NOTES

Redirecting the Analysis in Hospital Mergers

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There is currently a glaring gap between the economic tools available in antitrust analysis and the practical application of such tools by antitrust attorneys and judges. This disconnect is blatantly evident in the context of hospital mergers, where courts are allowing anticompetitive hospital mergers to go forward and harm consumers by facilitating more expensive, lower quality medical services. For years, courts and lawyers have relied on structural methods of analysis, such as market shares and HHIs, in mergers within all industries. However, such methods are arbitrary and burdensome, primarily because traditional methods typically create overly broad geographic markets that allow anticompetitive mergers to go unnoticed.

A more reliable framework is available to courts and lawyers in the form of direct competitive effects analysis. Tools such as diversion ratios and willingness-to-pay can be calculated using publicly available data and is not bound by any strict geographic boundary. Such tools therefore lead to more robust and accurate results in determining whether a hospital merger may pose harm to patients and health plan enrollees. Although some courts have already relied on direct effects analysis to enjoin hospital mergers in the last decade, the focus on direct effects by economists has far surpassed utilization by courts and lawyers. Because of its significant and easily attainable benefits, the legal system should increase reliance on direct effects analysis to more effectively argue, adjudicate, and evaluate hospital mergers to better protect consumers.

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INTRODUCTION

The U.S. healthcare system depends on competition. Private health insurers compete for enrollees and over the past twenty-five years, medical providers have competed for inclusion in insurer networks. Healthcare reform efforts rely on what happens in healthcare markets, and recently the Affordable Care Act (ACA) has only further reaffirmed the critical role of competition as the driving force in the healthcare system. It is necessary to maintain competition in the healthcare system to allow consumers to benefit from lower prices, higher quality services, and innovative healthcare solutions.

The recent trend in the hospital industry, however, has been to supplant competition through consolidation. Over the last twenty-five years, hospital markets have become substantially more concentrated due to the immense increase in mergers, “with the hospital industry having the most . . . horizontal merger litigation of any industry.” Many hospital markets are already highly concentrated as a result, and more consolidation is happening each year. There have been over 1200 hospital mergers since 1994, which is when the hospital merger wave started. The influx of mergers died down for a while, but things picked back up in 2010—from 2010 to 2014, hospitals again began merging at an unbelievable rate, with 457 hospital mergers occurring in this five-year span.

2. See id.
4. See Ramirez, supra note 3, at 2246.
5. Gautam Gowrisankaran, Aviv Nevo & Robert Town, Mergers When Prices Are Negotiated: Evidence from the Hospital Industry, 105 AM. ECON. R. 1, 2 (2015); see Michael L. Katz & Howard A. Shelanski, Mergers and Innovation, 74 ANTITRUST L.J. 1, 1 (2007) (stating that merger enforcement is the most active area of antitrust policy).
6. See Gaynor, supra note 3.
7. See id.; Capps & Dranove, supra note 1, at 70 ("[The hospital merger] wave peaked in 1996, when there were approximately 150 hospital mergers and over 300 mergers and system acquisitions.").
8. See Gaynor, supra note 3.
The unspoken explanation for rapid consolidation by hospitals is the desire for enhanced bargaining power in negotiations with insurers.9 When hospitals and insurers sit down at the table to negotiate prices, hospitals unsurprisingly want more power to get a better bargaining outcome.10 Another possible reason for rapid consolidation is that the ACA has created vast change in the healthcare sector generally, so hospitals are attempting to shelter themselves from uncertainty by getting bigger and becoming less prone to any perceived dangers the ACA may produce.11 There is no reason to anticipate that hospital mergers will slow down in the near future, which is particularly worrisome because, given the vast number of mergers that have already occurred, it is becoming more likely each year that future mergers will combine close competitors.12

Hospital mergers may have an immense impact on consumers and society. Although health plans face higher prices caused by hospital market concentration, “increases in health care costs . . . are passed on to health care consumers in the form of higher premiums, lower benefits, and lower wages.”13 Where the average American family has not had an increase in its real income net of healthcare costs in many years, additional downstream healthcare expenses can make a substantial difference in consumers’ ability to afford healthcare, particularly for low-income individuals who often carry a disproportionate amount of the burden.14

A potentially more worrisome concern for consumers affected at the point of treatment is that hospital mergers may even lead to lower quality of care—contrary to the justifications often provided by hospitals seeking to consolidate.15 Decreased quality of care can have grave consequences, sometimes creating complications or even implicating concerns of life or death. Moreover, hospitals facing less competition have diminished incentives to innovate, which can impact the effectiveness of potential future healthcare solutions for both

9. See id.; Capps & Dranove, supra note 1, at 69.
10. The American Hospital Association (AHA) in particular has been vocal about the need for more hospital mergers. See AHA Makes the Case for Hospital Mergers, ADVISORY Bd. Co. (June 4, 2013), https://www.advisory.com/daily-briefing/2013/06/04/aha-makes-the-case-for-hospital-mergers [https://perma.cc//8WKY-LK47].
11. See Gaynor, supra note 3.
12. See id.
13. See MARTIN GA YNOR & ROBERT TOWN, ROBERT WOOD JOHNSON FOUND., THE IMPACT OF HOSPITAL CONSOLI DATION—UPDATE 1 (2012), http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/rwjf73261 [https://perma.cc/2SG6-5YAN]; see also Martin Gaynor, Kate Ho & Robert J. Town, The Industrial Organization of Health-Care Markets, 53 J. ECON. LITERATURE 235, 236 (2015) (“Employers pass through higher health-care costs dollar for dollar to workers, either by reducing wages or fringe benefits, or even dropping health insurance coverage entirely.”); Gaynor, supra note 3 (explaining that employers typically pass on increased health insurance expenses to employees).
14. See Gaynor, supra note 3.
15. See WILLIAM B. VOGT & ROBERT TOWN, ROBERT WOOD JOHNSON FOUND., HOW HAS HOSPITAL CONSOLI DATION AFFECTED THE PRICE AND QUALITY OF HOSPITAL CARE? 8–9 (2006) (summarizing ten studies to conclude that increases in hospital concentration tend to reduce quality); Gaynor, supra note 3 (noting that consolidation can decrease quality of care).
known and unknown illnesses.\(^{16}\) The principal way of maintaining competition in the healthcare sector is through antitrust laws.\(^{17}\) However, during the mid-1990s consolidation wave, the two government agencies that investigate and evaluate effects of hospital mergers—the Federal Trade Commission (FTC) and Department of Justice (DOJ) (collectively, the Agencies)—achieved minimal success in preventing anticompetitive hospital mergers. The Agencies lost six consecutive cases during this period,\(^{18}\) which prompted many economists to study hospital competition more closely. Two key studies summarized a wealth of economic research to find that “hospital consolidation in the 1990s raised prices by at least five percent and likely by significantly more”\(^{19}\) and “high hospital concentration is associated with increased prices . . . .”\(^{20}\) Although the Agencies were able to adjust enforcement strategies after the 1990s wave to garner more success in the last decade,\(^{21}\) the negative effects of anticompetitive hospital mergers are such that it is important for lawyers and courts to understand and properly implement the most accurate and reliable evaluation criteria.\(^{22}\) Allowing such mergers to go forward is particularly worrisome where the modern trend is again to merge with competitors rather than to improve through competition.\(^{23}\)

\(\text{\^{16}}\) The problem was well summarized by healthcare economist Martin Gaynor, stating that the “[United States] is facing a great challenge to our health care system. If left unchecked, consolidation could undermine attempts to control costs, improve care and increase the responsiveness and innovativeness of our health care system.” Gaynor, supra note 3; see also Ramirez, supra note 3, at 2245 (“[I]ncreasing consolidation that’s occurred among health care providers over the past two decades represents a worrisome trend.”).

\(\text{\^{17}}\) See Ramirez, supra note 3, at 2245 (“Antitrust laws play a crucial role in ensuring that consumers benefit from robust market competition.”).

\(\text{\^{18}}\) See Capps & Dranove, supra note 1, at 70.

\(\text{\^{19}}\) Vogt & Town, supra note 15, at 4.


\(\text{\^{21}}\) For example, in 2008, an FTC challenge to a proposed merger between Inova Health Systems and Prince William Health System, which would have “significantly raised prices,” led the merging hospitals to abandon the transaction. Gowrisankaran, Nevo & Town, supra note 5, at 4, 35. See id. at 4 (finding that the Inova/Prince William merger would have raised the average price of the merging hospitals by 3.1%, equivalent to a 30.5% price increase at Prince William).

\(\text{\^{22}}\) See Philip Betbeze, Will Your Merger Pass the Smell Test?, HEALTHLEADERS MEDIA (May 11, 2012), http://www.healthleadersmedia.com/leadership/will-your-merger-pass-smell-test [https://perma.cc/VT6A-MSEZ]. Although the FTC allows 90% of deals to go through unchallenged, it is a fallacy that all consolidation is good for consumers. Id.

\(\text{\^{23}}\) See Leemore Dafny, Kate Ho & Robin S. Lee, The Price Effects of Cross-Market Hospital Mergers 1 (Nat’l Bureau of Econ. Research, Working Paper No. 22106, 2016), http://www.nber.org/papers/w22106 [https://perma.cc/4GC6-NZEL] (calling for “continued vigilance by antitrust enforcement authorities” due to the “mounting evidence that health provider consolidation has contributed to higher prices”); Ramirez, supra note 3, at 2245 (“Ensuring that health care provider markets remain competitive is one of [the FTC’s] chief aims.”).
It is important to both properly enjoin anticompetitive deals and allow procompetitive mergers to go forward.24 To achieve this goal, the Agencies have made clear that the law must be supplemented with economic tools.25 However, there is a rising concern that many courts and lawyers, along with the general public, are unfamiliar with the exact way in which the Agencies and other antitrust practitioners use such tools to determine whether conduct is anticompetitive.26

The Agencies typically employ two types of analyses to evaluate potential anticompetitive activity: structural analysis and “direct” competitive effects analysis.27 Unsurprisingly given its name, structural analysis seeks to analyze the merger’s effects on the structure of a particularly defined market.28 This traditional analysis focuses on the geographic dimension by differentiating hospitals based on their location.29 However, this is an incomplete methodology. It ignores that hospital competition differs greatly from other products and does not account for the subtleties present in hospital analysis.

Direct effects analysis, on the other hand, does not require a particular market definition, but instead seeks to determine the direct anticompetitive effects of a transaction. Direct effects analysis in hospital mergers focuses on the substitutability of hospitals and seeks to figure out precisely how hospitals, health plans, and patients interact in what is known as the “two-stage hospital competition model.”30 Because direct effects analysis more accurately estimates competition in the hospital context, this Note argues that the most effective way for agencies and courts to evaluate the anticompetitive effects of hospital mergers is to increase reliance on direct effects analysis.

The structure of this Note is as follows: Part I will describe the particularized competitive landscape in hospital mergers and introduce the two-stage competition model and the relevant anticompetitive inquiry. Part II will then explain why structural analysis in hospital mergers is arbitrary and difficult to imple-
ment due to the inherent imperfections of market definition and past techniques that have led to overly broad markets. Finally, Part III will explain the relevant direct analytical tools and discuss why these tools allow for a more reliable and less burdensome evaluation of the anticompetitive effects in hospital mergers.

I. COMPETITIVE LANDSCAPE IN HOSPITAL MERGERS

Hospital mergers are analyzed through a particularized framework, which can be viewed as a derivation or outgrowth from standard merger analysis, simply adjusted for the particular market conditions present in the hospital context. The analysis in hospital mergers involves added complexity, due in large part to the “two-stage competition model,” which will be described in section I.B.1. Before describing this model and delving into the specific inquiry that courts and the Agencies conduct when trying to determine whether a hospital merger is anticompetitive, it warrants some discussion to first provide a brief overview of the anticompetitive concerns in mergers generally.

A. INTRODUCTION TO MERGERS GENERALLY

Mergers and acquisitions, the effect of which “may be substantially to lessen competition, or to tend to create a monopoly,” are prohibited by the Clayton Act as anticompetitive, or bad for consumers. The Clayton Act seeks to protect the fundamental economic premise that “increased competition results in improved economic performance.” This premise is grounded in the idea that competitive markets are more effective at producing the lowest possible prices and highest quality for goods and services that consumers want. Typically, the merger inquiry is forward-looking and seeks to predict the future effects of the merger, which is by necessity because mergers are typically evaluated before a deal is actually consummated.

To engage in the predictive review of potentially anticompetitive mergers, Congress has delegated authority to the FTC and DOJ. Most often, the process is as follows: two entities seeking to consummate a particularly expensive or worrisome merger transaction give notice to the Agencies. Then, the Agencies engage in an initial review to consider whether the merger is sufficiently procompetitive and may be consummated, or whether a more in-depth review is

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31. For conciseness, this Note will refer to “mergers and acquisitions” simply as “mergers.” The analysis remains consistent for both.
33. See Katz & Shelanski, supra note 5, at 6.
34. See id. at 7.
35. See FTC v. Procter & Gamble Co., 386 U.S. 568, 577 (1967). One reason why mergers are ideally evaluated before effectuation of the transaction is that it is particularly difficult to “unscramble” a consummated merger. See FTC v. Dean Foods Co., 384 U.S. 597, 606 n.5 (1966) (“Administrative experience shows that the Commission’s inability to unscramble merged assets frequently prevents entry of an effective order of divestiture.”).
required.\textsuperscript{37} If the Agencies opt for further review, they will engage in a detailed investigation process and can either allow the parties to consummate their transaction or sue to enjoin the merger, typically by seeking a preliminary injunction in federal district court.\textsuperscript{38} An intensive trial on the merits is available after the preliminary injunction hearing, as is appellate review.\textsuperscript{39}

To create consistency in agency review and allow businesses to make strategic, predictive decisions without having to litigate every possible merger, the Agencies promulgated the Horizontal Merger Guidelines (Merger Guidelines), with the most recent version published in 2010.\textsuperscript{40} Because the Agencies look closely to the 2010 Merger Guidelines to evaluate mergers, the Merger Guidelines—although not binding on courts—offer the clearest picture into how the Agencies evaluate mergers. At its heart, the Merger Guidelines seek to answer the simple question: Will this merger be anticompetitive (harmful to consumers) or procompetitive (beneficial to consumers)?\textsuperscript{41} The inquiry is often phrased in terms of whether a merged entity will be able to exercise market power by increasing prices, although quality reduction or decreased incentives to innovate may also be considered. Any possible price increases are often weighed against procompetitive benefits, such as increased quality, cost savings in production, ability for heightened innovation, or other “efficiencies.”

B. HOSPITAL Mergers

Merger analysis is industry-specific. It therefore is essential to first understand the basic competitive landscape of hospital mergers before delving into the more specific anticompetitive concern that can arise in the healthcare market. The evaluation of hospital mergers relies primarily on the two-stage competition model.

1. Two-Stage Hospital Competition Model

Hospital mergers are different in one key aspect than many other mergers—there are two stages in which competition occurs.\textsuperscript{42} In the traditional merger context, when a consumer goes to a store hoping to buy a computer, for example, that consumer finds the computer he or she is looking for, sees the price on the shelf or online, and decides whether to pay that listed price or seek a better price elsewhere. Hospital consumers—health plan enrollees who may or

\textsuperscript{37} See id. § 18a.
\textsuperscript{39} See 15 U.S.C. § 18a(f).
\textsuperscript{40} See Merger Guidelines, supra note 27.
\textsuperscript{41} See id. § 1 (“The Agencies seek to identify and challenge competitively harmful mergers while avoiding unnecessary interference with mergers that are either competitively beneficial or neutral.”).
\textsuperscript{42} See Gregory Vistnes, Hospitals, Mergers, and Two-Stage Competition, 67 Antitrust L.J. 671, 672 (2000).
may not be patients seeking care in the future—are different. Consumers in the hospital context first seek health insurance, most often before they have any health problem. In seeking a commercial health insurance plan, patients can select from a menu of insurers based on what best suits the patient’s needs.\textsuperscript{43} After purchasing a particular health plan, patients make some fixed-term premium payments to that health plan, and then typically do not make any cash payments to the hospital at which they may receive care in the future. Instead, if a patient becomes sick, the patient looks at the menu of hospitals within a health plan’s network, picks the one that best serves the patient’s needs, and then goes to receive care at that hospital. After the patient receives care, the health plan reimburses the hospital at some contracted rate to cover the cost of care.\textsuperscript{44} This situation differs from simply going to a retail store to buy a computer because the patient does not make any out-of-pocket payment to the hospital directly.

The competition model can be segmented into two distinct but interdependent stages: stage one where hospitals negotiate with health plans over reimbursement rates; and stage two where hospitals compete for patients. It is important to understand that hospital and health plan negotiations depend upon how hospitals compete for patients because the price that a hospital can charge a health plan depends on the hospital’s value to an insurer’s network. If health plan enrollees prefer a particular hospital because the hospital offers certain non-price benefits, such as superior quality, convenience, or types of services, then the hospital maintains a stronger bargaining position in negotiations with the health plan over price in stage one. Stated differently, patient choice at stage two, which is driven by non-price factors, actually dictates the reimbursement rate negotiations that occur in stage one. The following subsections will discuss negotiation dynamics in stage one, and then set forth the patient choice that drives hospital–health plan negotiations in stage two.

\textit{a. Stage One.} At stage one, health plans negotiate with hospitals to create a provider network.\textsuperscript{45} For the sake of simplicity, assume that all contracts between all hospitals and health plans within a particular area are negotiated on the same day (say January 1), and all parties re-negotiate each year at the same time.\textsuperscript{46} At these negotiations, hospitals and health plans negotiate over the “reimbursement rate”—the percentage of the list price at which the health plan reimburses the hospital for treating the health plan’s enrollees.\textsuperscript{47}

\begin{footnotes}
\footnotetext[43]{This Note focuses on commercial health insurance, as opposed to Medicare, Medicaid, and other governmental programs.}
\footnotetext[44]{Co-payments are rare for hospitalization because enrollees typically seek care at hospitals that are in-network for their health plan to avoid paying out-of-pocket expenses. See Vistnes, supra note 42, at 674; infra note 57 and accompanying text.}
\footnotetext[45]{See Vistnes, supra note 42, at 674. This process is commonly called “selective contracting.”}
\footnotetext[46]{Assume also that there are no impediments to reaching an agreement like asymmetric information or communication delays.}
\footnotetext[47]{Hospitals provide medical services to a patient, where each medical service has a list price on the hospital’s “chargemaster.” The chargemaster price can be equated to the sticker price of a product at a}
The incentives for each side to reach an agreement on the reimbursement rate are clear. Hospitals want to be in-network with a particular insurer so that they can treat the health plan’s enrollees because, if the hospital is out-of-network, it will receive many fewer patients from that health plan’s enrollees. Similarly, insurers want a vast network of hospitals that can adequately treat their enrollees’ needs and maximize the number of subscriptions they receive.48

Competition is price-based at stage one.49 Keeping level and quality of care constant, the health plan prefers a lower reimbursement rate because it then has to pay the hospital less money. The hospital prefers a higher reimbursement rate because it then receives a higher payment. As with any bargaining between parties, the two sides—the hospital and the health plan—use their bargaining leverage to try to get the most beneficial outcome for their own side.

The hospital’s bargaining leverage is determined by the hospital’s value to the health plan’s network, which can depend on the availability of substitute hospitals within the network, the distance from the hospital to the health plan’s enrollees, quality of care, reputation, types of services offered, presence of specific technologies, specialty status, teaching status, physicians that have privileges at the hospital, and anything else that enrollees may value in a hospital.50

The health plan’s bargaining leverage is determined by fewer variables, mainly by the insurer’s network size—that is, number of enrollees—in the relevant area (because hospitals want access to as many enrollees as possible) and the number and mix of other hospitals within the network (because with fewer competing hospitals, a presumably larger amount of enrollees will go to the negotiating hospital). Each side will try to use its bargaining leverage to get a favorable price. The two sides to the negotiation will either agree on a reimbursement rate and the hospital will join the insurer’s network for the fixed term of the contract, or the two sides will fail to reach an agreement and the hospital will be out-of-network with the insurer.

These negotiations can be viewed in the framework of outside options, which lead to the payoffs each side would receive in the event that no agreement is reached.52 The premise is that the bargaining leverage of one side increases in response to events that increase the other side’s cost of failing to reach an

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48. If a health plan provides a less attractive provider network, then the health plan must often set lower premiums, lose enrollees, or both.
49. See Vistnes, supra note 42, at 674.
50. See id. at 677.
52. See Capps & Dranove, supra note 1, at 78. This is often referred to as the Best Alternative to Negotiated Agreement (BATNA).
agreement. The outside option for the health plan is to forgo the hospital in its network, which means that the profits the health plan would earn from marketing a less attractive network are lower. If the hospital demands a price that is so high that the health plan would realize less benefit than its outside option, then the health plan rationally refuses the contract.

On the other side of the table, the hospital’s outside option is the profits it would realize if it were out-of-network with the health plan and therefore treated none of the health plan’s enrollees. If the health plan demands a price that is so low that the hospital will receive less than its outside option, then the hospital rationally refuses the contract. If neither side’s outside option is a better alternative to walking away from the negotiating table, then the hospital and the health plan will sign a contract together at some fixed reimbursement rate.

b. Stage Two. At stage two, hospitals are differentiated according to whether they are in or out of a particular health plan’s network. Due to high out-of-pocket expenses and co-payments charged to patients if they go out-of-network, financial incentives drive enrollees to seek care at in-network hospitals for the enrollee’s particular health plan. Therefore, if contracts are negotiated on January 1 and a patient becomes sick and seeks care at a hospital on January 2, the patient will only seek care at hospitals that reached agreements with the patient’s health plan on January 1. This may not be entirely true in practice because patients may continue to use a particular hospital despite out-of-pocket expenses, but it is difficult to incorporate this into the analysis due to data limitations. In any event, the effects of patients seeking out-of-network care relative to the vast number of patients that only go to in-network hospitals are minimal, such that the analysis is largely unaffected by this assumption.

Because patients only seek care at in-network hospitals for which patients do not owe any out-of-pocket expenses, patients at stage two make decisions based on non-price factors. As the health plan will reimburse the hospital for the

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53. See id. ("This comports with simple intuition: a party to a negotiation does better the more the other party needs a deal.").
54. If prices differ between the hospital negotiating with the health plan and the health plan’s other in-network hospitals, then the health plan may also consider how such price differences affect the health plan’s profits when enrollees seek care at more or less expensive in-network hospitals.
55. If the hospital has excess capacity, then the minimum price the hospital would accept is marginal cost.
56. See Vistnes, supra note 42, at 673.
57. See id. at 677 ("For example, for HMO enrollees with full coverage for network providers but no coverage for out-of-network providers, out-of-network use will be rare . . . ."). The model relies on the assumption that patients will not seek care at out-of-network hospitals, but will instead only look to the menu of in-network hospitals that the patient’s health plan offers.
58. For an estimation of the impact of co-insurance rates on price effects in hospital mergers, see Gowrisankaran, Nevo & Town, supra note 5.
59. See Town & Vistnes, supra note 51, at 736.
60. See Vistnes, supra note 42, at 682.
patient’s care, the patient does not consider how much the health plan reimburses the hospital because the patient merely pays a fixed-payment premium to the health plan. Similarly, the patient does not care what the listed chargemaster price—or “sticker price”—for a particular hospital service is because the patient does not directly pay the hospital for care.

Patients instead are interested in a variety of non-price factors, the most common of which are convenience, quality, and types of services at competing hospitals within a particular insurer’s network. The patient will weigh these non-price factors and decide which in-network hospital best suits the patient’s needs for a particular medical condition. For a common example, assume that a patient wants to receive cardiac care and there are two in-network hospitals that provide cardiac services. One hospital has extremely high quality cardiac services, but the hospital is one hour from the patient’s home. The other hospital has relatively average cardiac services, but the hospital is two minutes away from the patient. The patient can weigh these considerations and make a decision. Note that price is not part of the determination.

It is important to realize that the two stages are not independent from one another. Many of the factors that drive a hospital’s bargaining leverage at stage one are the same non-price factors that drive patient choice of in-network hospitals at stage two. Therefore, hospitals that are more attractive to patients at stage two are able to negotiate higher reimbursement rates at stage one. For example, if a hospital opens a new oncology center, then the hospital may offer more services and increased quality to patients at stage two. Because more enrollees will want to go to this newly improved hospital, the hospital will now be more attractive to a health plan during stage one negotiations because the health plan’s network will, in turn, be more attractive to enrollees if the hospital is in-network. Stated differently, when a hospital is more desirable at stage two relative to other hospitals competing for patients, a hospital will have increased negotiating leverage in stage one competition vis-à-vis health plans and will therefore seek higher reimbursement rates. In contrast, when a hospital becomes less desirable in stage two relative to other competing hospitals, a hospital may be more willing to accept lower reimbursement rates.

When analyzing potential anticompetitive harm to be caused from a hospital merger, vast importance is placed on each merging hospital’s substitutability with other competing hospitals. If a hospital offers a particular service, quality, or convenience that another in-network hospital does not provide—such

61. See supra note 47.
62. See Town & Vistnes, supra note 51, at 738.
63. See Vistnes, supra note 42, at 682–83.
64. See id.
65. Note that hospitals have a greater incentive to improve quality when patient demand is more responsive to quality—that is, when elasticity of demand with respect to quality is higher.
67. See Town & Vistnes, supra note 51, at 752.
that the hospital is not viewed by patients as a substitute with other potential in-network hospitals—then the hospital becomes especially valuable to a health plan. If, on the other hand, a hospital is a perfect substitute for another in-network hospital, then the hospital is significantly less valuable to a health plan’s network. The effects of substitutability on a hospital’s ability to constrain prices are discussed at length in the following section because it lies at the core of the anticompetitive inquiry.

2. Anticompetitive Inquiry in Hospital Mergers

After describing the two-stage competition model, the standard question of whether a merger is anticompetitive can be applied more specifically to the hospital context. The question becomes: After the merger, will the merged hospital entity be able to negotiate higher reimbursement rates with health plans? The inquiry revolves around the idea that a merger will not change the health plan’s bargaining leverage, but a merger may change the hospital’s bargaining leverage. This increased bargaining leverage allows the hospital to negotiate for supracompetitive reimbursement rates, which can, in turn, lead to higher prices for consumers where health plans are forced to charge enrollees more expensive premiums.68 In the pre-merger environment, when a hospital system demands a particularly high price, the health plan maintains bargaining leverage and may elicit the lower-cost option by playing the hospital’s bid against a competitor.69 Post-merger, however, health plans lose this ability.70 Because the inquiry focuses on bargaining leverage, the answer to whether a hospital merger is anticompetitive depends on the extent to which each of the merging hospitals constrains the other in contracting for reimbursement rates with health plans.71 As is described below, this depends on the extent to which

68. This Note does not address within-network steering by health plans because steering is relatively rare and difficult to predict given that patients are typically uninformed about hospital prices, patient sensitivity to prices is hard to estimate, and patients often do not “shop around” for the best price because they typically are unaware of precisely what procedure they require before seeking care. See Vistnes, supra note 42, at 679. In markets where health plans respond to price increases by actively steering through advertising campaigns or creating financial incentives for enrollees to go to certain hospitals, steering may be more relevant to the analysis; however, such strategies are relatively rare in practice. Moreover, to the extent that steering can be predicted given available data, the analysis would nonetheless be similar to that set forth in this Note.

69. See Capps & Dranove, supra note 1, at 78.

70. See id. This concern is often stated in terms of “unilateral price effects,” meaning that elimination of competition—and thereby one less competitor to constrain prices—can lead a merged entity to find it profitable to alter its behavior following a merger by raising price and lowering output. See MERGER GUIDELINES, supra note 27, § 6.1; Katz & Shelanski, supra note 5, at 10. Such anticompetitive concerns are often most disconcerting the closer a combination gets to a “merger-to-monopoly” of the only two firms in the market. Because there are fewer competitors left in the market the closer a combination gets to a merger-to-monopoly, there is a heightened inability to constrain prices.

71. See Gowrisankaran, Nevo & Town, supra note 5, at 1 (“A party to negotiations will earn more beneficial terms of trade by improving its bargaining leverage. One of the ways that a firm can achieve better bargaining leverage is by merging with a competitor.”); see also Aviv Nevo, Deputy Assistant Attorney General for Economics, Antitrust Division, U.S. Dep’t of Justice, Mergers that Increase
the merging hospitals are substitutes within the health plan’s network.72

It is easiest to see this dynamic through a hypothetical. Suppose that a health plan has one hospital (H1) in-network and another hospital (H2) out-of-network. We will analyze the extent to which the possibility of the health plan creating a network with H2 would constrain H1 in negotiating reimbursement rates with the health plan.73 This depends, in turn, on the substitutability between H2 and H1. From the perspective of consumers, the extent to which H2 is a substitute for H1 depends on the extent that potential or actual enrollees would feel that a network including only H2 is inferior.74 If enrollees would view a network with only H2 as inferior, then the health plan must either lose enrollees or reduce its premiums to keep enrollees. Therefore, if H2 is not an adequate substitute for H1, then H1 does not feel particularly constrained by H2—meaning that H2 does not constrain H1’s bargaining leverage with the health plan during reimbursement rate negotiations. If, on the other hand, H2 is an adequate substitute for H1, then H1 will be constrained by the possibility of the health plan instead contracting with H2. This constraint would lead to H1’s willingness to accept a lower reimbursement rate from the health plan. As such, the health plan would use H2 as a threat to hold down the reimbursement rate that the health plan negotiates with H1.75

Now assume that H1 and H2 merge. This merger means that the health plan can no longer use H2 as a threat to negotiate for lower reimbursement rates with H1.76 In other words, the now-merged H1/H2 has increased its bargaining leverage in relation to the health plan. As is often the case, the merged H1/H2 will bargain on an all-or-nothing basis with the health plan, meaning that the health plan can now either contract to have the merged H1/H2 in-network or it can have neither.77 If consumers placed a high value on having H1 or H2 in-network, then the health plan may be forced to negotiate for high reimbursement rates with the merged H1/H2 so that the health plan’s provider network does not become significantly less marketable to potential enrollees. These

72. See Town & Vistnes, supra note 51, at 734–35. As one court put it, “As a general rule, the merger of two closely substitutable hospitals will increase the combined system’s bargaining leverage because ‘the alternative...of not contracting becomes less attractive from the perspective of health plans.’” FTC v. OSF Healthcare Sys., 852 F. Supp. 2d 1069, 1083 (N.D. Ill. 2012).
73. This is stage one competition. See supra Section I.B.1.a.
74. This is stage two competition. See supra Section I.B.1.b.
75. See Gowrisankaran, Nevo & Town, supra note 5, at 13 (explaining that health plans hold down prices by playing hospitals against each other).
76. See id. (noting that post-merger, a health plan’s ability to play hospitals off one another is lost, causing prices to rise).
higher reimbursement rates, due to the merged hospital’s now-increased bargaining leverage, are the primary anticompetitive concern in hospital mergers.\textsuperscript{78}

In the hospital context, structural and direct modes of analysis are used to figure out whether this anticompetitive concern will materialize post-merger. As the rest of this Note will discuss, the direct effects analysis is more effective at finding the correct answer. As is clear from the discussion and hypothetical above, substitutability and patient choice are key determinants of evaluating anticompetitive harm in hospital mergers. Structural analysis, however, fails to properly account for the nuances in hospital mergers, thereby leading to arbitrary results determined through a burdensome market definition calculation. Direct effects analysis, on the other hand, revolves around substitutability and patient choice, leading to more reliable determinations of anticompetitive effects. The rest of this Note will expose the flaws of structural analysis when compared to direct effects analysis. Part II will introduce and critique structural analysis, and Part III will introduce and discuss the benefits of direct effects analysis.

II. STRUCTURAL ANALYSIS IN HOSPITAL MERGERS IS ARBITRARY AND DIFFICULT

Structural analysis seeks to ascertain the anticompetitive effects on the structure of a particular market. It is first helpful to lay out the basic structural framework, which comes from the Merger Guidelines and is consistently employed by the Agencies.\textsuperscript{79} The key principles underlying structural analysis to evaluate mergers are product market, geographic market, market concentration, market efficiencies, and market entry.\textsuperscript{80} After discussing the basic framework, this section will discuss in more detail the shortcomings of traditional geographic market definition and the consequences of such shortcomings.

The Agencies typically start by determining the relevant market.\textsuperscript{81} The product market determines the products or services for which competition will be affected as a result of the transaction.\textsuperscript{82} In hospital mergers, the product market is almost always a “cluster” market of various services.\textsuperscript{83} Recently, the

\textsuperscript{78} Consistent with this example, the Agencies typically find that a net anticompetitive effect where hospitals can bargain for higher reimbursement rates post-merger is sufficient to conclude that a merger causes harm, even if the merger does not substantially lessen quality competition. See Vistnes, supra note 42, at 685.

\textsuperscript{79} See generally MERGER GUIDELINES, supra note 27.

\textsuperscript{80} See id. §§ 4–5, 9–10.

\textsuperscript{81} See Clayton Act, 15 U.S.C. § 18 (2012) (“[W]here in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.” (emphasis added)); MERGER GUIDELINES, supra note 27, § 4.

\textsuperscript{82} See MERGER GUIDELINES, supra note 27, § 4.1. The relevant product or service market is “determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it.” Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962).

\textsuperscript{83} In hospital merger cases, courts consistently hold that a “cluster market” is appropriate, meaning that hundreds of individual GAC services are put together, even though individual services are not substitutable for one another (i.e., a patient cannot substitute an ankle surgery for a heart transplant).
product market has typically been found to be some variant of inpatient general acute care (GAC) services, outpatient services, or both sold to commercially insured patients. Similarly, the geographic market determines the area for which competition will be affected. The Agencies then utilize the relevant market to determine the change in market concentration, which measures the number of firms in the market and their respective market shares. One commonly accepted measure of market concentration is the Herfindahl-Hirschman index (HHI). HHIs are calculated by squaring the market share of each firm competing in the geographic market, and then summing the resulting numbers. The Merger Guidelines set forth certain benchmarks, which guide the Agencies as to the concentration of the market and whether the merger is likely to have adverse competitive effects. Market concentration is often weighed against other criteria, such as market efficiencies and entry.

Geographic market definition is a key component in structural analysis, which drives the inaccurate and unreliable results created by structural methods in the hospital context. Not only is market definition inherently imperfect, but hospital mergers have been historically prone to overly broad geographic markets due to flawed techniques used in the past. One of these techniques however, these services are nonetheless clustered together for analytical convenience. See, e.g., ProMedica Health Sys., Inc. v. FTC, 749 F.3d 559, 567 (6th Cir. 2014); FTC v. Univ. Health, Inc., 938 F.2d 1206, 1211 n.11 (11th Cir. 1991); FTC v. OSF Healthcare Sys., 852 F. Supp. 2d 1069, 1075–76 (N.D. Ill. 2012).


85. See MERGER GUIDELINES, supra note 27, § 5.

86. HHI results can range from 0 to 10,000. An HHI of 10,000 indicates that there is only one firm in the market that controls 100% of the market share: \(100^2/10,000\). See id. § 5.3 & n.9.

87. The Merger Guidelines set forth three types of markets: (1) unconcentrated markets where HHI is below 1,500; (2) moderately concentrated markets where HHI is between 1,500 and 2,500; and (3) highly concentrated markets where HHI is above 2,500. Mergers resulting in highly concentrated markets that involve an HHI increase of more than 200 points are “presumed to be likely to enhance market power.” Id.

88. The Agencies consider efficiencies—the potential procompetitive benefits of a transaction such as cost savings or increases in quality—and potential entry into the market in the future. See id. §§ 9, 10; Katz & Shelanski, supra note 5, at 10.

89. One of the primary reasons for the string of hospital merger cases that the Agencies lost in the 1990s was court reliance on patient-flow-based methods of defining geographic markets. See Capps & Dranove, supra note 1, at 72. Another reason Agencies lost hospital merger cases in the 1990s was the reliance placed on the nonprofit status of hospitals, as courts previously believed that nonprofit hospitals were less likely to increase prices post-merger. Since then, however, this premise has similarly been shown to be false. See, e.g., Cory Capps, Dennis W. Carlton & Guy David, Antitrust Treatment of Nonprofits: Should Hospitals Receive Special Care? (Univ. of Chicago, Working Paper No. 232, 2010), http://guy-david.com/pdf/Capps%20Carlton%20David%20August%202010.pdf [https://perma.cc/Y9US-2EFG] (arguing that nonprofit hospitals should be judged under the same antitrust standards as for-profit hospitals because no evidence exists that nonprofit hospitals are more likely to provide charity care or unprofitable services in response to increased market concentration); Brief of Amici Curiae Economics Professors in Support of Petitioner at 7, FTC v. Phoebe Putney Health Sys., 133 S. Ct. 1003 (2012) (No. 11-1160) (arguing that mergers giving nonprofit hospitals substantial market power is likely to harm consumers).
was the Elzinga-Hogarty (E-H) test,\textsuperscript{90} which relied on patient-flow analysis that, at the time, was viewed as an accurate market predictor, but has since been shown to result in overly inclusive markets.\textsuperscript{91} Prior use of the E-H test, therefore, led to court decisions favorable to merging hospitals, which in turn led to highly concentrated hospital markets and increased prices.\textsuperscript{92} Similarly, the so-called “old-style” or “breakeven” critical loss analysis (CLA)\textsuperscript{93} previously led to overly broad markets, but has now been discredited.\textsuperscript{94} As with the E-H test, defendant merging hospitals succeeded in exploiting this technique to

\textsuperscript{90} The E-H test focuses on patient inflows and outflows by seeking to quantify where individual patients of each merging hospital live. The E-H methodology has two components: little-in-from-outside (LIFO) and little-out-from-inside (LOFI). LIFO measures patient outflows—whether no more than a given percentage of patients (typically either 75% or 90%) living inside the market use a hospital located outside the market. LOFI determines patient inflows—whether no more than a given percentage of patients (again, typically 75% or 90%) treated at hospitals within the market actually live outside the market. If either the patient inflow or the patient outflow is too high, then the market must be expanded to include additional hospitals. See, e.g., Cory S. Capps et. al, The Silent Majority Fallacy of the Elzinga-Hogarty Criteria: A Critique and New Approach to Analyzing Hospital Mergers (Nat’l Bureau of Econ. Research, Working Paper No. 8216, 2001), http://www.nber.org/papers/w8216.pdf [https://perma.cc/4AHD-TY8T] (criticizing the E-H test for leading to inaccurately defined geographic markets in hospital merger cases).

\textsuperscript{91} There are two principal flaws with the E-H test. The first is the “silent majority fallacy,” which is that the E-H test creates an unreliably broad geographic market because traveling consumers do not necessarily limit market power with respect to non-traveling consumers. See, e.g., id. (arguing that the E-H test distorts market definition by improperly imposing the preferences of a minority on the silent majority by assuming that an often-large majority of existing patients who do not travel for care have similar preferences to the minority of patients who do travel for care). The second problem with the E-H test creating overly broad markets has been labeled the “payor problem” because patient-flow data provides little information about individual patients’ willingness to switch between hospitals in response to price changes. See Capps & Dranove, supra note 1, at 75 (arguing that the assumption in E-H analysis that patients will travel considerable distances to obtain lower prices does not comply with the two-stage competition model where patients do not take prices into account when selecting a hospital at which to obtain services).

\textsuperscript{92} One illustrative example of the implementation of the E-H test demonstrates its arbitrariness. In United States v. Rockford Mem’l Corp., 717 F. Supp. 1251 (N.D. Ill. 1989), aff’d, 898 F.2d 1278 (7th Cir. 1990), the experts for both the government and the defendant hospitals employed the E-H method, but both sides identified significantly different relevant markets. The court criticized both sides’ implementations and conducted its own E-H analysis, under which the court ultimately identified its own market, distinct from either offered by the litigating parties. See id. at 1277, 1292. The court nonetheless subscribed to the E-H test as a “useful tool for eliminating certain geographic areas from consideration as relevant markets.” Id. at 1271.

\textsuperscript{93} See Carl Shapiro, The 2010 Horizontal Merger Guidelines: From Hedgehog to Fox in Forty Years, 77 Antitrust L.J. 49, 92 (2010). In the hospital context, old-style CLA sought to estimate two effects after a hypothetical monopolist initiated a small but significant and non-transitory increase in price (SSNIP): (1) the “critical loss,” or the loss of patients above which a SSNIP would be unprofitable for a hypothetical owner of all hospitals in the area; and (2) the “actual loss,” or the percentage of sales lost in response to a SSNIP. If the actual loss is greater than the critical loss, then the SSNIP is deemed unprofitable and adjacent areas and hospitals are added to the market until the estimated actual loss no longer exceeds the critical loss. See Michael L. Katz & Carl Shapiro, Critical Loss: Let’s Tell the Whole Story, 17 Antitrust L.J. 49, 49 (2003).

\textsuperscript{94} CLA has since been revised in the 2010 Merger Guidelines, which no longer contain the fundamental flaw of old-style CLA of not utilizing information inherent in pre-merger margins. See Katz & Shapiro, supra note 93, at 50 (discussing in detail the more sophisticated CLA set forth in the Merger Guidelines).
argue for broader geographic markets. Surprisingly, some courts have recently used versions of these tests to—unsurprisingly—find inaccurate and overly broad market definitions.

A. REQUIRES STRICT GEOGRAPHIC MARKET DEFINITION

Today, as instructed by the Merger Guidelines, the Agencies define the appropriate geographic market by identifying the geographic boundaries within which a hypothetical monopolist for the services at issue could profitably impose a price increase, namely a small but significant and non-transitory increase in price (SSNIP). This is known as the “hypothetical monopolist test.” If the hypothetical monopolist could profitably impose a SSNIP, then that area is the relevant geographic market; if not, then the geographic market should be expanded to include potential substitutes to which consumers may turn. The geographic market does not need to include the area from which all of the merging parties’ customers come from. Therefore, the hypothetical monopolist test merely indicates that a geographic area constitutes a relevant market if the hypothetical monopolist could impose SSNIP without inducing so many consumers to switch to substitute services such that the price increase becomes unprofitable. Although the hypothetical monopolist test may appear precise, the natural flaws of market definition nonetheless create arbitrary and often erroneous outcomes.

95. See, e.g., Christopher Garmon, The Accuracy of Hospital Merger Screening Methods 5 (Federal Trade Comm’n, Working Paper No. 326, 2016), https://www.ftc.gov/system/files/documents/reports/accuracy-hospital-merger-screening-methods/rwp_326.pdf [https://perma.cc/U9A4-KZM3] (“CLA-inspired geographic markets... prevented federal... antitrust authorities from enjoining proposed hospital mergers they felt were anti-competitive.”). One such example is FTC v. Tenet Healthcare Corp., 186 F.3d 1045 (8th Cir. 1999). The FTC claimed that the relevant geographic market included seven hospitals, whereas the defendant argued that the relevant market was much broader, even including one large hospital that was over three and a half hours away. See id. at 1052. The defendant’s expert advocated that the existence of high pre-merger margins made it unlikely that the merger would result in a price increase because a relatively small percentage of patients would have to be lost to competing hospitals to make a price increase unprofitable. See id.; see also Daniel P. O’Brien & Abraham L. Wickelgren, A Critical Analysis of Critical Loss Analysis, 71 Antitrust L.J. 161, 180 (2003). The Eighth Circuit ultimately held that the FTC’s proposed geographic market was too narrow and reversed the district court’s order enjoining the merger. Tenet Healthcare Corp., 186 F.3d at 1054. The court made a crucial mistake by not realizing that the story is quite different if information inherent in the pre-merger margins about the willingness of customers to switch hospitals is considered in the analysis. See O’Brien & Wickelgren, supra, at 181–82 (arguing that the large margins used by the defendant’s expert in Tenet Healthcare were inconsistent with the willingness of customers to switch hospitals).

96. See infra Section III.C.4.

97. MERGER GUIDELINES, supra note 27, § 4.2.

98. Id. § 4.1.1.

99. Id. § 4.2.

100. Id. § 4.1.1.

101. See Katz & Shelanski, supra note 5, at 32.
1. Market Definition Analysis is Inherently Imperfect

Market definitions are discrete, but competition is continuous.102 Because market definition lays the foundation for market shares and market concentration, an imprecisely identified geographic market will inevitably lead to inaccurate market shares and market concentration. Where an increase in concentration in the relevant market is taken as a proxy for a decrease in competition, an inaccurately defined market creating imprecise market shares thus leads to an ultimately erroneous evaluation of potential anticompetitive effects.103

The fundamental issue is the “all-in-or-all-out problem.” That is, although firms may provide either a large or small constraint on the pricing of the merging parties, market definition either treats non-merging firms as in or out of the market. Stated differently, by stringently defining a geographic market at some distinct boundary, there is a likelihood of two possibilities: (1) a firm that actually competes with the merging parties will be left out of the market, or (2) a firm that does not actually compete with the merging parties will be included in the market.104 By engaging in either error, a perceived “small” change in market definition can have a profound impact on the predicted effects of the merger. Erroneously including or excluding one firm from the geographic market can under- or over-estimate the merging parties’ market shares, which can lead to a poor judgment made as to the merging firms’ ability to raise prices post-merger.105

HHIs are also entirely dependent on market definition because HHI calculation is based on market shares.106 As such, the same issue arises where the inclusion or exclusion of one single competitor can over- or underestimate HHIs and improperly demonstrate the adverse effects of the merger.107 The problem can be viewed as a domino effect: imprecise market definition leads to imprecise market shares leads to imprecise HHIs.

The “all-in-or-all-out problem” applies just as easily to the hospital context, where competitive concerns of hospital mergers may be poorly estimated and arbitrary choices may decide a particular case.108 For example, in Ukiah Adven-

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102. See generally id. (arguing that static market definitions do not account for possible future market changes, such as ongoing innovation).
103. See id. at 8.
104. Id. at 32 (“[It could be ‘difficult to identify “clear breaks in the chain of substitutes” sufficient to justify bright-line market boundaries.”]” (quoting United States v. Oracle Corp., 331 F. Supp. 2d 1098, 1120 (N.D. Cal. 2004)).
105. See MERGER GUIDELINES, supra note 27, § 4; see also Louis Kaplow, Why (Ever) Define Markets?, 124 HARV. L. REV. 437, 440 (2010) (arguing that market definition should be abandoned because there is no coherent way to define a market without first assessing market power, thereby begging the question).
106. See supra notes 86–87 and accompanying text.
107. See Salop, supra note 24, at 299 (“HHI is not the best proxy for unilateral effects concerns.”). There is also potential concern that HHIs are simply compared to previous benchmarks that may be outdated.
108. Because the relative competitive significance of more distant substitutes is apt to be overstated by their share of sales, when the Agencies rely on market shares and concentration, they usually try to
tist Hospital—an FTC attempt to unwind a consummated merger—the resolution hinged on whether a single hospital in Santa Rosa should be included in the geographic market.109 This determination decided the entire case: if Santa Rosa were included, the merger would only minimally increase concentration; but if Santa Rosa were excluded, the merger would create a monopoly.110 As may be clear from this extreme example, it appears unlikely in practice that the Santa Rosa hospital either entirely constrained the merging hospitals’ prices or did not have any competitive impact whatsoever, meaning that either outcome in Ukiah was likely to be overstated.111

The inaccuracies in geographic market calculation and market shares are often enhanced because of the vigor and skill by which parties dispute and argue over the relevant market, which is typically the most important issue in determining the resolution of litigation.112 In most merger cases, the merging parties assert a broad market where they argue that they possess small market shares, whereas the Agencies respond that the market is instead to be defined more narrowly.113 Inherent in this dispute is that it is impossible to completely eliminate uncertainty about the results of proper market definition, and the decided geographic market will often be some product of both sides’ disagreement.

In litigation, courts ultimately make the determination, but this can depend on each side’s ability to persuasively advocate, as opposed to precision in calculation of the proper geographic boundaries. For example, in Evanston, the Administrative Law Judge (ALJ) ultimately made a compromise and set the size of the geographic market between those requested by the FTC and the merging hospitals.114 The ALJ relied substantially on market participant views, geographic proximity, and travel times.115 The ALJ also gave weight to the premise that patients in the surrounding area of the merging hospitals would be less willing to travel to receive care based on their affluent economic status because affluent consumers “impute a higher value to their time and consequently travel becomes more costly to them in the opportunity cost sense.”116 Whether this decision was “correct,” a judge’s geographic market determination based on
market participant views and the perceived actions of wealthy patients is in need of a more precise methodology. Decisions lacking a basis in actual data of how actors interplay within the market are subject to unpredictable variables such as the efficacy of each party’s advocacy to the court and other litigation skills. Such imprecision and arbitrariness makes it much more difficult to ensure an accurate result.

2. HHI Calculations in Hospital Markets are Flawed

In the hospital context, three geographic market determinations were developed in an attempt to define the geographic market in a manner that would more accurately estimate market concentration and HHIs. However, all three geographic market methodologies rely on arbitrary determinations, which simply reaffirm inaccurate results. The first methodology relies on the Hospital Referral Region (HRR), defining a market by the staffed beds of hospitals in the HRR, which is roughly equal to a hospital’s 90% service area. Not only does the HRR method suffer from the all-in-or-all-out problem described above, but the 90% service area is often too large to predict the effects of a merger. If, for example, 80% of a hospital’s patients come from a one-mile radius where there are no other hospitals, but another 10% come from ten miles away, then the HRR is far too broad to accurately depict the ability of hospitals in the 90% service area to constrain the hospital’s prices.

The second technique defines a market based on the patients residing in the Hospital Service Area (HSA), as opposed to hospitals located in the area. This HSA methodology is inaccurate because shares are calculated based on admissions of patients residing in the area, but does not factor in that patients may be treated at hospitals outside of the area or patients may come from outside of the area into the HSA for care.

The third technique defines a market through a weighted service area—for each ZIP code, the share of each hospital is calculated based on patients who reside in the ZIP code, regardless of hospital location. Although more accurate than the prior two techniques, weighted service area calculation is nonetheless flawed. This calculation is subject to arbitrary decision making because market shares are weighted based on the apparent importance of ZIP codes to the merging hospitals, meaning that shares can be either too large or too small depending on how the ZIP codes are weighted.

117. See Garmon, supra note 95, at 13–14.
118. Id. at 13.
119. Id.
120. Id.
121. Id.
122. Id. at 13–14.
B. REQUIRES SUBSTANTIAL AND BURDENSOME DISCOVERY

Under structural analysis, substantial and burdensome discovery is typically required because it is often necessary to obtain payor or administrative claims data to engage in market share calculation. Payor data is used to attempt to construct transaction-level prices for each hospital–health plan pair in the market.

Payor data is almost always not publicly available, meaning that the discovery process must take place for payor data to be obtained by the Agencies. The process of obtaining payor data is both expensive and time consuming. It requires issuing discovery requests to multiple health plans, which requires extensive cooperation by numerous third parties who may not be particularly thrilled to spend time and resources to compile and send data to the government. After the data is assembled from multiple payors, economists must compile these complex data sets to engage in the appropriate econometric calculation. The process is often burdensome and expensive, and for these reasons, acquiring payor data has been described as a “longstanding challenge” in the analysis of hospital markets.

III. DIRECT EFFECTS ANALYSIS IS MORE RELIABLE AND LESS BURDENSOME

The Merger Guidelines do not insist that merger analysis consist of one uniform application of a single methodology. The merger inquiry is a fact-specific process and the Agencies have the ability to apply any range of tailored analytical tools to evaluate competitive concerns. As such, “the measurement of market shares and market concentration is not an end in itself, but is useful to

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123. See Gowrisankaran, Nevo & Town, supra note 5, at 15.
124. See id. Payor data contains most of the information that health plans use to process payment to a hospital for a given patient encounter, often including demographic characteristics, diagnosis, procedure performed, diagnosis-related group (DRG) weight, and actual amount paid to the hospital for each claim. See id.
125. Garmon, supra note 95, at 16 (“[F]ew states collect all-payer claims data and only two . . . make this data available.”).
127. See Gowrisankaran, Nevo & Town, supra note 5, at 15–16.
128. See id. at 15. Publicly available discharge data—which allows for less burdensome direct effects analysis calculations—could, in principle, also be used to calculate market shares, though this approach seems to be quite novel. For example, Gowrisankaran, Nevo & Town used Virginia discharge data that contained much of the same information as claims data, with even more accurate demographic characteristics, patient ZIP codes, and diagnosis fields. See id. at 17. Presumably, such discharge data could be used to calculate market shares as well.
129. See Merger Guidelines, supra note 27, § 1 (“These Guidelines should be read with the awareness that merger analysis does not consist of uniform application of a single methodology. Rather, it is a fact-specific process through which the Agencies, guided by their extensive experience, apply a range of analytical tools to the reasonably available and reliable evidence to evaluate competitive concerns in a limited period of time.”).
the extent it illuminates the merger’s likely competitive effects.”\textsuperscript{130} As discussed above, in the hospital context, structural analysis is often not useful at all.\textsuperscript{131} Direct effects analysis can instead serve as a useful indicator of anticompetitive effects.\textsuperscript{132} Direct effects analysis is evidence indicating the likely competitive effects of a merger without the need to draw inferences from market definition or market concentration. Therefore, direct effects analysis provides insight into whether a merger is likely to substantially lessen competition, but does not require the burden or inaccuracy of determining a strict geographic market.\textsuperscript{133}

A. DESCRIPTION OF DIRECT EFFECTS ANALYSIS METHODS USED IN HOSPITAL MergERS

Two particular direct effects analysis methods have already been implemented in the hospital merger context: willingness-to-pay (WTP) and diversion ratios. Both WTP and diversion ratios rely heavily on the two-stage hospital competition model introduced above. Namely, patient choice—determined in stage two where enrollees decide which hospital to seek care at based on non-price factors such as quality and convenience—drives hospital–health plan reimbursement rate negotiations in stage one. As such, hospitals that are more attractive to enrollees at stage two will have increased bargaining leverage. As discussed above, substitutability between competing hospitals plays the critical role in determining where patients choose to seek care and, in turn, how negotiations play out between hospitals and health plans.\textsuperscript{134} Enrollees’ valuation of a provider network therefore depends on expectations as to how the network can meet the enrollees’ needs in the future, where the health plan will strive to create a marketable network that effectively meets consumer needs. This is defined as an “option demand” market, and it lays the groundwork for how

\textsuperscript{130} Id. § 4 (emphasis added); see Shapiro, supra note 93, at 57. The 2010 Merger Guidelines place less weight on market shares and market concentration than did its predecessors, therefore showing a perceived decrease in emphasis on structural methods. See id. at 64 (“DOJ looks at a wide variety of evidence to assess whether the products offered by the merging firms are close substitutes and to measure diversion ratios when possible, sometimes but not always starting with shares in plausibly defined markets.”); Michael G. Cowie & Paul T. Denis, The Fall of Structural Evidence in FTC and DOJ Merger Review, THE ANTITRUST SOURCE 1 (Feb. 2013), http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/feb13_cowie_2_26f.authcheckdam.pdf [https://perma.cc/AB2Z-YF2B] (“[T]he DOJ and FTC merger guidelines over time have deemphasized market structure and increased the emphasis on competitive effects analysis . . . .”).

\textsuperscript{131} See Katz & Shelanski, supra note 5, at 33 (“Economists—including former chief economists for both principal U.S. antitrust agencies—have long noted that formal market delineation may not be necessary to a sound competitive-effects analysis.”).

\textsuperscript{132} See id. at 34 (noting that formalities of market definition can be skipped in favor of direct effects analysis in other types of antitrust cases).

\textsuperscript{133} See id. at 78–79 (“[A] movement away from a predominant focus on market shares and toward a more refined analysis of industry conditions and the nature of competition would represent a change in the practice of merger litigation by reducing the primacy of market definition in merger cases.”).

\textsuperscript{134} See supra Section I.B.1.
WTP is calculated.135

1. Willingness-to-Pay

WTP was formulated from the idea that enrollees in insurance plans act in an option demand market.136 Consumers (enrollees) commit to a potentially restricted network of sellers (hospitals) before knowing their specific needs or diagnosis.137 Enrollees instead retain the option to visit any in-network hospital whenever their needs are realized.138 Option demand markets differ from direct-purchase markets where consumers do not eliminate potential sellers prior to realizing their needs.139 For example, in direct-purchase markets, when consumers want to buy a particular good, they can simply go wherever that good is sold. In contrast, in an option demand market, consumers can only get healthcare from the limited range of providers to which they committed whenever they signed up with a particular health plan. Therefore, the value that enrollees attach to a particular health plan’s network is dependent upon the enrollees’ expectations of the network’s ability to meet the enrollees’ possible needs in the future.140

Based on this concept of an option demand market, WTP observes that the incremental profit of each hospital in negotiations with a health plan should be directly related to the value that the hospital adds to a health plan’s provider network from the perspective of enrollees.141 The WTP calculation gives an estimate for each hospital of how much consumers in the aggregate are willing to pay ex ante—before becoming ill and requiring care—to retain that hospital in the network.142 As such, WTP equals the difference between the value of a health plan’s network when it includes a particular hospital and the value of a health plan’s network when it does not.143 The value of WTP is measured in units of utility called “utils,” where an increase in utils equates to a higher degree of consumer satisfaction.144

136. See id.
137. Id. at 740.
138. Id.
139. Id.
140. See id. at 738.
141. See Capps, Dranove & Satterthwaite, supra note 135, at 740.
142. See id.
143. The WTP calculation begins by calculating the ex ante WTP for a given consumer–hospital combination, which equals the difference between a consumer’s valuation of a full provider network and a consumer’s valuation of a provider network that excludes the hospital in question. WTP for a given hospital is then derived by aggregating patient-level values of WTP for that hospital across all patients.
144. An obvious condition for a health plan to include a hospital within its network is that the WTP for the hospital is greater than the additional costs created by the hospital’s inclusion within the network. See Capps, Dranove & Satterthwaite, supra note 135, at 744.
2. Diversion Ratios

The extent of competition between two hospitals can also be measured through diversion ratios. In the hospital context, diversion ratios measure substitutability by looking at what would happen if one of the merging hospitals were dropped from a health plan network. As enrollees may no longer seek care at the now-out-of-network merging hospital, they must seek care elsewhere. Diversion ratios aim to estimate what proportion of these consumers would seek care at the other merging hospital versus competing hospitals in the area. If the diversion ratios between the two merging hospitals are high, then the merging hospitals are deemed to be close competitors, thereby heightening anticompetitive concerns.

In hospital markets, diversion ratios are formally calculated as the expected share of volume, or discharges, captured by the merging firm if the other merging firm is excluded from a provider network. Mathematically, this looks like the following, where “A” is Hospital A and “B” is Hospital B:

\[
\text{Diversion ratio (B \rightarrow A)} = \frac{\text{Share of (A) after exclusion of (B)} - \text{Share of (A)}}{\text{Share of (B)}}
\]

The shares of each hospital are computed by adding the predicted probability of choosing that hospital across all patients in the sample. The magnitude of consumers who switch from one merging hospital to the other will depend on the extent to which consumers view the merging hospitals as substitutes.

B. BENEFITS OF INCREASING RELIANCE ON WTP AND DIVERSION RATIOS

WTP and diversion ratios have numerous benefits that should cause courts and lawyers to increase reliance on these tools. First, WTP and diversion ratios both serve as clear estimates of substitutability to accurately predict post-merger price increases. Second, both tools provide less erroneous results than structural methods such as HHIs. Third, results produced by direct analytical techniques

145. Diversion ratios have long been used by the Agencies to determine unilateral price effects from mergers. As set forth in the MERGER GUIDELINES, supra note 27, § 6.1: “Diversion ratios between products sold by one merging firm and products sold by the other merging firm can be very informative for assessing unilateral price effects, with higher diversion ratios indicating a greater likelihood of such effects.”

146. See BRAND & GARMON, supra note 77, at 2.

147. See id. at 3 n.6. In other contexts, diversion ratios are typically the share of sales lost by one merging firm and captured by the other merging firm due to a marginal price increase.

148. Diversion ratios here implicitly assume that no patient would continue to seek care at a hospital if it were dropped from a provider network. If this assumption were relaxed, then diversion ratios could be calculated by incorporating the probability that each patient type would stay with his or her preferred hospital even if it were removed from the network.
are robust because no strict geographic market definition is required. Finally, the analysis may be undertaken more easily with publicly available data.

1. Estimating Substitutability to Predict Post-Merger Price Increases

Diversion ratios and WTP measure substitutability, which is an accurate predictor of post-merger price increases. Higher diversion ratios between merging hospitals indicate that health plan enrollees view merging hospitals as substitutes. As such, if diversion ratios of patients moving from one merging hospital to another are high, then there is an increased likelihood that a merger between these two hospitals will allow the merged entity to use increased bargaining leverage to negotiate for higher reimbursement rates post-merger.

Similarly, a higher WTP indicates that a merged hospital will utilize its bargaining leverage to seek higher reimbursement rates from health plans. This is because exclusion of a hospital with a high WTP—where the difference between the value of a provider network including that hospital is significantly greater than the value of a network excluding that hospital—would create a substantial reduction in value for a health plan. Hospitals with a high WTP are thus predicted to earn greater incremental profits in negotiations because failing to reach an agreement with such a hospital is more costly to a health plan whose enrollees will view the plan less favorably. Therefore, mergers that increase WTP for the combined entity—where the WTP of the merged entity is greater than the sum of the WTPs of each individual hospital—will result in higher reimbursement rates post-merger.

The key underlying principle is that if high diversion ratios demonstrate that merging hospitals are close substitutes, then the merger of these two hospitals will lead to a substantial increase in WTP. If hospitals are close substitutes from the perspective of enrollees, then the WTP pre-merger for each individual hospital will be lower because a network that excludes one hospital can still include a substitute hospital that serves enrollees’ needs—meaning a network is not substantially worse if it does not include all substitute hospitals. However, after a merger of two substitute hospitals, there may be no alternative for enrollees because patients must now seek care at the next-best alternative, thereby potentially forcing a health plan to either include the merged entity in its network or offer a health plan that is substantially less attractive. A few illustrative examples will more evidently demonstrate the role that WTP plays in hospital–health plan negotiations.

149. See Brand & Garmon, supra note 77, at 11 n.12 (noting that in current literature, merger price effects are largely determined by the extent to which consumers view hospitals as substitutes).
150. See Garmon, supra note 95, at 10.
151. See Capps, Dranove & Satterthwaite, supra note 135, at 743.
152. See Gowrisankaran, Nevo & Town, supra note 5, at 13–14 (explaining that if consumers view hospitals as substitutes, then WTP generated from the patient choice model will tend to show a price increase post-merger).
Assume that enrollees are members of a health plan and that Hospital 1 (H1) and Hospital 2 (H2) are close substitutes for one another. If before the merger the health plan’s network includes only H1, then enrollees have a small WTP for adding H2 to the network because H2 and H1 are close substitutes so enrollees get minimal, if any, additional value from adding H2. As such, the health plan can play H1 and H2 off of one another to get lower reimbursement rates because the health plan knows that its enrollees will be satisfied so long as one of the two hospitals is in-network. Now suppose that H1 and H2 merge and choose to bargain with the health plan on an all-or-nothing basis. If the health plan excludes the merged H1/H2, patients must go to their next-best choice, which I will call H3. If patients prefer H3 much less than H1 or H2—and if H3 is not closely substitutable with H1 or H2—then the WTP for a network without both H1 and H2 drops substantially. This gives H1/H2 significant bargaining leverage in negotiating for reimbursement rates with the health plan. Here, H1 and H2’s joint WTP post-merger is substantially larger than the sum of H1 and H2’s individual WTPs because H1/H2 is a merged entity consisting of two closely substitutable hospitals.

Now instead, assume that no consumer views H2 as a substitute for H1 and vice versa. In this scenario, if H1 and H2 merge, the WTP of H1 and H2 together is exactly equal to the WTP of H1 plus the WTP of H2. Therefore, the incremental profits post-merger would, in theory, exactly equal the sum of pre-merger incremental profits. Here, the merger would not increase prices and would likely not be anticompetitive. As these examples make clear, substitutability, as measured by diversion ratios and WTP, plays a critical role in determining the anticompetitive effects of hospital mergers.

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153. This means substitutability in whatever sense matters to patients. For a clear example, assume both hospitals are right next to each other, offer the same services, and have the same quality of care.

154. See Garmon, supra note 95, at 10.


156. For example, this would be true if the distance between H1 and H2 was such that patients of H1 would never have the need to travel so far to H2.

157. Here one can see the benefits of direct effects analysis not requiring any geographic market definition. If none of the competing non-merging hospitals are close substitutes for the two merging hospitals, then the WTP for the combined entity will be visibly higher. However, if any of the competing non-merging hospitals are close substitutes for the merging hospitals, then the WTP for the combined entity will be lower.

158. This previous example can be extended to the situation where H1 and H2 are complements, say because H1 offers 50% of all possible services and H2 offers the other 50% of possible services. Assume that H1 is already in-network with the health plan and H2 is out-of-network. Enrollees will have a large WTP for adding H2 to the network if H1 and H2 are complements because here, H1 and H2 are “must-haves” in that the health plan requires both hospitals to provide a full range of services to its enrollees. If H1 and H2 merge, then H1/H2’s joint WTP is equal to the sum of H1 and H2’s individual WTPs. Therefore, a merger between complements H1 and H2 does not affect the merged entity’s bargaining leverage in negotiations with the health plan.
2. Accurate Results

To bolster the discussion above suggesting that increases in WTP and high diversion ratios lead to higher post-merger reimbursement rates, economists have found that both tools are highly accurate predictors of hospital prices.\textsuperscript{159} Further, there is a strong correlation between WTP and diversion ratios themselves, which indicates that both lead to similar results and one tool can be used as a check on the accuracy of the other.\textsuperscript{160} Most relevant, however, is that WTP and diversion ratios have been found to be more accurate at flagging potentially anti-competitive hospital mergers than traditional methods like HHIs.\textsuperscript{161} In a study by FTC economist Christopher Garmon, HHIs were found to be relatively inaccurate compared to direct effects analysis tools in determining whether a hospital merger was anticompetitive.\textsuperscript{162} HHIs calculated based on HRR were found most likely to produce false negatives—incorrectly indicating that a merger was not anticompetitive—whereas HHIs calculated based on HSA were found most likely to produce false positives—incorrectly indicating that a merger was anticompetitive.\textsuperscript{163} HHIs calculated based on weighted service area did only slightly better than those calculated based on HSA, but still produced a significant number of false positives.\textsuperscript{164} WTP, on the other hand, made correct predictions as to the competitiveness of hospital mergers far more often, and WTP had a far lower incidence of false positives.\textsuperscript{165} Note that diversion ratios would be similarly accurate given the almost one-to-one correlation between WTP and diversion ratios found in Garmon’s study.\textsuperscript{166} As mentioned in the Introduction, the immense number of recent hospital mergers warrants a particularized concern for limiting the number of false positives and false negatives. As the accuracy of results makes clear, the most effective way to do so is not through structural methods like HHIs, but instead through direct effects analysis utilizing WTP and diversion ratios.

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159. See Capps, Dranove & Satterthwaite, supra note 135, at 753 (finding strong, precisely estimated positive relationship between WTP and profits in San Diego area); BRAND & GARMON, supra note 77, at 16 (finding WTP and diversion ratios can provide estimate of price changes resulting from mergers); Raval, Rosenbaum & Wilson, supra note 155, at 38.

160. See Garmon, supra note 95, at 22 (finding .98 correlation between product of diversion ratios and change in WTP); RAMANARAYANAN, supra note 126, at 5 n.16 (finding diversion ratios are closely related to changes in WTP, and thereby to the magnitude of predicted post-merger price increases).

161. See Garmon, supra note 95, at 4, 24 (finding WTP and diversion ratios “do a better job of predicting price changes than the HHIs”); BRAND & GARMON, supra note 77, at 17 (finding WTP may be preferable to traditional structural analysis).

162. Garmon, supra note 95, at 22.

163. Id.

164. Id.

165. Id. at 23.

166. Id. at 22.
\end{flushright}
3. No Geographic Market Definition Required

WTP and diversion ratios create more robust results than structural methods because direct effects analysis does not require defining a geographic market.\(^{167}\) Under WTP and diversion ratio analysis, if there is any chance that a hospital might be relevant to hospital–health plan negotiations, then that hospital can be included in the data sample.\(^{168}\) The added hospital will only have a meaningful impact to the extent it actually constrains the prices of the merging hospitals. Any effect of potentially competing hospitals would be clear from the WTP or diversion ratio calculation as to whether consumers view the hospitals as substitutes. In contrast, HHIs and market shares can only be calculated after a relevant market has been defined. Because there is inherent uncertainty about the scope of the relevant market, there will necessarily be uncertainty about the robustness of HHI and market share calculations. Further, if hospitals merge over broader geographic areas,\(^{169}\) expanding boundaries in mechanical market share and HHI calculations to evaluate anticompetitive effects would simply lead to the overbreadth problems discussed above.\(^{170}\) Direct effects analysis avoids overbreadth issues because robust results are created through the inclusion of all potentially relevant information in deciding hospital substitutability. In turn, the ability of a merged hospital to use increased bargaining leverage to negotiate for higher reimbursement rates post-merger is accurately calculated.

4. Publicly Available Data

Calculating WTP and diversion ratios is less burdensome and cheaper than engaging in traditional market definition.\(^ {171}\) As discussed above, traditional market definition often requires payor data, which can be difficult and costly to obtain.\(^{172}\) WTP and diversion ratios, on the other hand, can be calculated primarily using accessible, publicly available data in the form of patient-level

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\(^{167}\) See id. at 13, 23 ("[WTP and diversion ratios] can capture subtleties in . . . geographic differentiation that the antitrust market definition exercise cannot capture.").

\(^{168}\) Note that although some reasonable computational restrictions must be imposed in substantially large markets in certain areas (such as Chicago and certain cities in California or Texas), economists can still assess large samples of data and include hospitals with the most competitive relevance. In any event, direct effects analysis in such circumstances can assess anticompetitive effects to a significantly more accurate degree than HHI and market shares calculated based on strictly defined geographic boundary. Moreover, if there are a lot of hospitals in a small area, then imprecision of geographic market definition only becomes heightened anyway.

\(^{169}\) For example, a model has been developed to estimate cross-market price effects for mergers of two hospitals in different, non-adjacent geographic areas. See generally Dafny, Ho & Lee, supra note 23 (finding that cross-market price increases through hospital–health plan bargaining may arise from “common customer” and “common insurer” effects).

\(^{170}\) Id. at 25 (suggesting that because hospital mergers over broader geographic areas may increase prices, greater emphasis should instead be placed on direct effects analysis).

\(^{171}\) This Note recognizes, and does not underestimate, the complexity and depth required for the econometrics in engaging in WTP and diversion ratio calculations, even using publicly available data. Instead, the argument is merely that the process of obtaining the data is not as demanding, thereby making the process less burdensome on balance.

\(^{172}\) See supra Section II.B.
discharge data and hospital-level data. Economists can use both sets of publicly available data to implement the “patient choice model” necessary to calculate WTP and diversion ratios, obviating the need to obtain payor data and allowing for less burdensome discovery.

The goal of the patient choice model is to estimate a patient’s probability of choosing hospitals within a particular provider network. Economists first estimate why patients previously chose to seek care at a hospital by determining the extent to which patient choice is influenced by patient and hospital characteristics. Then, this information is used to estimate how patient choices (that is, consumer preferences) are expected to change if a hospital involved in the merger is excluded from the network (and, therefore, patients must seek care elsewhere because they can no longer go to that hospital). Finally, economists determine the proportion of patients who originally chose to seek care at one merging hospital and would now switch to competing hospitals within the network.

The patient choice model can be implemented using publicly available patient-level and hospital-level data. Patient-level discharge data identifies the hospital from which a patient was discharged and includes a variety of patient characteristics that are used in the patient choice model. Such discharge data is typically available through numerous state agencies. Further, some states also have publicly available hospital financial data for privately insured patients, which can be combined with discharge data. One potential problem that can arise with using patient-level discharge data occurs if hospitals have different costs because they treat varying degrees of sicker patients or

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173. See Garmon, supra note 95, at 14 (explaining that WTP and diversion ratios can be calculated using publicly available patient-level discharge data and hospital data); Gowrisankaran, Nevo & Town, supra note 5, at 15 (using patient-level discharge data and AHA hospital data to estimate patient choice model underlying WTP and diversion ratios); Capps, Dranove & Satterthwaite, supra note 135, at 750 (using patient-level discharge data to calculate WTP in San Diego area); see also Brand & GARMON, supra note 77, at 7.

174. See RAMANARAYANAN, supra note 126, at 3.

175. See id.

176. See id.

177. See id.

178. Typically, the most important characteristic for patient choice is the driving distance between the patient’s residence ZIP code and the address of the hospital, though this may vary with the patient’s age and severity of illness. For example, older patients may be less able to travel farther, or patients may be more willing to travel farther if they have a severe illness. Such intricacies are captured within the patient-choice model as they are calculated using the relevant data for a particular set of patients. See, e.g., Gowrisankaran, Nevo & Town, supra note 5, at 23 (finding that willingness to travel increases with the severity of the illness and decreases with age).

179. See Garmon, supra note 95, at 14; Gowrisankaran, Nevo & Town, supra note 5, at 15; RAMANARAYANAN, supra note 126, at 7.

180. Such characteristics often include the resident ZIP code, payor ZIP code, age, gender, race, admission type, discharge status, and information on clinical condition including principal DRG code, relevant diagnostic, and procedure codes. See RAMANARAYANAN, supra note 126, at 3.

181. See id.

182. See Capps, Dranove & Satterthwaite, supra note 135, at 748.
otherwise perform more costly procedures. However, economists can account for this by calculating what is called the “case-mix adjusted commercial price” and still use publicly available discharge data.\textsuperscript{183} This merely demonstrates the utility of using patient-level discharge data, which can be adjusted by economists to account for subtleties.

Patient-level discharge data must be merged with hospital-level data to implement the patient choice model. Publicly available hospital-level data can include a variety of various hospital characteristics.\textsuperscript{184} Hospital data is available from state agencies and is also provided by both the American Hospital Association and the Centers for Medicare and Medicaid Services’ Healthcare Cost Report Information System.\textsuperscript{185}

C. EXAMPLES OF COURTS IMPLEMENTING WTP AND DIVERSION RATIOS

A few courts have begun to implement both WTP and diversion ratios in the hospital context. After the Agencies’ revamped hospital merger initiative, WTP testimony was set forth in \textit{Inova}, though such testimony was ultimately ignored by the court.\textsuperscript{186} Over the last five years, however, three cases demonstrate the more modern approach in hospital merger trials. \textit{ProMedica}, \textit{OSF Healthcare}, and \textit{St. Luke’s} serve as helpful starting points for future courts and lawyers in implementing direct effects analysis in hospital mergers.\textsuperscript{187} These are merely starting points, however, because many courts are still ignorant to direct effects analysis. This ignorance is evidenced by opinions in two recent hospital merger cases that the FTC initially lost at the district court level,\textsuperscript{188} although ultimately won on appeal.\textsuperscript{189}

1. ProMedica/St. Luke’s

In \textit{ProMedica}, the FTC sought a preliminary injunction in federal district court to enjoin ProMedica Health System from merging with St. Luke’s Hospi-
tal. The Northern District Court of Ohio engaged in traditional structural analysis by first defining the relevant product and geographic market, and then presumed that the acquisition was unlawful based on market shares and HHI levels. The court went on to find that the possibility of efficiencies and entry did not overcome the anticompetitive presumption. In supplementing its structural analysis, however, the court relied on Professor Town’s WTP analysis and diversion ratios. The court noted that WTP analysis demonstrated that consumers place 28% more value on having access to ProMedica hospitals than other competing hospitals and that WTP analysis indicates that the acquisition would increase the value that commercially-insured patients place on having in-network access to ProMedica by 58%. The court utilized the WTP testimony to reason that the acquisition would render competing hospitals as significantly more distant substitutes for ProMedica in the eyes of health plans and their members. The district court ultimately granted the FTC’s request for a preliminary injunction.

After the preliminary injunction, the case went to the FTC’s administrative court for a hearing on the merits. The ALJ, after engaging in a detailed structural analysis, set forth his reliance on direct effects analysis tools by finding that Professor Town’s WTP model predicted substantial price increases and that diversion ratios showed that St. Luke’s and the ProMedica hospitals were close substitutes. The Commission affirmed the ALJ’s decision in an opinion by Commissioner Brill, which discussed both Professor Town’s WTP analysis predicting that the merged entity would have increased bargaining leverage and diversion ratios that demonstrated that ProMedica was St. Luke’s closest substitute. Ultimately, the Sixth Circuit affirmed the

191. See id. at *12 (finding that ProMedica’s post-acquisition market share of 58.3% in the GAC market significantly increases concentration in an already highly-concentrated market).
192. See id. at *57.
193. See id. at *24.
194. See id.
195. See id.
198. See id. at *138.
199. See id. at *130 (“The higher the diversion between two hospitals, the higher the substitutability of the hospitals.”).
200. See In re ProMedica Health Sys., Inc., No. 9346, 2012 WL 2450574, at *61 (F.T.C. June 25, 2012) (“Professor Town’s results provide additional confirmation that the [merger] will have anticompetitive effects, confirming the strength of the structural presumption . . . .”). But see Concurring Opinion of Commissioner J. Thomas Rosch at 4–5, In re ProMedica Health Sys., Inc., No. 9346 (F.T.C. June 25, 2012) https://www.ftc.gov/sites/default/files/documents/cases/2012/06/120328promedicaroschopinion.pdf (arguing that ALJ should not have relied on WTP model because it is difficult to choose between differing experts’ WTP models, and instead the case should have been decided through structural modes of analysis).
201. See In re ProMedica Health Sys., Inc., 2012 WL 2450574, at *55.
Commission’s decision.  

2. OSF Healthcare/Rockford  

The next case where the FTC utilized diversion ratios and WTP to argue that a hospital merger was anticompetitive was the merger of OSF Healthcare System and Rockford Health System. In its pre-trial brief for a preliminary injunction, the FTC similarly supplemented its structural arguments with direct effects analysis methods used by the FTC’s economic expert, Dr. Cory Capps. The FTC argued that Dr. Capps’s WTP analysis indicated that the merger would increase the merged entity’s bargaining leverage substantially, thereby allowing post-merger price increases. Further, the FTC argued that Dr. Capps’s diversion analysis demonstrated that OSF and Rockford hospitals are close substitutes for one another and compete head-to-head, with diversions between the two hospitals of approximately 34–35%. Ultimately, the Northern District Court of Illinois granted the preliminary injunction in favor of the FTC, and the merging hospitals abandoned the transaction soon thereafter. Though the FTC won the case, the district court did not opine on the reliability of WTP or diversion ratios because the court did not feel that this was required at the preliminary injunction stage. As this Note has argued, the district court should have instead placed greater weight on—or at least addressed—the FTC’s direct effects analysis.


More recently, the FTC sought to unwind an already-consummated merger between Saint Alphonsus Health System and St. Luke’s Health System.

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202. See ProMedica Health Sys., Inc. v. FTC, 749 F.3d 559 (6th Cir. 2014).
204. See id. at 44 (“[WTP] analysis reveals that the Acquisition would increase the combined entity’s bargaining leverage by 19% relative to what [both hospitals] currently possess.”).
205. See id. at 38. Note that although diversions between OSF and Rockford were lower than diversions to another hospital in the area, a proper merger may be anticompetitive even if it is not “the most anticompetitive merger imaginable.” Id.; see MERGER GUIDELINES, supra note 27, § 6.1 (“A merger may produce significant unilateral effects for a given product even though many more sales are diverted to products sold by non-merging firms than to products previously sold by the merger partner.”); In re ProMedica Health Sys., Inc., No. 9346, 2012 WL 2450574, at *58 (F.T.C. June 25, 2012) (“[M]erging parties do not need to be each other’s closest rival for a merger to have unilateral anticompetitive effects.”).
208. See OSF Healthcare Sys., 852 F. Supp. 2d at 1086 (noting Dr. Capps determined there would be a substantial price increase if the merger were consummated, but refused to make a determination on the reliability of the WTP model at preliminary injunction stage).
Similar to the cases already discussed, the FTC utilized diversion analysis to
demonstrate that St. Luke’s and Saltzer were each other’s closest substitutes in
the Nampa, Idaho area. This case involved particularly high diversion ratios
where if St. Luke’s became unavailable, 50% of St. Luke’s patients would
choose to go to Saltzer, and if Saltzer became unavailable, roughly 33% of its
patients would switch to St. Luke’s. The District Court of Idaho ultimately
enjoined the merger and ordered St. Luke’s to divest itself of Saltzer. The
Ninth Circuit affirmed. Similar to OSF Healthcare, the District Court had an
opportunity to reach a more accurate result by increasing reliance on direct
effects analysis tools, particularly WTP, but it instead chose to rely mainly on
structural methods.

4. Recent Hospital Merger Cases

Although these three cases serve as a starting point for courts and lawyers in
the future, they are far from the end point of substantial, increased reliance on
direct effects analysis in hospital mergers to more accurately evaluate anticom-
petitive effects. As demonstrated above, direct methods are still typically only
used to supplement structural analysis, and courts still seem to place the greatest
weight on techniques that rely on market definition—sometimes even implement-
ing traditional techniques improperly.

Further demonstrating the need for increased familiarity of direct effects
analysis by courts, the FTC recently lost back-to-back hospital merger litiga-
tions at the district court level for the first time in over a decade, where in both
cases the district court initially did not address the FTC’s direct effects argu-
ments. First, in Penn State Hershey/PinnacleHealth, a district court in Penn-
sylvania denied the FTC’s motion for a preliminary injunction, holding that the
FTC’s proposed geographic market was too narrow. The district judge never
reached the FTC’s argument that “[t]he diversions between [Penn State Hershey
and PinnacleHealth] are higher than those present in recent hospital merger
cases where courts have found that the transaction at issue would substantially
lessen competition and, therefore, violated the Clayton Act.” Instead, the
court focused its reasoning on non-economic factors, such as the purported

already consummated deal, the FTC sought to have the court order a divestiture and “unscramble” the
211. See id. at *10.
212. See id. at *26.
(9th Cir. 2015).
216. See Penn State Hershey Med. Ctr., 185 F. Supp. 3d at 557.
217. Complaint for Temporary Restraining Order and Preliminary Injunction at 19, FTC v. Penn
“extremely compelling” steps taken by the hospitals to “ensure that post-merger rates do not increase” because of short-term contracts signed with payors—agreements which import neither direct nor structural reasoning into the decision to allow the merger to go forward, but merely focus on a short-term forestalling of potential anticompetitive harm.218 The court also based its decision on the “growing need . . . to adapt to an evolving landscape of healthcare that includes . . . the institution of the Affordable Care Act . . . .”219 Although the effects of the ACA on the healthcare sector are relatively unclear—and remain as such with a potential repeal of the ACA in the future—this uncertainty is no reason to give the benefit of the doubt to merging hospitals seeking to increase their bargaining power over consumers that need healthcare.

The FTC appealed the decision to the Third Circuit, which reversed and remanded with instructions for the district court to enter a preliminary injunction enjoining the merger.220 The Third Circuit found that the district court inaccurately determined the geographic market, failed to recognize the importance of the two-stage model of competition, and improperly relied on the hospitals’ short-term contracts with payors.221 In fact, the Third Circuit stated that the district court used a hybrid of the now defunct Elzinga-Hogarty (E-H) test, which defendant merging hospitals previously utilized to argue for overly broad markets before the test was discredited.222 The Third Circuit went on to find that the FTC properly met its burden in defining the relevant geographic market and that the merger was likely to be anticompetitive.223 After the Third Circuit’s decision, the merging hospitals decided to abandon the transaction, and the FTC dismissed its complaint.224

In another recent hospital merger litigation, Advocate/Northshore, an Illinois district court judge initially denied the FTC’s motion for a preliminary injunction enjoining the merger because the FTC insufficiently defined the relevant geographic market.225 Again, the FTC appealed the decision, and the Seventh Circuit reversed,

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219. Id. at 564.
221. See id. at 339, 342. The Third Circuit stated that the district court’s errors “render [its] analysis economically unsound and not reflective of the commercial reality of the healthcare market.” Id. at 344.
222. See id. at 339–40; supra notes 90–92 and accompanying text.
223. See Penn State Hershey Med. Ctr., 838 F.3d at 346, 352.
holding that the district court’s geographic market finding was clearly erroneous. The Seventh Circuit found that the lower court’s geographic market analysis, much like the district court’s analysis in *Penn State Hershey*, “fell prey to a version of the silent majority fallacy” caused by the E-H test. The Seventh Circuit went on to state that “reliance [on the E-H test] produce[s] relatively large geographic markets in hospital merger cases,” and “[i]f the analysis uses geographic markets that are too large, consumers will be harmed because the likely anticompetitive effects of hospital mergers will be understated.”

On remand, the district court granted the FTC’s motion for a preliminary injunction to enjoin the merger, pending a trial on the merits. In doing so, the district court relied heavily on FTC expert Dr. Steven Tenn’s calculated diversion ratios, both to define the relevant geographic market in the FTC’s favor and to find that the merger was likely to cause harm to consumers. The court noted that Dr. Tenn’s model, which utilized diversion ratios, was “useful” because it “reveal[ed] how strong the merged entity’s profit-maximizing incentives to raise price will be based on their levels of substitution and potential profitability.” After the district court’s decision to preliminarily enjoin the merger, the parties abandoned the transaction, and the FTC dismissed its complaint.

Over the last decade, directs effects analysis has been increasingly utilized, and it is likely that the FTC will continue to make direct effects arguments to bolster its claims in the future, thereby hopefully increasing familiarity with the methodology in the process. However, many courts are still hesitant to place

226. See FTC v. Advocate Health Care Network, 841 F.3d 460, 464 (7th Cir. 2016).
227. See id. at 473; supra notes 90–92 and accompanying text.
228. Advocate Health Care Network, 841 F.3d at 471.
229. Id. at 472.
231. See id. at *7, *10. The court even quoted directly from Dr. Tenn’s expert report, which explained that “[t]he predicted post-merger price increase is higher for larger diversions between the parties, since there is more substitution for the combined firm to internalize post-merger.” Id. at *6.
232. Id. at *9.
234. The FTC also relied on diversion ratios and WTP analysis in another recent challenge to a hospital merger in *Cabell/St. Mary’s*. See Comment Letter from Federal Trade Comm’n Bureau of Competition Staff on Cabell Huntington Hospital, Inc.’s Application for Approval of Cooperative Agreement 19 (Apr. 18, 2016), https://www.ftc.gov/system/files/documents/public_statements/945863/160418virginiahealthcare.pdf [https://perma.cc/4BSV-LP8X] [hereinafter Cabell Public Comment] (“No matter how the geographic market is defined, these diversion ratios illustrate that Cabell and St. Mary’s are each other’s closest competitor.”); Complaint at 12, In re Cabell Huntington Hospital & St. Mary’s Med. Ctr., No. 9366 (F.T.C. Nov. 5, 2015), https://www.ftc.gov/system/files/documents/cases/151106cabellpart3cmpt.pdf [https://perma.cc/XSH9-2TAS] (“[D]iversion analysis . . . confirms that Cabell and St. Mary’s are each other’s closest competitors, by a wide margin.”); Cabell Public Comment attach. 1 (Dr. Capps utilized WTP analysis to confirm that the merger will increase the hospitals’ bargaining
significant emphasis on direct effects analysis, possibly because of courts’ lack of familiarity with the concepts and logic underlying such methods. What is particularly concerning is that in the absence of direct effects analysis, courts are using outdated methodologies that have been discredited for years after being abused by merging hospitals seeking to define overly broad markets. This is evidenced by the initial lower court decisions in *Penn State Hershey/PinnacleHealth* and *Advocate/NorthShore*. Although both recent hospital merger cases were reversed on appeal, the potential for consumer harm still exists in future cases in front of other courts that may not be privy to the flaws of traditional market definition. To avoid any such future anticompetitive harm, it is paramount for lawyers and courts to move away from imprecise structural methods and instead use direct effects analysis to achieve more accurate resolutions in hospital merger challenges.

D. HOW GUPPIS COULD BE APPLIED IN THE HOSPITAL MERGER CONTEXT

Another direct effects analysis tool that could be applied in hospital mergers is the Gross Upward Pricing Pressure Index (GUPPI). The Merger Guidelines discuss this concept as the “value of diverted sales,” stating that adverse unilateral effects may arise where the merged entity has an incentive to raise the price of a product that was previously sold by one merging firm because these sales may not actually be lost, but may instead be diverted to the other merging firm and thus recaptured.235 More succinctly, the GUPPI is “the tendency of mergers to reduce competitive pressures that keep prices down.”236 Here, it is important to realize that upward pricing pressure is created from the elimination of competition between merging firms, and thus depends greatly on the closeness of substitution between the products of the merging firms.237 Therefore, the GUPPI relies on diversion ratios where the higher the diversion ratio, the higher the GUPPI.238

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236. Hesse, supra note 25.

237. See Moresi, supra note 235, at 6. Formally, the GUPPI for Product 1 is calculated as: \( \text{GUPPI}_1 = DR_{12} \times m_2 \times P_{2IP_1} \), where \( DR_{12} \) denotes the diversion ratio from Product 1 to Product 2, \( m_2 \) denotes the variable profit margin of Product 2, and \( P_{2IP_1} \) denotes the relative price of Product 2 to Product 1. See id.

238. See id. The GUPPI is also higher if the profit margin of the merging partner’s product is higher, or if the relative price of the merging partner’s product is higher. See id. For a more in-depth discussion of GUPPI calculation under the Merger Guidelines, see Shapiro, supra note 93, at 70–75.
GUPPIs could be applied in the hospital merger context to estimate the post-merger incentive for each of the merging hospitals to increase prices. Similar to the calculus for other direct methods such as diversion ratios and WTP, closely substitutable hospitals would demonstrate a higher GUPPI. This is because closely substitutable hospitals have a greater incentive to raise prices; if the diversion ratios between merging hospitals are high, then a higher percentage of patients lost by one merging hospital after a price increase would be recaptured by the other merging hospital. Therefore, consistent with the discussion above, the substitutability of hospitals can be utilized through direct effects analysis, such as GUPPIs, to evaluate the anticompetitive effects of hospital mergers without relying on market definition.

E. OTHER WAYS THAT DIRECT EFFECTS ANALYSIS TOOLS CAN BE UTILIZED

There are a few other ways that the reliability of direct analytical tools can be utilized in hospital merger review. One way could be to use the economic logic of WTP, diversion ratios, and GUPPIs under a decision-theory approach. After determining relevant thresholds by surveying the case law and economic research, certain levels of direct effects could create a presumption of anticompetitive harm in hospital mergers, which the merging parties would then need to rebut. Such a presumption may be more efficient because it could even alleviate the need to engage in structural analysis, thereby also potentially obviating the need to obtain burdensome payor data.

Another use of direct effects analysis could be to create a more rational market definition in hospital mergers. Namely, diversion ratios are already utilized in the new-style critical loss analysis under the 2010 Merger Guidelines, and WTP and GUPPIs can be utilized to define markets as

239. WTP acts similar to GUPPIs as WTP predicts a significant price increase after a hospital merger when the merging hospitals are close substitutes. See Garmon, supra note 95, at 6.
240. The GUPPI would also depend on the profit margin of the merging partner’s product and the relative price of the merging partner’s product. See supra note 238.
241. It is worth noting that for GUPPI calculations, it is ideal to have payor data, even though it is more burdensome to obtain. It is alternatively possible to use discharge data and construct prices using hospital–health plan contracts, however, this may be hard to implement in practice as it is difficult to make apples-to-apples comparisons given the complexity of most contracts. See Gowrisankaran, Nevo & Town, supra note 5, at 16.
242. See Salop, supra note 24, at 280 (“Decision theory provides a methodology for individual information gathering and decision making when information is imperfect and costly to obtain. This methodology can be described as a rational process by which a decision maker begins with some initial beliefs (i.e., presumptions) and then gathers additional information (i.e., evidence) to update beliefs in order to make a better decision.”).
243. See id.; Garmon, supra note 95, at 21 (arguing that a merger screen calculation could establish either a presumption of anticompetitive harm or be used to make a prediction about likely effects of a merger); Moresi, supra note 235, at 8 (arguing that GUPPIs could be used by the Agencies to presume harmful unilateral effects and shift the burden of rebuttal onto merging parties). The specific thresholds for direct effects to create a presumption and the weight of the presumption are outside the scope of this Note.
244. MERGER GUIDELINES, supra note 27, § 4.1.3; see Katz & Shapiro, supra note 93, at 53–55.
well.\textsuperscript{245} Even though market definition will always be inherently imperfect, because courts do not seem to be slowing down on their reliance on structural analysis, a more precise market definition utilizing direct analytical tools can nonetheless be beneficial in increasing the accurate evaluation of anticompetitive effects.

\textbf{CONCLUSION}

Direct competitive effects analysis is more reliable and less burdensome than traditional structural methods invoking market definition. Hospitals compete through a two-stage model, where the anticompetitive concern focuses on whether hospitals can utilize bargaining leverage to negotiate for higher reimbursement rates post-merger. In evaluating hospital competition, traditional market definition is both inherently flawed and has led to overly broad markets in the past. Direct effects analysis, however, produces more accurate, robust results by measuring substitutability. Moreover, direct effects typically can be calculated through a less burdensome discovery process by using publicly available data. Although a few courts have already utilized direct effects in hospital mergers, the potential for increased reliance is substantial as courts and lawyers become more familiar with WTP, diversion ratios, and GUPPIs in the hospital context.

The future of healthcare competition may change the way that hospital mergers are evaluated. Currently, direct effects seem to be the most reliable way to evaluate anticompetitive hospital combinations. However, changes in healthcare reform or market structure may alter the landscape in the future. For example, if markets increase utilization of limited provider or narrow networks, then selective contracting may have different implications for the two-stage competition model. If within-network steering is used more consistently, then models will need to better estimate how patients respond to price increases in the form of greater co-insurance payments. Risk-based contracting, which is becoming more prevalent under the ACA, may also have implications for hospital merger evaluation, although that may change if the ACA is repealed. Regardless of how the healthcare market changes going forward, direct effects analysis is flexible and can be adjusted to meet the needs of a particular industry, certainly more than structural methods that seek to estimate market definitions based on outdated methodologies. If these new forms of hospital competition take shape in the future, economists and lawyers will need to research and evaluate the best techniques to accurately ensure that anticompetitive hospital mergers are enjoined—whether that involves altering current techniques or creating new ones. What is most important is that courts and lawyers utilize the most accurate and reliable methodologies so that consumers are better off—for hospital mergers today, that means using direct competitive effects analysis.

\textsuperscript{245} See Moresi, supra note 235, at 7.