative to the net margins of non-affiliated pharmacies. Yde (2025) similarly shows that insurers facing MLR constraints raise prescription drug prices while steering enrollees to affiliated pharmacies. Yde also finds that integrated insurers pass some of the gains to consumers as lower premiums, partially offsetting the higher drug prices. Since pharmacy profits are not subject to the MLR, integration allows firms to shift (and better retain) profits outside the regulated margin.

Conclusion

Vertical integration is fundamentally reshaping health care markets in the United States. Hospital acquisitions of physician practices appear to raise prices without improving clinical quality, driven largely by payment rules that reward site-of-care shifts and reduced competition. Insurer acquisitions of providers show some efficiency gains in isolated commercial market cases, but they also enable upcoding in Medicare Advantage and allow payers to circumvent MLR regulations. In Medicare Part D, insurer-PBM-pharmacy integration similarly allows profits to be tunneled outside the MLR's regulatory guardrails and can raise rivals' costs. The literature on insurer-driven integration is still developing, but the findings to date suggest that vertical integration most reliably benefits the integrated firm, with more mixed effects on patients and competitors. These trends warrant continued scrutiny from researchers, regulators, and policymakers.

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