

Looking Behind the Mask: Economic Analyses of Physician Group Transactions

Josephine Duh (The Brattle Group)
Daniel Fanaras (The Brattle Group)
Bogdan Genchev (The Brattle Group)
Loren Smith (The Brattle Group)

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This article provides an overview of economic approaches used to evaluate the competitive effects of mergers and acquisitions (M&A) involving physician groups. In recent years, such transactions have led to a rise in the typical size of physician group practices.¹ In addition, there has been an increase in the number of physician groups affiliating with larger health systems and hospital networks.² As a result, these transactions have attracted heightened attention among antitrust enforcers as well as scholars. This article begins by describing the analytical approaches currently used in the evaluation of horizontal mergers of physician groups. It then summarizes an analytical framework for the analysis of a vertical merger involving physician groups. Finally, the article provides a brief overview of emerging issues for analyzing the competitive implications of physician group transactions.

Analysis of Horizontal Mergers of Physician Groups

Horizontal mergers among physician groups are transactions where merging physician groups provide substitute health care services. Examples of such mergers would include a merger between physician groups that both provide primary care services or a merger where both physician groups provide the same type of specialty care, such as cardiothoracic surgery. Horizontal mergers can also include a broader hospital system that employs existing specialists, such as cardiothoracic surgeons, acquiring a physician practice that specializes in that type of specialty care.

A principal goal of assessing the competitive effects of a horizontal physician group transaction is to understand whether, all else being equal, the merger will cause higher reimbursement prices (i.e., the prices that insurers pay to providers). This analysis most often focuses on reimbursement prices associated with care delivered to commercially insured patients because provider reimbursements for federal and state funded health care programs generally are paid according to a fixed formula that is determined by the government.

To the extent the parties expect to attain marginal cost efficiencies and/or quality improvements resulting directly from the transaction, these mitigating factors can be weighed against possible price increases, since all else equal, such merger benefits would be expected to be passed through to consumers (insurers and patients). As competition economists have noted,³ because improvements in health care delivery have such high value, the quality effects of a transaction are a particularly important consideration in the evaluation of health care provider mergers. Such an inquiry may include an assessment of how the merger will affect patient access to care. For example, a merger between two primary care providers might change the number of physicians and locations

accessible to an acquired provider group's existing patients and these changes in access may be examined in conjunction with considering other effects of the merger.

Market Definition and Market Concentration

As an initial assessment of whether a health care provider merger is likely to raise competitive concerns, practitioners typically determine whether the transaction will cause significant increases in market concentration within one or more relevant antitrust markets. This analysis involves defining relevant antitrust markets and then calculating measures of market concentration (i.e., market shares and Herfindahl-Hirschman indexes (HHIs)). All else being equal, higher levels of post-merger market shares and HHIs, and larger changes in market shares and HHIs, are associated with greater concern that the merger will cause anticompetitive harm.

Relevant antitrust product markets for physician group mergers typically are defined using treatment categories based on CPT codes and/or the identified physician specialties of a practice. Relevant geographic markets generally are determined by the locations where those relevant services are delivered by the providers of the merging parties and by their closest competitors. Although there may be multiple relevant markets associated with a merger—these markets need not have specific “metes and bounds.” One common approach for the initial evaluation of market shares is to study shares of relevant services provided to patients that live within the contours of the primary service areas (PSA) of the merging parties, often defined as the lowest number of postal zip codes from which the practice draws at least 75% of its patients.⁴

In health care provider mergers, there are two standard ways to compute market shares and HHIs.⁵ First, market shares and associated HHIs can be computed based on all relevant patient encounters from service locations that are included in the relevant market—i.e., service location-based shares. Second, market shares and associated HHIs can be computed based on services provided to patients that reside within the boundaries of the relevant geographic market—i.e., patient-based shares. Often market shares and HHIs computed in these two ways are similar enough that the method of calculation does not matter. However, in situations where the market shares and HHIs computed using these two methods differ significantly, it is incumbent on the analyst to determine which method is most appropriate for the particular case being studied.⁶

Analyses of Unilateral Competitive Effects

At a high level, analysis of the potential unilateral competitive effects of physician group mergers is the same as the analysis of any differentiated product merger. The central goal of this analysis is to determine whether there is a significant loss of competition for the types of care or services provided by merging physician groups—i.e., are the services provided by the merging physician groups close substitutes for a significant number of patients.

To this end, competition economists typically begin their assessment of closeness of substitution among physician groups with well-established econometric patient demand models to estimate standard measures of substitution among physician groups—e.g., diversion ratios. Ideally, these econometric models would rely on patient encounter data for all relevant physician groups. Such data may be available through state agencies, but detailed data on physician encounters are not as widespread as, for example, inpatient discharge data. Hence, practitioners may need to be creative in combining data from the merging parties with data from other available sources.⁷

The conceptual question that the standard econometric models of patient demand for physician services consider is: When a physician group is removed as a choice, with what probability will patients that would have gone to the removed physician group go to each of the other physician groups that remain? These estimated probabilities are evaluated as diversion ratios from the removed physician group to other physician groups. This conceptual framework does not precisely answer the question the Horizontal Merger Guidelines consider most relevant to the evaluation of horizontal mergers, i.e., substitution between merging parties following a small change in relative

prices.⁸ However, because commercially insured patients' direct exposures to prices for health care services is muted, it is conventional to consider diversion ratios calculated in this way as a reasonable approximation of the relevant diversion ratios for the analysis of unilateral competitive effects of health care provider mergers. The appropriateness of such diversion ratios should continue to be evaluated as health plans innovate in ways that affect patients' exposure to physician service prices—e.g., by developing innovative tiered and limited-access health plans.

Competition economists often use estimated diversion ratios as an input into economic models that predict the price effects of the proposed merger. In health care provider mergers, there are two standard metrics that economists use to estimate expected merger price effects, both of which are derived from a standard bargaining model of health care provider competition. The first method, commonly known as willingness-to-pay, or WTP, predicts merger price effects based on a measure of the difference in the incremental patient value (or surplus) created by having the merged physician group in a health plan and the sum of the incremental surpluses created by the merging physician groups.⁹ The second method, commonly known as upward price pressure (UPP), predicts merger price effects using a measure of the difference in the incremental profit generated by the merged entity and the incremental profits generated by the merging physician groups on their own. Both of these metrics closely relate to diversion ratios, and thus tend to be positively correlated with one another. Moreover, empirical studies have shown these methods to have similar predictive accuracy.¹⁰ However, these methods can generate significantly different predictions of merger price effects in cases where there is significant asymmetry in the bargaining strength of health care providers and insurance carriers. In such situations, it is incumbent on the analyst to determine which method is most appropriate based on the facts of the case being evaluated.

Retrospective Studies as an Alternative to Prospective Analysis of Horizontal Mergers

Understanding how market conditions and pricing changed after a previous merger can provide a formative approach for assessing the likely effects of a new merger under consideration. Several academic studies have examined whether increased consolidation among physician groups has resulted in higher prices by retrospectively studying changes in pricing after prior mergers or other examples of industry consolidation.¹¹ Using similar approaches, analysts sometimes examine specific examples of mergers from the past that relate to either the same geographic areas and services as the merger being considered, or prior transactions that involve one or more of the merging parties. The specific analyses will depend on the degree to which sufficient detailed data are available and such analyses could involve making conclusions based largely on documentary evidence in the absence of conducting a formal (e.g., econometric) study.

Similarly, other non-merger “events” involving the same geographic area and services as the planned merger can serve as natural experiments to examine for insight into market conditions and the likely price effects from a merger. For example, a closure of a key physician group location from a particular geographic region could inform the question of how patients substitute their care with other providers and help identify the contours of the relevant geographic market(s). Here the specific analyses an analyst undertakes will again be motivated by the available data.

Analysis of Vertical Mergers Involving Physician Groups

Vertical mergers involve entities at different stages of the supply chain. In the context of health care, examples of vertically related entities include physician groups and hospitals, multispecialty and primary care practices, and physician groups and health insurers. In this section, we focus on the vertical aspects of mergers between physician groups and hospitals. Industry participants, researchers, and regulators have noted the rapid increase in physician-hospital integration. Between 2012 and 2018, the share of physician practices owned by hospitals more than doubled from 14% to 31%.¹² In January 2021, the FTC announced that it had requested data from six health insurance companies to study the competitive effects of physician-hospital integration.^{13,14}

The Economics of Vertical Integration between Physician Groups and Hospitals

Vertical integration can have both procompetitive and anticompetitive effects. It can lead to more efficient market outcomes, with increased output and profits for firms, and lower prices for consumers. However, vertical integration can also allow the merged entity to foreclose rivals, which can harm competition and consumers.¹⁵

In health care markets, vertical integration between physician groups and hospitals can yield various procompetitive effects:

- First, vertical integration can eliminate inefficiencies associated with double marginalization. In the context of a merger between a physician group and a hospital, double marginalization occurs because the physician group sets prices without regard for the effect its actions have on demand for hospital services.¹⁶ As a consequence, physician group and hospital prices are higher (and output is lower) than they would be under common ownership. Hence, vertical integration allows the merged entity to internalize these effects and lower prices, which benefits the hospital, physician group, and consumers.
- Second, vertical integration can align hospital and physician incentives to invest in clinical quality and other patient benefits.¹⁷ For example, the introduction of new surgical equipment at a hospital may improve the performance of surgeons, and it may be difficult for the hospital to extract the full value of their investment in the new equipment through an arms-length contract with the physician group. Hence, vertical integration may increase such investments by fully aligning the incentives of hospitals and surgeons.
- Third, vertical integration can improve an organization's cost structure. For instance, the increased size of the organization may improve economies of scale and scope. In addition, vertical integration may lower transaction costs, i.e., the costs of doing business.¹⁸ Such costs include demand uncertainty from variation in the number of referrals, supply chain uncertainty from physician availability, contracting complexity, monitoring costs, and costs associated with bargaining with insurance companies over reimbursement rates.¹⁹ Economic theory predicts that reducing these costs can lower prices, increase output, and improve clinical quality.

Foreclosure of competition is a principal competitive concern associated with vertical integration. A merger between vertically related firms can allow the combined entity to restrict competitors' access to inputs or pathways to end consumers, which may weaken competition.²⁰ As a result, the merged firm may be able to raise prices or lower quality. In a health care context, physicians employed by a hospital may be contractually allowed to provide services only at their employer hospital, which limits the access of rival hospitals to specialized labor. In addition, hospital-employed physicians may concentrate their referrals to specialists working at the same hospital.²¹ As a consequence, the vertical relationship may restrict rival hospitals' access to patients.

Market Definition and Market Concentration in Vertical Transactions

A pure vertical merger does not affect market concentration at either level of the health care supply chain. For example, if a hospital that does not offer cancer treatment acquires an oncology physician practice, concentration will remain the same in both the market for oncology services and in the separate market for primary care (or in any other health care services market). In practice, such situations are rare because of the multispecialty nature of hospitals and physician-hospital mergers typically have some horizontal aspects.²² For this reason, practitioners analyze vertical transactions by defining relevant markets at both levels of the supply chain. However, unlike horizontal mergers, there is no standard way to define a market.²³ In addition, although most economists agree that high concentration within at least one level of the supply chain is necessary for a vertical transaction to raise competitive concerns, there is little specific guidance on how high shares need to be for anticompetitive harm to be a concern.

Assessment of Unilateral Competitive Effects

Potential anticompetitive effects of vertical integration should be weighed against potential procompetitive effects. If the merger allows the combined entity to eliminate double marginalization, innovate, align incentives, improve coordination among providers, or deliver higher-quality care at lower cost, these factors should be weighed alongside potential foreclosure concerns.

Weighing the incentives of parties to a vertical transaction to foreclose rivals and harm competition against their incentives to lower prices and improve clinical quality involves applying an appropriate economic framework to relevant data and facts. One standard way to consider these opposing forces is through the lens of pricing pressure—i.e., whether the upward price pressure created by the merged entity’s incentives to foreclose rivals outweighs the downward pricing pressure created by the merged entity’s incentives to internalize the profit of their merger partner in their own pricing decisions. Obviously, if considered narrowly as an evaluation of price effects, UPP analysis would miss important aspects of health care competition such as the investment in and provision of clinical quality. However, pricing pressure analysis can be considered broadly as an analysis of economic incentives—e.g., pricing pressure effects can be interpreted on a quality-adjusted basis, which would implicitly account for incentives to improve or diminish the clinical quality of care caused by the merger.

In 2013, Serge Moresi and Steve Salop (MS, hereinafter) published a comprehensive framework for assessing the static pricing incentives of vertical mergers.²⁴ MS’ “vGUPPI” framework can be used, for example, to assess the incentives a physician group that merges with a hospital system has to increase rates at rival hospital facilities. MS show that the merged entity may have incentives to increase such rates when (1) there is a high degree of pass-through of physician rates to the hospital’s customers (insurance carriers, employers, and patients) and (2) there is significant substitution from the affected rival hospital to the merging hospital system. In short, the merging physician group may want to increase prices when its merger-partner hospital system can recapture a large proportion of the rival hospital’s lost business. MS’ vGUPPI also considers the offsetting downward price pressure caused by the physician group’s internalization of its merger-partner hospital system’s profits on increased sales. That is, the physician group now gains from increased demand for the hospital system’s services caused by a reduction in physician rates, which, in turn, cause a reduction in the hospital system’s rates.

A UPP framework can be evaluated empirically given information on pass-through rates, diversion ratios, and price-cost margins. With sufficient data on hospital costs and rates, pass-through rates can be estimated. Diversion ratios between hospitals or between physician groups or both can be estimated using patient encounter data from state agencies, insurance carriers, or other sources. Finally, price-cost margins can be used to value the profits recaptured through rival losses and internalized through the vertical merger, which determines the level of UPP caused by the merger. Information on hospital and physician group price-cost margins generally are available through financial data.²⁵

Although the UPP framework outlined above is useful for understanding the relative strength of pricing incentives associated with a vertical merger, it is incomplete. First, like the GUPPI framework for analyzing horizontal mergers, the vGUPPI framework does not explicitly account for cost or quality efficiencies that the merger may achieve. However, the vGUPPI framework can be augmented to consider such efficiency benefits which will tend to further offset any incentive for the merged entity to cause anticompetitive harm. Second, as was alluded to above, the vGUPPI framework is a static analysis. Hence, it is unable explicitly to accommodate an assessment of dynamic merger harms or benefits. For example, a vertical merger may increase the incentive of the merged entity to invest in clinical quality by aligning the incentives of, for example, physician groups and hospitals. Yet, on the other hand, a vertical merger may also allow the merged entity to foreclose rivals to weaken competition in future periods. Assessments of such dynamic merger effects should be performed outside of the UPP framework.

Retrospective Studies as an Alternative to Prospective Analysis of Vertical Mergers

When the available data is not sufficient to prospectively evaluate a proposed vertical merger, retrospective studies of similar transactions can be informative. The academic literature has studied the effect of vertical integration on prices, spending,²⁶ referral patterns,²⁷ and a variety of quality measures,²⁸ which shed light on both the procompetitive and anticompetitive effects of these transactions.²⁹

The most commonly used methodology in retrospective studies is the difference-in-differences approach. To estimate the effect of a physician-hospital merger, difference-in-differences studies compare the change in the outcome of interest (price, expenditure, quality, etc.) before and after the transaction at physician groups (or hospitals) that were involved in the acquisition to the analogous change at a control group of physician practices (or hospitals) that were not involved in the merger. The validity of the results depends critically on selecting an appropriate control group. In particular, if the acquired practices systematically differ from non-acquired ones, the estimated effects will generally be biased. To avoid such bias, practitioners use propensity score matching techniques to select members of the control group that are observably similar to the acquired physician practices.³⁰

To execute a difference-in-differences study, it is necessary to have data on the identity of the merging parties and on outcomes of interest before and after the transaction. A number of the published articles have used claims-level data from fee-for-service (FFS) Medicare or from commercial insurers. This type of data is very granular and provides information not only on prices and spending but also on clinical outcomes at the patient level, which makes it suitable for studying price and quality effects. It also allows the study of price and quality changes at the acquired physician group and at the acquiring hospital. The patient demographic information that it contains can be used to control for changes in the composition of the sample over time. If claims-level or aggregate Medicare or insurer data is not available, the Healthcare Cost Report Information System (HCRIS) provides an alternative source of information on hospital-level prices. In addition, CMS Hospital Compare provides hospital-level quality measures such as risk-adjusted 30-day mortality and readmission rates for heart attack, heart failure, and pneumonia.

To identify changes in ownership structure, a number of papers have used data from SK&A, the American Hospital Association (AHA) Annual Survey, and Levin Reports. SK&A data provides physician practice ownership information over time. It can be matched to AHA hospital data, which provides the system a hospital belongs to, and it also indicates whether a hospital owns any physician practices. In addition, the AHA data contains the number of beds and other information that can be used to select appropriate control hospitals.³¹ The Levin Reports is an additional source of information on mergers and acquisitions in the health care industry.

In addition, sources such as The American Community Survey (ACS), U.S. Census Bureau Small Area Income and Poverty Estimates (SAIPE), BLS Local Area Unemployment Statistics, the Area Health Resources Files (AHRF) provide information on a multitude of demographic characteristics at various levels of geographic aggregation that can be used as additional control variables in difference-in-differences studies.

Emerging Issues in Physician Groups Transactions

In this section, we briefly highlight four emerging issues related to M&A transactions involving physician practices: (1) the relevant geographic scope of physician group mergers; (2) evidence that accountable care organizations (ACOs) lead to increased consolidation among physician groups; (3) “stealth consolidation” among physician groups that fall below the threshold for regulatory review and potential impacts on the health care sector; and (4) the rise in acquisitions by private equity and potential antitrust concerns. These four topics do not represent a comprehensive list of “emerging issues” related to physician-group transactions but, instead, highlight trends for policy and enforcement in the years to come. Over time, these may expand the extent of analytical inquiry for some transactions.

Is the Relevant Geographic Scope of Physician Group Mergers Broader than Traditional Geographic Markets?

In recent years, a growing consideration for physician group mergers has been given to whether the size and geographic scope of a practice increases its ability to negotiate more favorable reimbursement rates with insurers, even if the merger does not increase the levels of concentration within conventional relevant antitrust markets. The foundation for such concerns stems from the fact that price negotiation relationship between insurers and providers often takes place at a level that is greater in scope than the boundaries defined by a provider's PSA for patients.³² That is, because the price setting negotiation for physician services can be regional or even national in scope, the overall size of the provider across this broader area can be of importance.

Do Accountable Care Organizations Cause Increased Provider Consolidation?

ACOs are a form of a joint venture between health care providers and payers.³³ Although joint ventures like ACOs have existed in the healthcare industry for many years, ACOs gained attention after the 2010 Affordable Care Act established the Medicare Shared Savings Program (MSSP), which incentivizes providers to form ACOs for Medicare fee-for-service beneficiaries.³⁴ In its simplest form, MSSP encourages groups of providers in an ACO to meet "certain quality performance standards established by the Secretary of Health and Human Services" by sharing in some portion of any savings that may arise from the ACO's participation in the program.³⁵ Between 2012/2013 and 2021, the number of ACOs grew from 220 to 477, and the number of beneficiaries covered increased more than 3 times from 2.3 million to 10.7 million.³⁶

As joint ventures, ACOs offer procompetitive benefits but also can raise antitrust concerns.³⁷ Potential procompetitive benefits include "increased coordination and integration to reduce healthcare costs while improving the quality of healthcare *at the same time* through, among other things, reducing morbidity rates and hospital readmissions."³⁸ However, as with other joint ventures and collaborations, regulators recognize that ACOs may "reduce competition and harm consumers through higher prices or lower quality of care."³⁹ For example, the California Attorney General's Office noted that ACOs may "[be] used as an excuse by health care providers to justify their ongoing program of acquisitions of physician practices, hospitals and ambulatory surgery centers."⁴⁰

Is "Stealth Consolidation" Among Physician Groups Causing Higher Concentration and Anticompetitive Effects?

"Stealth consolidation" is a term used for M&A transactions that "escape regulatory scrutiny but whose cumulative effect is large."⁴¹ One reason why the transaction may fall outside of regulatory review is the size of the transaction—specifically, antitrust enforcement agencies typically do not investigate transactions below a certain threshold (e.g., \$92 million in 2021).⁴² Research has shown that "stealth consolidation" has disproportionately affected the healthcare industry, including hospitals, home healthcare services, and kidney dialysis centers.⁴³

The FTC has noted "transactions that do not trigger the HSR filing thresholds" as one example of "questions about merger policy that the FTC's existing retrospectives do not address."⁴⁴ To the extent that small-sized acquisitions continue to drive consolidation among physician groups, such transactions may warrant closer investigation by researchers and the agencies alike.⁴⁵

Does Private Equity Ownership of Physician Practices Give Rise to Anticompetitive Conduct?

Private equity ownership of businesses has raised antitrust concerns on multiple fronts in recent years. First, according to some theories, private equity entities may have the potential to facilitate collusive outcomes by holding ownership stakes in multiple companies within the same industry. Such common ownership and its effects have been analyzed in the airline, banking, and health care industries.⁴⁶ Second, current FTC Chair Lina Khan's "Vision and Priorities for the FTC" memorandum describes private equity as a business model that "distort[s]"

ordinary incentives in ways that strip productive capacity and may facilitate unfair methods of competition and consumer protection violations.”⁴⁷ Khan argues that such “extractive business models” may be “ripe for abuse” because of the “deeply asymmetric relationship between the controlling firm and dependent entities.”⁴⁸ Thus, under increased scrutiny from competition and consumer protection enforcers, private equity firms and the businesses they own, including hospitals and physician groups, are likely to figure more prominently in future antitrust investigations and litigations.⁴⁹

The authors are economists with The Brattle Group. The opinions expressed are those of the authors and do not necessarily reflect the views of the firm or its clients. This article is for general information purposes and is not intended to be and should not be taken as legal advice.

¹ For example, from mid-2013 to the end of 2015, the median size of physician group practices rose from 8 to 10 physicians. See David Muhlenstein & Nathan Smith, *Physician Consolidation: Rapid Movement From Small To Large Group Practices*, 2013-15, 35 HEALTH AFFAIRS 1638 (2016).

² For example, between 2016 and 2018 the average share of physicians within an MSA that were affiliated with a health system, increased by 8.8 percentage points. See Laura Kimmey et al., *Geographic Variation in the Consolidation of Physician Into Health Systems*, 2016-18, 40 HEALTH AFFAIRS 165 (2021). Additionally, over the period from 2007 to 2013, hospitals acquired nearly 10% of the practices in the sample analyzed. See Cory Capps et al., *The Effect of Hospital Acquisitions of Physician Practices on Prices and Pending*, 59 JOURNAL OF HEALTH ECONOMICS 139 (2018).

³ See, e.g., Robert Town, *The Effects of US Hospital Consolidations on Hospital Quality: A Comment*, 18 INTERNATIONAL JOURNAL OF THE ECONOMICS OF BUSINESS 127 (2011).

⁴ Federal Trade Commission and Department of Justice, *Statement of Antitrust Enforcement Policy Regarding Accountable Care Organizations Participating in the Medicare Shared Savings Program; Notice*, 76 Fed. Reg. 67026 (Oct. 28, 2011) (FTC & DOJ Statement).

⁵ An HHI is measured as the sum of squared market shares in the relevant market being studied.

⁶ The economic logic of service location-based shares is straightforward. The shares are consistent with the analytical approach that is most often used to define relevant geographic markets in health care provider mergers—i.e., a method based on diversion ratios among providers that are based on all patient encounters, regardless of where they live. The principal criticism of this method is that it completely ignores the competitive influence of physician groups that are located outside of the boundaries of the proposed relevant geographic market, which may, in some cases, be large. The economic logic behind patient-based shares is based on the fact that patients typically are secondary purchasers of health care provider services—i.e., insurance carriers negotiate health care service prices and bear the direct responsibility for their payment. In addition, the insurance product sold by insurance carriers can be viewed as being delivered to patient locations (or at least the location of their employers). The principal criticism of this method of computing shares is that it ignores the importance of physician groups located in the relevant geographic market to patients that live outside of the relevant geographic market. One way to avoid the shortcomings of both approaches is to estimate diversion ratios directly, which does not rely on market definition and market shares.

⁷ In addition to data from the merging parties, so-called “discharge” data from state hospital agencies as well as claims data covering patient encounters from health plans provide two key sources of information that are typically utilized, when available.

⁸ U.S. Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines* (Aug. 19, 2010) (HMG, hereinafter).

⁹ See, e.g., Samuel A. Kleiner et al., *Market Power and Provider Consolidation in Physician Markets*, 15 INT J HEALTH ECON MANAG 1 (2015).

¹⁰ Christopher Garmon, *The Accuracy of Hospital Merger Screening Methods*, 48 RAND J ECON 1068 (2017).

¹¹ See, e.g., Thomas Koch and Shawn W. Ulrick, *Price Effects of a Merger: Evidence from a Physicians’ Market*, 59 ECON. INQU. 2 (2021).

¹² During the same period, the share of physicians that were employed by hospitals increased from 26% to 44%. Physicians Advocacy Institute, *Updated Physician Practice Acquisition Study: National and Regional Changes in Physician Employment, 2012-2018* (Feb. 2019), <http://www.physiciansadvocacyinstitute.org/Portals/0/assets/docs/021919-Avalere-PAI-Physician-Employment-Trends-Study-2018-Update.pdf?ver=2019-02-19-162735-117>, at 8.

¹³ Federal Trade Commission, *FTC to Study the Impact of Physician Group and Healthcare Facility Mergers* (Jan. 14, 2021), <https://www.ftc.gov/news-events/press-releases/2021/01/ftc-study-impact-physician-group-healthcare-facility-mergers>.

¹⁴ Transactions involving physicians (and health care service providers more generally) and health insurers have also garnered attention from the literature and enforcers in recent years. For example, in 2019, the FTC and Colorado Attorney General raised concerns of potentially anticompetitive vertical effects from the UnitedHealth/DaVita merger. Although focused on different geographic areas, both the FTC and Colorado Attorney General claimed that the combined entity had the “incentive and ability” to make United’s “rivals” in Medicare Advantage plans, such as Humana, less competitive and thereby harm consumers. See Analysis of Agreement Containing Consent Orders to Aid Public Comment, *In the Matter of UnitedHealth Group Incorporated, Collaborative Care Holdings, LLC, DaVita Inc., and DaVita Medical Holdings, LLC*, File No. 181-0057 (June 19, 2019), https://www.ftc.gov/system/files/documents/cases/181_0057_united_davita_aapc_6-19-19.pdf; and Complaint, *State of Colorado, ex rel. Philip J. Weiser, Attorney General v. UnitedHealth Group Incorporated and DaVita Inc.* (June 19, 2019), <https://coag.gov/app/uploads/2019/06/2019-06-19-08-00-13-United-DaVita-Complaint-final.pdf>.

¹⁵ The procompetitive and anticompetitive theories of vertical integration are discussed in Brady Post et al., *Vertical Integration of Hospitals and Physicians: Economic Theory and Empirical Evidence on Spending and Quality*, 75 MEDICAL CARE RESEARCH AND REVIEW 399 (2018) (Post et al. (2018)).

¹⁶ The same logic applies if one views physician groups and hospitals as producers of complementary services.

¹⁷ For a discussion of the incentives created by vertical integration from the perspective of principal-agent theory, see Timothy Bresnahan & Jonathan Levin, *Vertical Integration and Market Structure*, Chapter 21 in *The Handbook of Organization Economics*, Princeton University Press (2012).

¹⁸ Physician-hospital integration is analyzed through the lens of agency theory, transaction cost economics, and dynamic capabilities theory in James Robinson, *Physician-Hospital Integration and the Economic Theory of the Firm*, 54 MEDICAL CARE RESEARCH AND REVIEW 3 (March 1997).

¹⁹ Post et al. (2018) discusses these and other transaction costs at greater length.

²⁰ See, e.g., Janusz Ordoover et al., *Equilibrium Vertical Foreclosure*, 80 THE AMERICAN ECONOMIC REVIEW 127 (March 1990) and Steven Salop & David Scheffman, *Raising Rivals’ Costs*, 73 THE AMERICAN ECONOMIC REVIEW 267 (May 1983). Even if the merged entity does not completely foreclose competitors, it may still increase rivals’ costs.

²¹ Restricting referrals effectively changes substitution patterns, which may allow hospitals to set higher prices or negotiate harder with insurers.

²² To the extent that a transaction may lead to increased concentration of health care providers—e.g., when a hospital system acquires a physician group that otherwise would compete with physicians that they already employ—the antitrust analysis can proceed as prescribed in the HMG.

²³ The FTC and DOJ jointly published vertical merger guidelines in June 2020. However, the FTC withdrew these guidelines in September 2021. See Federal Trade Commission, *Federal Trade Commission Withdraws Vertical Merger Guidelines and Commentary* (Sept. 15, 2021), <https://www.ftc.gov/news-events/press-releases/2021/09/federal-trade-commission-withdraws-vertical-merger-guidelines>.

²⁴ Moresi, Serge and Steven C. Salop, *vGUPPI: Scoring Unilateral Pricing Incentives in Vertical Mergers*, 79 ANTITRUST LAW JOURNAL 1 (2013).

²⁵ Accounting margins do not necessarily represent the economic margins that are most relevant to hospital and physician pricing decisions. Hence, it is important that the analyst carefully consider how accounting margins appropriately can be used to approximate the relevant economic margin.

²⁶ See, e.g., Thomas Koch et al., *How Vertical Integration Affects the Quantity and Cost of Care for Medicare Beneficiaries*, 52 JOURNAL OF HEALTH ECONOMICS 19 (2017), Cory Capps et al., *The Effect of Hospital Acquisitions of Physician Practices on Prices and Spending*, 59 JOURNAL OF HEALTH ECONOMICS 139 (2018), Haizhen Lin et al., *Hospital Pricing Following Integration with Physician Practices*, 77 JOURNAL OF HEALTH ECONOMICS (2021) (Lin, McCarthy, and Richard (2021)), and Federico Ciliberto & David Dranove, *The Effect of Physician-Hospital Affiliations on Hospital Prices in California*, 25 JOURNAL OF HEALTH ECONOMICS 29 (2006).

²⁷ David Cutler et al., *Vertical Integration of Healthcare Providers Increases Self-Referrals and Can Reduce Downstream Competition: The Case of Hospital-Owned Skilled Nursing Facilities*, National Bureau of Economic Research Working Paper 28305 (Dec. 2020) and Laurence Baker et al., *The Effect of Hospital/Physician Integration on Hospital Choice*, 50 JOURNAL OF HEALTH ECONOMICS 1 (2016).

²⁸ Thomas Koch et al., *The Effects of Physician and Hospital Integration on Medicare Beneficiaries’ Health Outcomes*, 103 REVIEW OF ECONOMICS AND STATISTICS 725 (2021) (Koch, Wendling, and Wilson (2021)), Caroline Carlin et al., *Changes in Quality of Health Care Delivery after Vertical Integration*, 50 HEALTH SERVICES RESEARCH 1043 (2015), Tara Bishop et al., *Trends in Hospital-Ownership of Physician Practices and the Effect on Processes to Improve Quality*, 22 AMERICAN JOURNAL OF MANAGED CARE 172, (2016), and Rachel Machta et al., *A Systematic Review of Vertical Integration and Quality of Care, Efficiency, and Patient-Centered Outcomes*, 44 HEALTH CARE MANAGEMENT REVIEW 159 (2019).

²⁹ These studies generally find that physician-hospital integration leads to higher prices and spending while quality remains unchanged (based on health outcomes measures) or increases (based on procedural measures of quality).

³⁰ Koch, Wendling, and Wilson (2021), *supra* note 29; Lin, McCarthy, and Richard (2021), *supra* note 27.

³¹ Another source of hospital-level information is the Dartmouth Atlas of Health Care.

³² For a discussion in the context of hospital mergers, see, e.g., Leemore Dafny et al., *The Price Effects of Cross-Market Mergers: Theory and Evidence from the Hospital Industry*, 50 RAND J ECON 286 (2019). “The existence of a common customer effect implies that market power may arise from combinations over even broader geographic areas and across product markets. This finding does not imply more expansive boundaries for mechanical calculations of market shares and change in Herfindahl-Hirschman Indexes used to evaluate whether mergers are likely to be anticompetitive; rather, we believe it favors an emphasis on the “direct effects” likely to arise from a merger, a concept promulgated in the 2010 Horizontal Merger Guidelines.”

³³ Kathleen E. Foote & Emilio E. Varanini, *A Few Thoughts About ACO Antitrust Issues from a Local Enforcement Perspective*, 40 JOURNAL OF HEALTH POLITICS, POLICY AND LAW 887 (2015) (Foote and Varanini).

³⁴ Centers for Medicare and Medicaid Services, *Medicare > Shared Savings Program > About the Program*, <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/about>. ACOs often serve both Medicare and commercially insured beneficiaries; see FTC & DOJ Statement, *supra* note 5.

³⁵ See FTC & DOJ Statement, *supra* note 5.

³⁶ Centers for Medicare and Medicaid Services, *Shared Savings Program Fast Facts – As of January 1, 2021*, <https://www.cms.gov/files/document/2021-shared-savings-program-fast-facts.pdf>.

³⁷ ACOs formed through merger transactions are assessed under the HMG. See FTC & DOJ Statement, *supra* note 5 at 67027.

³⁸ Foote and Varanini, *supra* note 34 at 888 (emphasis in original).

³⁹ FTC & DOJ Statement, *supra* note 5 at 67026. The FTC & DOJ Statement includes a discussion of an “antitrust safety zone” for ACOs in the MSSP in which “ACO that fall within the safety zone are highly unlikely to raise significant competitive concerns.” For example, ACOs whose combined share of each “common service” (defined by a major diagnostic category for inpatient services or outpatient category for outpatient services) in the participants’ primary service areas is 30% or less would be exempt from regulatory scrutiny. The statement also warns against four types of conduct that could be viewed as anticompetitive, such as “anti-steering” contractual clauses, tying sales, and restrictions on information that would “aid enrollees in evaluation and selecting providers in the health plan.” See FTC & DOJ Statement, *supra* note 5 at 67028-67030.

⁴⁰ Foote and Varanini, *supra* note 34 at 892. The empirical literature studying the effect of ACOs on physician group concentration has found mixed results. See, e.g., Hannah T. Neprash et al., *Little Evidence Exists to Support the Expectation That Providers Would Consolidate to Enter New Payment Models*, 36 HEALTH AFFAIRS 353 (2017); Genevieve P. Kanter et al., *Changes in Physician Consolidation With the Spread of Accountable Care Organizations*, 38 HEALTH AFFAIRS 1941 (2019); and Peter E. Lyu et al., *Soft Consolidation in Medicare ACOs: Potential for Higher Prices Without Mergers or Acquisitions*, 40 Health Affairs 980 (2021).

⁴¹ Thomas Wollmann, *Stealth Consolidation: Evidence from an Amendment to the Hart-Scott-Rodino Act*, 1 AER: INSIGHTS 77 (2019).

⁴² Federal Trade Commission, *HSR Threshold Adjustments and Reportability for 2021*, February 17, 2021, <https://www.ftc.gov/news-events/blogs/competition-matters/2021/02/hsr-threshold-adjustments-reportability-2021>.

⁴³ *Id.* at 90-91.

⁴⁴ Federal Trade Commission, *Overview of the Merger Retrospective Program in the Bureau of Economics*, <https://www.ftc.gov/policy/studies/merger-retrospectives/overview>.

⁴⁵ In the context of the dialysis industry, the existing academic literature has found that stealth consolidation leads to higher prices and lower quality for patients and that premerger notifications are essential for preserving competition. See Paul Eliason et al., *How Acquisitions Affect Firm Behavior and Performance: Evidence from the Dialysis Industry*, 135 THE QUARTERLY JOURNAL OF ECONOMICS 221 (2020), and Thomas Wollmann, *How to Get Away With Merger: Stealth Consolidation and Its Effects on US Healthcare*, National Bureau of Economic Research Working Paper 27274 (July 2021).

⁴⁶ See, e.g., José Azar et al., *Anticompetitive Effects of Common Ownership*, 73 JOURNAL OF FINANCE 1513 (2018) (on airlines); José Azar et al., *Ultimate Ownership and Bank Competition*, FINANCIAL MANAGEMENT 1 (2021) (on banking); and Mengde Liu, *Players Behind the Scenes: Common Ownership in the Hospital Industry*, Working Paper (Oct. 31, 2019), <https://pdfs.semanticscholar.org/8dae/3f4c62c1eab3cf0412666f490f337149d223.pdf> (among hospitals). For a recent review of the literature, see Martin C. Schmalz, *Recent Studies on Common Ownership, Firm Behavior, and Market Outcomes*, 66 THE ANTITRUST BULLETIN 12 (2021).

⁴⁷ Lina M. Khan, “*Vision and Priorities for the FTC*,” Memorandum to the Commission Staff and Commissioners (Sept. 22, 2021), <https://www.ftc.gov/public-statements/2021/09/memo-chair-lina-m-khan-commission-staff-commissioners-regarding-vision>, at 3.

⁴⁸ *Id.*

⁴⁹ We note that whistleblowers have already begun to allege violations of the False Claims Act among private equity firms. For example, see Nathan Hale, *Whistleblowers Defend FCA Suit Against HIG Capital*, LAW360 (Nov. 16, 2021).