

Antitrust Chronicle

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HEALTHCARE MERGERS: A POST-MORTEM

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LETTER FROM THE EDITOR

Dear Readers,

Hospital mergers have been a hot topic in the antitrust world for a few decades now. Some of these mega-mergers would remake the health care industry and there are debates as to whether the consolidation would be bad or good for consumers, both patients and insurers.

Over the years, there has been significant progress towards more accurate methods of hospital merger prediction, better reflecting the commercial reality of the health care market. Where do things stand today in light of the recently blocked hospital mergers and what should we look for down the road? Is the Elzinga-Hogarty test on life support or has the plug already been pulled? Looking ahead, where will the development of richer models of hospital competition and new tools to analyze geographic markets lead?

July's issue also includes two articles discussing recent developments in hospital mergers in The Netherlands, where the hospital markets have become highly concentrated over the last decade. Has this consolidation led to positive effects on the quality of care delivered? If so, how should we weigh the quality improvement argument as an efficiency defense in merger assessments?

We hope you enjoy reading our July edition of the CPI Antitrust Chronicle.

Thank you to our great panel of authors this month.

Sincerely,

CPI Team

SUMMARIES

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Healthcare Mergers: Four Key Pieces Of Evidence Used To Predict The Future

By David Dahlquist, Laura Greenspan, Leigh Oliver & Kimberly Rancour

Merger litigation is most often an exercise in predicting the future competitive effects of a transaction. In order to do this, the prosecution and defense marshal various types of evidence to persuade the court of their respective predictions about the future competitive landscape. This article focuses on the types of evidence that have played a critical role in recent healthcare merger challenges, including: (1) customer testimony, (2) internal party documents, (3) economic evidence, and (4) third party testimonial or documentary evidence; and why not all evidence is created equal in every merger challenge. The particular focus of this article is evidence used in the most recent health care merger challenges.

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Key Takeaways From The Advocate-Northshore Merger Litigation

By Steven Tenn

In the recently concluded *Advocate-NorthShore* litigation, the FTC successfully challenged a proposed merger of two healthcare systems with hospitals in the northern suburbs of Chicago. This article describes the FTC's approach in that matter. By drawing on the key takeaways from the litigation, the parties in future hospital merger cases can tailor their arguments and provide evidence to more effectively convey to the agency why their transaction does not raise significant competitive issues. This not only benefits the merging parties, but also the FTC by facilitating their ability to efficiently review the proposed transaction.

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The Long, Slow Decline Of Elzinga-Hogarty And What Comes After

By Cory S. Capps, David Dranove & Zenon Zabinski

In 2016, after initial losses at the district court level in its challenges to the *Hershey-Pinnacle* and *Advocate-NorthShore* hospital mergers, the FTC ultimately prevailed in the Third and Seventh Circuit Courts of Appeal. The authors explain why these two cases are likely to put an end to the use of the Elzinga-Hogarty test to define relevant geographic markets in provider merger cases. With future efforts to block hospital mergers in smaller metro areas likely to succeed absent strong failing firm or efficiencies arguments, they argue that enforcement may shift to new battlegrounds, including mergers in large urban areas, cross-market mergers, and vertical mergers.

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Getting Market Definition Right: Hospital Merger Cases And Beyond

By Martin Gaynor & Kevin E. Pflum

In 2016 the Federal Trade Commission ("FTC") lost motions for preliminary injunction in two separate hospital mergers. In both cases the district courts rejected the FTC's geographic market definition based on flawed interpretations of the "hypothetical monopolist" test. Fortunately the appeals courts correctly identified the district courts' errors and reversed their decisions. In this article, we review the process used by the FTC and the Antitrust Division of the Department of Justice to define markets and discuss how this process applies to the markets for hospital services specifically. We summarize the courts' opinions in these two hospital merger cases and discuss the ways in which the district courts erred in their analyses and how the appeals courts' decisions will affect future merger cases.

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Hospital Mergers – Retrospective Study To Improve Prediction

By Christopher Garmon

Over the past 20 years, significant progress has been made in the science of hospital merger forecasting, through the development of more realistic models and the rigorous analysis of consummated hospital mergers and other events. Economists developed new hospital merger screening tools from models of the negotiation between a hospital and a health insurer for the hospital's inclusion in the insurer's network of providers. Recent research has begun to test the accuracy of the new tools and the patient choice models upon which they are based. Continuing progress in the quest for more accurate methods of hospital merger prediction will depend on the development of richer models of hospital competition and the requisite data to estimate and calibrate them.

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Merger-Specificity Of Quality And Cost Efficiencies In Hospital Merger Cases

By David J. Balan

A key factor in the analysis of hospital merger efficiencies is whether a claimed efficiency is “merger-specific,” meaning that it would likely be achieved with the merger under review, but not without it. While this principle is straightforward, determining the merger-specificity of particular claimed efficiencies in real-world cases can be a subtle problem. The purpose of this article is to illuminate one of these subtleties, namely the important role played by the geographic proximity or non-proximity between the merging hospitals.

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A Novel Look At Antitrust Analysis In Health Insurance Markets

By Barak D. Richman & Kevin A. Schulman

The remarkable proposals for mergers of four of the five largest health insurance companies in the United States, Anthem with Cigna and Aetna with Humana, would have transformed the industry. The U.S. Department of Justice successfully filed to block these mergers due to concerns over market concentration. In this paper, we examine the structure of health care markets that led to these merger proposals, examine some specific questions about antitrust theory in this case, examine alternative theories of antitrust regulation including those addressing innovation and market entry and conclude with a new model to consider the market itself in developing theories of antitrust enforcement.

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Hospital Merger Control In The Netherlands: Was The Barn Closed In Time Or Has The Horse Already Bolted?

By Marco Varkevisser & Erik Schut

In this article, we discuss the track record of the Netherlands Authority for Consumers and Markets in hospital merger control. Due to the permissive approach that can be observed for more than a decade, Dutch hospital markets have become highly concentrated. This has at least put the potential for effective insurer-hospital negotiations about quality and price at risk. While the first prohibition of a hospital merger in the summer of 2015 definitely was a step in the right direction, it may turn out that the barn was closed after the horse has bolted.

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Dutch Hospital Mergers: No Evidence For Improvement Of Healthcare Quality

By Bart Broers & Ron Kemp

Merging hospitals often claim positive effects of the merger on the quality of care delivered. Our study shows that mergers seem to have no clear effect on quality of care. This is an important finding for competition authorities when they have to weigh the quality improvement argument as an efficiency defense in their merger assessment.

ANNOUNCEMENTS

REACHING OUT IN 2017

CPI wants to hear from you, our subscribers. In the coming months of 2017, we will be reaching out to members of our community for your feedback and ideas. Let us know what you want (or don't want) to see, at: antitrustchronicle@competitionpolicyinternational.com.

CPI ANTITRUST CHRONICLE SEPTEMBER & OCTOBER 2017

The September 2017 Antitrust Chronicle will address issues related to **The Digital Economy and Antitrust Risks**.

As a reminder to potential authors, our topic for the October 2017 Antitrust Chronicle is **Inequality and Antitrust**.

Contributions to the Antitrust Chronicle are about 2,500 – 4,000 words long. They should be lightly cited (follow bluebook style for footnotes) and not be written as long ponderous law-review articles with many in-depth footnotes. As with all CPI publications, articles for the CPI Antitrust Chronicle should be written clearly and with the reader always in mind.

Interested authors should send their contributions for the October edition by September 20, 2017 to Sam Sadden (ssadden@competitionpolicyinternational.com) with the subject line "Antitrust Chronicle," a short bio and picture(s) of the author(s).

The CPI Editorial Team will evaluate all submissions and will publish the best papers. Authors can submit papers in any topic related to competition and regulation. Co-authors are always welcome.

WHAT'S NEXT?

This section is dedicated to those who want to know what CPI is preparing for the next month. Spoiler alert!

We look forward to bringing our subscribers the August Antitrust Chronicle of 2017 which will be our annual Antitrust Antipasto. A mix of antitrust topics.





HEALTHCARE MERGERS: FOUR KEY PIECES OF EVIDENCE USED TO PREDICT THE FUTURE

BY DAVID DAHLQUIST, LAURA GREENSPAN,
LEIGH OLIVER & KIMBERLY RANCOUR ¹



"It's tough to make predictions, especially about the future." - Yogi Berra

I. INTRODUCTION

Most merger challenges are an effort to predict the future.² Both sides put forward their vision of the future, and then argue why their predictions are more likely to be accurate than their opponents' predictions. Parties in litigation use a variety of evidence in an attempt to persuade courts that their vision of the future is correct. This paper will focus on the types of evidence that have played a critical role in recent healthcare merger challenges: (1) customer testimony; (2) internal party documents, (3) economic evidence, and (4) third party testimonial or documentary evidence. However, history has shown that not all evidence is created equal. Evidence that was routinely used and highly valued over the past decade — internal company documents — was all but absent from the most recent merger decisions. The recent decisions largely focused on customer and competitor testimony. Before discussing the different types of evidence, we lay out an overview of the merger review process to set out the context for how evidence is developed during government investigations before litigation, and then during the discovery process leading up to a preliminary injunction hearing or merits trial.

¹ David Dahlquist is a partner and Laura Greenspan is an associate at Winston & Strawn LLP in Chicago, Illinois. Leigh Oliver is a partner and Kimberly Rancour is a senior associate at Hogan Lovells in Washington, D.C. All four represented defendants in *FTC v. Advocate Health Care Network*, 841 F.3d 460, 475 (7th Cir. 2016).

² However, most merger challenges occur prior to consummation of the transaction or prior to the consolidation of merging parties' businesses. More rarely, challenges are brought to mergers retrospectively in which case actual evidence of the effects of the merger may be available.

II. MERGER CHALLENGES BACKGROUND

Federal government challenges to proposed mergers are brought under Section 7 of the Clayton Act, 15 U.S.C. § 18, which states: “No person engaged in commerce or in any activity affecting commerce shall acquire, directly or indirectly, the whole or any part of the stock or other share . . . where . . . the effect of such acquisition may be *substantially to lessen competition*, or to *tend to create a monopoly*.” (emphasis added). Section 13(b) of the Federal Trade Commission Act (“FTC Act”), 15 U.S.C. § 53(b), states that whenever the Federal Trade Commission (“FTC”) has reason to believe that any entity is violating, or is about to violate, any provision of any law enforced by the FTC, and that enjoining the proposed merger “would be in the interest of the public,” the FTC may bring suit in a federal district court to enjoin the proposed merger.

In addition to the FTC, the U.S. Department of Justice (“DoJ”) has authority to challenge these mergers. Although there is no written rule on who has jurisdiction over hospital mergers and health plan mergers, the recent hospital merger challenges have been brought by the FTC, whereas the recent health insurance merger challenges have been brought by the DoJ. State attorneys general often join the federal government in these actions pursuant to Section 16 of the Clayton Act, 15 U.S.C. § 26, though typically the FTC or DoJ has greater resources and experience to lead these investigations and litigation.

When the government challenges proposed mergers in federal court, it seeks a preliminary injunction (“PI”) to temporarily block the parties from consummating the merger — though, practically, if the PI is granted, that typically causes the parties to abandon the merger (perhaps after an appeal). To obtain a PI, the government must meet the standard set forth in Section 13(b) of the FTC Act, 15 U.S.C. § 53(b), which provides that a proposed merger may be enjoined “upon a proper showing that, *weighing the equities and considering the Commission’s likelihood of ultimate success*, such action would be in the public interest.” (emphasis added).

Courts assess Section 7 claims under a burden-shifting framework. First, the government must establish a *prima facie* case that the merger will be anticompetitive. If it does so, the burden shifts to the merging parties to rebut it. If they can do so, the burden of production shifts back to the government and merges with the ultimate burden of persuasion, which is incumbent on the government at all times.

III. PRE-LITIGATION SOURCES OF EVIDENCE

Much of the evidence relied on in merger challenges is developed long before the parties appear in court for a PI hearing. In accordance with the Hart-Scott-Rodino Antitrust Improvements Act of 1976, 15 U.S.C. § 18(a), merging parties must make an “HSR” filing if they meet certain thresholds regarding the value of the transaction or the size of the merging parties. If the HSR filing causes the FTC or DoJ to be concerned about possible anticompetitive effects of the merger, it will serve a “Second Request” on the parties. A Second Request is a lengthy, extremely burdensome request for the production of (often hundreds of thousands of) documents, data and interrogatory responses. Once a Second Request is issued, the parties must substantially comply with the request in order to trigger the FTC or DoJ timing parameters to conclude the investigation.

During the FTC’s investigation of the 2015 proposed merger between Advocate Health Care Network and NorthShore University HealthSystem in the Chicago area, for example, NorthShore and Advocate produced over 500,000 documents in response to the Second Request. The FTC also takes “Investigational Hearings” (“IHs” — which are similar to depositions) of the parties’ executives in order to gather even more information. In the *Advocate/NorthShore* merger investigation, for example, 14 of the parties’ executives sat for IHs in the FTC’s Washington, D.C. offices over the course of approximately a one month period. As the FTC or DoJ staff gathers evidence from the transaction parties during the investigation process, they also seek information from third-parties, including customers, competitors and others. This evidence gathering may include procuring declarations in support of the government’s position or taking IHs of these third-parties. In the *Advocate/NorthShore* investigation, the FTC procured 17 declarations from payers, competitor hospitals and Chicago-area employers. Additionally, during an investigation, the parties may offer advocacy work in the form of presentations, white papers and letters or declarations procured from third-parties that are supportive of the proposed transaction.

The FTC's and DoJ's evidence-gathering ability during the HSR investigation period is very one-sided because they have the ability to compel evidence and testimony from the parties and third-parties, whereas the transaction parties do not. The FTC staff, taking into account the evidence gathered from all of these sources, makes a recommendation to the Bureau Directors, who then make recommendations to the Commission itself. A vote of the majority of the Commission (typically a panel of five) is required to challenge a proposed merger in federal court and/or through administrative proceedings before an FTC administrative law judge ("ALJ"). At the DoJ, a recommendation from the investigating staff is made to their management and the ultimate decision to challenge is made by the Assistant Attorney General for the Antitrust Division.

IV. LITIGATION SOURCES OF EVIDENCE

If the government files a lawsuit seeking a PI and the parties intend to pursue a defense, a fast and furious discovery process immediately kicks off, with both sides requesting and producing documents and taking depositions in a very short timeframe. The district court cases involving the proposed mergers between *Anthem/Cigna* and *Aetna/Humana* were completed in about six months. In the FTC's challenge to the proposed merger of Penn State Hershey Medical Center and PinnacleHealth, the parties likewise conducted expedited discovery, had a five-day evidentiary hearing with 16 witnesses, and thousands of pages of exhibits admitted into evidence. In the *Advocate/NorthShore* challenge, the FTC filed its complaint in late December 2015; fact discovery closed at the end of February 2016; expert discovery closed at the end of March; PI motion briefing was also completed by the end of March; and a nine-day trial began in mid-April 2016. During this less-than-five-month process, Advocate and NorthShore produced another 10,000-plus documents beyond the hundreds of thousands produced during the investigation; third-parties produced almost 100,000 documents; the FTC itself produced almost 3,000 documents; 40 party and third-party depositions were conducted over the course of about two months; nine expert depositions took place over a one-week period; and the court heard live testimony from nine fact and six expert witnesses. As is apparent from the timelines detailed above, the discovery process in merger challenges is fast paced and intense.

As alluded to above, the FTC has a separate venue in which, concurrent with the federal court proceedings, the FTC can file a complaint with the FTC itself, setting off an administrative litigation process pursuant to Sections 7 and 11 of the Clayton Act, Section 5 of the FTC Act, and the Commission's Rules of Practice. This "Part III" administrative litigation provides a forum for all parties to conduct discovery (which is largely duplicative of the federal district court discovery), followed by a merits trial with up to 210 hours of live testimony. The decision of the ALJ is subject to review by the full Commission and the Commission's decision is appealable to a federal Court of Appeals. In most cases, the ALJ will stay the Part III litigation for some period of time to allow the PI case to be heard in federal court.

Several different types of evidence are gathered from various sources during discovery and can be used during the PI hearing. Section 2 of the DoJ's and FTC's Horizontal Merger Guidelines discusses economic evidence, as well as evidence from the merging parties and customers in the pertinent industry. The following section addresses the value placed on each of the different types of evidence used in recent health care merger-related PI hearing.

V. TYPES OF EVIDENCE

A. Customer Testimony

The importance of customer testimony originates in Section 2.2 of the DoJ's and FTC's Horizontal Merger Guidelines: "The Agencies consider many sources of evidence in their merger analysis. The most common sources of reasonably available and reliable evidence are the merging parties, *customers*, other industry participants, and industry observers." (emphasis added). In the most recent merger challenges, customer testimony has been put toward the top of the list of evidence that ultimately was relied on by courts.

In hospital merger cases, the FTC and the courts have long considered insurers to be “customers” of healthcare services. The Seventh Circuit recently affirmed that view, holding that “insurers [not patients] are the most relevant buyers” of hospital services.³ The Seventh Circuit cited a range of insurer testimony in its opinion reversing the district court’s denial of a PI against Advocate and NorthShore. For example, when addressing the contours of the relevant geographic market, it noted that insurers “unanimously” testified “an insurer’s network must include either Advocate or NorthShore to offer a product marketable to employers.”⁴ Even so, four of the six largest Chicago area payers testified that they supported the merger between Advocate and NorthShore. However, on remand, the court found that support “was equivocal, unenthusiastic, and without a factual basis.”⁵ Throughout the litigation, the hospitals argued that some insurers saw their proposed merger as a threat to their own business and, therefore, to the extent insurers opposed the merger, they had their own competitive reasons for doing so. On remand, the Northern District of Illinois acknowledged these arguments, but ultimately found them unpersuasive: “The [c]ourt shares some of defendants’ concerns about the credibility of the insurers’ testimony, which may indeed be self-serving, but even taking their testimony with a grain of salt, the record as a whole supports the view that insurers genuinely believe that a plan that excludes Advocate and NorthShore is not viable in the” FTC’s proposed geographic market.⁶

Payer testimony likewise played a role in the *Hershey/Pinnacle* litigation, as acknowledged by the Third Circuit: “The payors repeatedly said that they could not successfully market a plan in the Harrisburg area [the FTC’s proposed geographic market] without Hershey and Pinnacle. In fact, one payor that attempted to do just that . . . lost half of its membership.”⁷

Though not as significant as in the recent hospital merger cases, customer testimony was addressed in the litigation involving the proposed health plan merger between Anthem and Cigna. In that litigation, the DoJ and several states sought a preliminary injunction to block what would have been the industry’s largest-ever, \$54 billion combination. The DoJ alleged, and the district court found, that the relevant product market was the sale of health insurance to national accounts.⁸ Large, national employers were cited for evidence supporting the alleged product market by showing that they “have a unique set of characteristics and needs that drive their purchasing processes and decisions.”⁹ There was also evidence that “the larger a company gets, and the more geographically dispersed its employees become, the fewer solutions are available to meet its network and administrative needs” — i.e. there is little room for other insurers to enter the national account market and alleviate the anticompetitive effects that would have resulted from the merger.¹⁰ The district court granted the PI in February 2017, the D.C. Circuit upheld that decision in April 2017, and by May 2017, the parties had abandoned the deal.

B. Internal Party Documents

Under the Merger Guidelines, internal documents are one among “many sources” used by the government to evaluate a proposed merger. “Documents created in the normal course are more probative than documents created as advocacy materials in merger review.”¹¹ Additionally, documents reflecting certain types of competitive effects are considered “highly informative in evaluating the likely effects of a merger.”¹² For example, documents showing “that the merging parties intend to raise prices, reduce output or capacity, reduce product quality or variety, withdraw products or delay their introduction, or curtail research and development efforts

3 *FTC v. Advocate Health Care Network*, 841 F.3d 460, 475 (7th Cir. 2016).

4 *Id.* at 474.

5 *FTC v. Advocate Health Care Network*, No. 15 C 11473, 2017 WL 1022015, at *11 (N.D. Ill. Mar. 16, 2017).

6 *Id.* at *5.

7 *FTC v. Penn St. Hershey Med. Ctr.*, 838 F.3d 327, 343 (3d Cir. 2016).

8 *United States v. Anthem, Inc.*, No. 16–1493, 2017 WL 685563, at *19 (D.D.C. Feb. 21, 2017).

9 *Id.* at *1.

10 *Id.* at *2.

11 *Id.* at § 2.2.1.

12 *Id.*

after the merger” are considered especially probative.¹³ Documents showing that “the ability to engage in such conduct motivated the merger” are also considered “highly informative.”¹⁴

The same types of documents are considered significant in the litigation context, particularly in earlier cases involving hospital merger challenges. And it is not uncommon for the litigation record to include thousands of internal documents from the parties.¹⁵ For example, in *In re Evanston Northwestern Healthcare Corp.*, a case challenging the consummated merger of Evanston Northwestern Healthcare Corporation and Highland Park Hospital, the Commission pointed to the parties’ internal documents as corroborating evidence that the merger had led to higher prices.¹⁶ In concluding that the merger violated Section 7 of the Clayton Act, the Commission found that “the merging parties’ documents reflect that a primary motivation of the senior officials in agreeing to merge the hospitals was to increase their bargaining leverage with MCOs in order to raise prices.”¹⁷ In finding as such, the Commission pointed to board meeting minutes in which one of the merging hospitals stated that the merger was an opportunity to “strengthen negotiation capability with managed care companies through merged entities” and not to “‘compete with self’ in covered zip codes.”¹⁸ In another document, a hospital executive told his board that the merger would “[i]ncrease our leverage, limited as it might be, with the managed care players and help our negotiating posture.”¹⁹

In 2012, the Commission blocked another hospital merger in which the merging parties’ internal documents corroborated evidence of anticompetitive effects.²⁰ The Commission found documents that not only undercut defendants’ failing competitor defense, they showed that the merger was motivated by greater bargaining leverage and higher rates.²¹ By way of example, a presentation regarding the potential merger stated: “An SLH affiliation with ProMedica has the greatest potential for higher hospital rates. A ProMedica-SLH partnership would have a lot of negotiating clout.”²² The same presentation also expressed concern that the merger would “harm the community by forcing higher hospital rates on them.”²³

These types of documents speculating about anticompetitive effects are noticeably absent from more recent cases enjoining proposed hospital mergers. For example, in *St. Alphonsus Medical Center-Nampa, Inc. v. St. Luke’s Health System, Ltd.*, only one document is cited as evidence that the merged hospitals would use increased bargaining leverage to increase prices.²⁴ That document involved discussions about “pressur[ing] payors for new direct agreements” and using “the clout of the entire network” to negotiate favorable reimbursement rates.²⁵

Documents played an even smaller role in *Advocate*. On remand, the district court makes only one reference to internal documents that contained maps, which the court said: “show[ed] that Advocate and NorthShore are close competitors who dominate

13 Id.

14 Id.

15 See, e.g. *In re Evanston Nw. Healthcare Corp.*, 2007 WL 2286195, at *3 (more than 1,600 exhibits); *FTC v. OSF Healthcare Sys.*, 852 F. Supp. 2d 1069, 1072 (N.D. Ill. 2012) (more than 2,000 exhibits). While not all of these documents are internal to the parties, and not all critical to the ultimate decision, the volume of exhibits entered into evidence highlights the significance of documentary proof in merger cases.

16 2007 WL 2286195, at *54 (F.T.C. Aug. 6, 2007).

17 Id.

18 Id. at *10.

19 Id.

20 See *In re ProMedica Health System, Inc.*, 2012-1 Trade Cases P 77840 (F.T.C.), 2012 WL 1155392, at *30-*31 (Mar. 28, 2012).

21 Id. at *39.

22 Id. at *11.

23 Id.

24 778 F.3d 775, 787 (9th Cir. 2015).

25 Id.

the North Shore Area.”²⁶ Unlike earlier hospital mergers that had been enjoined, the court’s anticompetitive effects analysis did not depend, even in part, on documents showing the intent or potential for increased bargaining leverage or higher prices. Instead, the document cited by the district court contained information that could have been measured by economic data, and thus they arguably did not add anything to the government’s case.

Similarly, in *Hershey*, the Third Circuit decided to block the merger of two hospital systems without citing to a single contemporaneous business document from the parties.²⁷ The recent decisions in *Advocate* and *Hershey* suggest that the government can prevail even in the absence of documents from the parties’ that support the competitive effects theory of the case.

C. Economic Evidence

Under the Merger Guidelines, economic evidence also plays an important role in evaluating the legality of a proposed merger. As the Guidelines state: their “unifying theme” is that “mergers should not be permitted to create, enhance, or entrench market power or to facilitate its exercise.”²⁸ “A merger enhances market power if it is likely to encourage one or more firms to raise price, reduce output, diminish innovation, or otherwise harm customers as a result of diminished competitive constraints or incentives.”²⁹ Accordingly, in evaluating anticompetitive effects, the Merger Guidelines call for looking at different types of evidence, including among other things, market share, market concentration, ease of market entry, market expansion and whether the merger will eliminate head-to-head competition.³⁰

In particular, the hypothetical monopolist test is used to define the relevant product market and the relevant geographic market. Under this test, a region forms a relevant geographic market if a hypothetical monopolist is able to profitably impose a Small But Significant and Non-Transitory Increase in Price (“SSNIP”). That is, if a hypothetical monopolist can raise prices without losing customers to sellers outside of the proposed region, then that area is a relevant geographic market.³¹

The economic theory underlying the hypothetical monopolist test was addressed in two recent hospital merger cases, *Hershey* and *Advocate*. In both cases, the relevant product market was not in dispute, but the relevant geographic market was.

In *Hershey*, the district court denied the government’s motion for preliminary injunction after finding that it had alleged a geographic market that was too narrow to be viable. On appeal, the Third Circuit reversed after finding that the district court had failed to apply the appropriate economic theory.³² While the district court identified the appropriate test — the hypothetical monopolist test — the Third Circuit found the district court’s application of the test to be incomplete and erroneous because it more closely resembled the Elzinga-Hogarty test.³³ Though Elzinga-Hogarty, which focuses on patient flow data, was once considered the appropriate method by which to define the relevant geographic market in hospital cases, the Third Circuit found the test to be “unreliable” because of its analytical shortcomings, including (1) “the silent majority fallacy” and (2) its failure to account for the payer as the customer, i.e. the “payer problem.”³⁴

²⁶ *Advocate Health Care Network*, 2017 WL 1022015, at *6-*9.

²⁷ See generally 838 F.3d 327.

²⁸ *Id.* at 2.

²⁹ *Id.*

³⁰ *Id.* at 3-4.

³¹ *Id.* at 14-15.

³² 838 F.3d at 336.

³³ *Id.*

³⁴ *Id.* at 340-341.

As the Third Circuit explained in *Hershey*: “The silent majority fallacy is the false assumption that patients who travel to a distant hospital to obtain care significantly constrain the prices that the closer hospital charges to patients who will not travel to other hospitals.”³⁵ The payer problem, on the other hand, refers to the perceived disconnect between patient flow data and the hypothetical monopolist test in hospital merger cases.³⁶ Because healthcare is sold in a two-stage process (the first step being competition among hospitals to be included in a payer’s network), the appropriate question under the hypothetical monopolist test is how a *payer*, not a patient, would respond in the face of a SSNIP.³⁷ This is because insurers negotiate directly with providers for the price of services and then, once those rates are set for the payers’ membership, those prices do not adjust depending on whether fewer or substantially more patients utilize the provider’s services.

In *Advocate*, the Seventh Circuit similarly reversed and remanded on the district court’s determination that the government had failed to properly define the relevant geographic market. In doing so, the Seventh Circuit criticized the district court’s opinion in several respects. For example, the Seventh Circuit rejected the district court’s conclusion that there was “no economic basis” for distinguishing between academic medical centers and community hospitals.³⁸ The Seventh Circuit also rejected the district court’s determination that the evidence was “equivocal” with respect to whether patients generally choose hospitals close to home.³⁹ The Seventh Circuit also sharply criticized the district court for focusing on patients as the relevant buyers, instead of insurers.⁴⁰ In this regard, the Seventh Circuit took issue with the district court’s reliance on diversion ratios, which measure patient choice among hospitals, not the hospitals’ market power over insurers or the testimony of insurers as discussed above. Economic evidence has always been important in merger challenges, but has taken an even more significant role in the most recent challenges.

With respect to the proposed merger between Aetna and Humana, the DoJ and several states sought a preliminary injunction to block the health insurers from consummating their \$37 billion deal. This was the first time the DoJ had sought to block a health insurance merger. The district court enjoined the transaction in January 2017, resulting in the parties abandoning the deal. In that litigation, the main source of evidence regarding the nature and extent of the parties’ competition was economic evidence and party documents, rather than evidence from the perspective of consumers.⁴¹

D. Other Evidence

Other third-party witness testimony: Both the government and the transacting parties have recently used other third-party witness testimony in PI hearings, as well, including evidence from competitor hospitals and area employers. In the challenge to a 2012 merger between a healthcare system and a multi-specialty physician group in Nampa, Idaho, by the FTC, Idaho Attorney General and local competitor hospitals, the merging parties relied on evidence from a local employer in an attempt to show the plaintiffs’ proposed geographic market was improperly narrow and should include areas outside just the city of Nampa. Specifically, the merging parties offered extensive evidence that a Boise employer, Micron, created a healthcare plan with cost differentials that caused a substantial portion of Micron’s employees, who reside in Nampa, to switch to non-Nampa providers. The merging parties argued this evidence proved that Nampa residents would travel beyond Nampa if the transaction resulted in higher prices — disproving that Nampa was the relevant geographic market. The district court did not find this argument persuasive because the employees’ cost-differentials were much higher than are needed for the SSNIP test and because, although Micron employees traveled to non-Nampa providers, this did not mean that other Nampa residents would travel beyond Nampa for primary care services. The Ninth Circuit did not find clear error in the district court’s findings on this point.⁴²

35 Id. at 340 (quoting *In re Evanston Nw. Healthcare Corp.*, 2007 WL 2286195, at *64).

36 Id. at 342-43.

37 Id.

38 *Advocate Healthcare Network*, 841 F.3d at 467.

39 Id. at 474.

40 Id. at 475-77.

41 See *United States v. Aetna Inc.*, No. 16-1494, 2017 WL 325189, at *12-13 (D.D.C. Jan 23, 2017).

42 *St. Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke’s Health Sys., Ltd.*, 778 F.3d 775, 785 n.11 (9th Cir. 2015).

Other non-economic experts: In addition to economic experts, both the government and the merging parties have increasingly relied on “quality” or “efficiencies” experts, whose expertise has been particularly useful during the government investigations into the mergers. In recent litigated cases, however, the utility of quality and efficiencies experts has been limited: once the presumption shifts to the parties to rebut the *prima facie* case of anticompetitive effects, courts have been reluctant to find that the proposed efficiencies overcome that presumption. For instance, the Ninth Circuit in *St. Luke’s*, the Northern District in *Advocate* and the Third Circuit in *Hershey* found the alleged efficiencies were insufficient to overcome the presumption in favor of the FTC that the merger would have anticompetitive effects.⁴³

VI. CONCLUSION

Recent cases confirm that not all evidence is created equal in merger challenges. Nor are the merging parties on equal footing with the government when a challenge is lodged. One could argue that the government has an advantage during the investigation process particularly because it is able to use compulsory process not only with the parties, but with third-party customers and competitors. Accordingly, the merging parties should consider building evidence during the investigation with these same types of third parties if possible, but also must be ready to move quickly to develop the facts and strategy of their defense if they anticipate that a complaint may be filed. In doing so, the parties should be mindful of the range of evidence that will be persuasive to the court, including testimony given during the investigation phase, customer testimony and economic analysis. In most cases, no one piece of evidence or category of evidence is determinative of the outcome of the case, but when taken together should provide the best predictor of the impact of a merger on future competition.

⁴³ See *St. Luke’s Health Sys., Ltd.*, 778 F.3d at 785; *Advocate Healthcare Network*, 2017 WL 1022015, at *14-16; *Penn St. Hershey Med. Ctr.*, 838 F.3d at 349-51.

KEY TAKEAWAYS FROM THE ADVOCATE-NORTHSHORE MERGER LITIGATION

BY STEVEN TENN ¹



I. INTRODUCTION

Few hospital mergers are litigated; the Federal Trade Commission (“FTC”) has challenged only seven hospital mergers since 2005.² Often times, the merging parties are able to constructively work with the FTC to resolve the agency’s competitive concerns. This process works most efficiently and effectively when the merging parties have a clear understanding of how the FTC is likely to review a given merger to determine whether it raises significant competitive issues.

The FTC’s review of hospital mergers has evolved over time. Therefore, it is important to keep abreast of the agency’s current approach. The few hospital mergers that go to trial are one source of such information since the litigation process requires the FTC and its economic experts to publicly articulate the competitive concerns at issue and how they were analyzed.

This article describes the FTC’s approach in a recent litigation, *FTC v. Advocate Health Care Network*, where the FTC successfully challenged a proposed merger of two healthcare systems with hospitals in the northern suburbs of Chicago. I discuss the case from my perspective as the FTC’s economic expert in that matter.

I consider areas where the two sides agreed, as well as where they disagreed. Merger litigation retrospectives more commonly focus on areas of disagreement. But, an assessment of where both sides agree is also useful

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² In recent years, hospital mergers have usually been reviewed by the FTC, rather than the Department of Justice’s (“DoJ’s”) Antitrust Division. The FTC’s successful 2004 challenge of a consummated merger, *Evanston Northwestern Healthcare Corp.*, was a turning point in its hospital merger enforcement program. Before then, the FTC (and DoJ) had unsuccessfully challenged a series of hospital mergers. There was a flurry of activity in November and December 2015 when the FTC voted out complaints for three separate hospital mergers. The FTC has not challenged any hospital mergers since then.

since they are more likely to represent settled issues where taking a contrary position might be controversial. This does not necessarily mean that contrary positions are wrong or should be avoided, since the relevant facts in this matter may differ from those in other mergers. Nonetheless, to the extent these issues arise in similar circumstances, contrary positions may be skeptically received by the FTC and may make successful resolution of the FTC's competitive concerns more difficult for the merging parties.

II. CASE BACKGROUND

In December 2015, the FTC and the state of Illinois challenged the proposed merger of Advocate Health Care Network ("Advocate") and NorthShore University HealthSystem ("NorthShore").³ The plaintiffs' complaint alleged that the merger would eliminate competition between Advocate and NorthShore for the provision of inpatient general acute care hospital services sold and provided to commercial payers and their insured members, respectively. The complaint also alleged the North Shore Area of Chicago was the relevant geographic market in which to analyze the transaction.⁴

Advocate is the largest health system in Illinois, with 11 hospitals in the state.⁵ The competitive concern raised by the proposed transaction involved two Advocate hospitals located in the northern suburbs of Chicago (Lutheran General Hospital and Condell Medical Center).

NorthShore is a health system that operates four hospitals, all of which are in the northern Chicago suburbs (Evanston Hospital, Glenbrook Hospital, Highland Park Hospital and Skokie Hospital).⁶ With the exception of Skokie, these hospitals were involved in a consummated hospital merger which the FTC successfully challenged in 2004. That matter involved the acquisition of Highland Park by Evanston Northwestern Healthcare Corp, which is now known as NorthShore.⁷ However, due to the difficulty of "unscrambling the eggs" in a consummated merger, the FTC order in *Evanston Northwestern Healthcare Corp.* did not require that Highland Park be divested. Instead, the FTC order imposed a behavioral remedy.⁸ NorthShore acquired Skokie in 2009. The transaction was not challenged by the FTC.

In April 2016, the preliminary injunction trial for *FTC v. Advocate* began in the U.S. District Court for Northern District of Illinois. In June 2016, the district court ruled for the parties, finding that the plaintiffs had failed to properly define the geographic market.⁹ The plaintiffs appealed to the Seventh Circuit, which in October 2016 reversed the district court decision, concluding that "the district court's geographic market finding here was clearly erroneous."¹⁰ The Seventh Circuit remanded the matter back to the district court to reconsider plaintiffs' motion for a preliminary injunction.

3 Complaint for Temporary Restraining Order and Preliminary Injunction Pursuant to Section 13(b) of the Federal Trade Commission Act, *FTC v. Advocate*, No. 15-cv-11473 (December 21, 2015).

4 The North Shore Area comprises parts of northern Cook County and southern Lake County in Illinois. This region contains two Advocate, four NorthShore, and five third party general acute care hospitals.

5 See: <http://www.advocatehealth.com/overview-of-advocate>. There are 12 hospitals if one includes a children's hospital located on the campuses of two of the Advocate hospitals.

6 See: <http://www.northshore.org/about-us>.

7 For background on that case, see: <https://www.ftc.gov/enforcement/cases-proceedings/0110234/evanston-northwestern-healthcare-corporation-enh-medical-group>.

8 The FTC's order required, among other things, that Evanston Northwestern Healthcare Corp. establish separate and independent contract negotiating teams, one for Evanston and Glenbrook hospitals, and another for Highland Park, allowing payers to negotiate with them separately. Counsel for NorthShore recently said that no payer has ever opted to negotiate separately pursuant to the consent. See, "Chicago Hospitals Aim For Win In Price-Hike Suit," *Law360*, May 11, 2017.

9 Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (June 20, 2016).

10 Seventh Circuit Court of Appeals decision, *FTC v. Advocate*, No. 16-2492 (October 31, 2016), 3.

In March 2017, the district court issued its second (and final) decision, in which it sided with the plaintiffs and granted a preliminary injunction.¹¹ The district court found that the geographic market had been properly defined, that the plaintiffs' competitive effects analysis was sound and rejected the parties' efficiency claims. Immediately following the decision, Advocate and NorthShore announced they would abandon the deal.

III. KEY ISSUES IN THE *ADVOCATE-NORTHSHORE* LITIGATION

A. Inpatient General Acute Care Hospital Services is a Relevant Product Market

In previous litigated hospital mergers, the FTC alleged a product market consisting of inpatient general acute care hospital services sold and provided to commercial payers and their insured members, respectively ("GAC Services").¹² Unsurprisingly, the FTC did the same in *Advocate-NorthShore*. The parties agreed that GAC Services was the relevant product market.¹³

The Horizontal Merger Guidelines explain that market definition "focuses solely on demand substitution factors."¹⁴ The evidence in *Advocate-NorthShore* showed that the choice of whether inpatient or outpatient care is appropriate is a clinically driven decision, i.e. one that is determined based on medical considerations, not price. This implies that inpatient and outpatient services are not substitutes, and therefore outpatient services should be excluded from the product market. Beyond that, outpatient services often are subject to different competitive conditions than inpatient services, most notably a different set of competitors. While inpatient services are provided only by hospitals, outpatient services are provided by a wider range of facilities, such as outpatient clinics.¹⁵

B. The Geographic Market is Defined Based on the Hypothetical Monopolist Test

In *Advocate-NorthShore*, the two sides agreed that the Merger Guidelines' hypothetical monopolist test is the appropriate means for defining the relevant market.¹⁶ The hypothetical monopolist test is an iterative approach where one starts with a candidate market and then tests whether a hypothetical monopolist who owned all of the hospitals located in that area would be able to profitably increase price by a small but significant amount, often taken to be 5 percent. If so, then the candidate market is a relevant market within which the proposed transaction can be analyzed. If not, one expands the candidate market to include additional hospitals and then repeats the analysis until the candidate market is sufficiently large to pass the test.

While geographic market definition is often a focal point in hospital merger litigation, it is far less critical in the FTC's investigatory review process. In my experience, FTC staff typically place much greater emphasis on the competitive effects analysis. Moreover, when considering market concentration, FTC staff may rely on measures that do not require explicit delineation of the geographic market, such as the approach described below.

Multiple approaches of measuring market shares and concentration were considered in *Advocate-NorthShore* to ensure the results were not sensitive to the employed market definition.¹⁷ In one approach, for example, shares and concentration were calculated separately for each ZIP code in the Chicago metropolitan area. Then, separately for each of the parties' hospitals, the average concentration was calculated across the ZIP codes from which a given hospital attracts patients, weighting each ZIP code

11 Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017).

12 Memorandum in Support of Plaintiffs' Motion for a Preliminary Injunction, No. 15-cv-11473 (February 26, 2016), 8-13.

13 Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017), 6.

14 U.S. Department of Justice and Federal Trade Commission's 2010 Horizontal Merger Guidelines (August 19, 2010), 7.

15 Individual inpatient GAC services generally are not substitutes for each other. For example, a cardiac procedure is not a substitute for an orthopedic procedure. Because of this lack of interchangeability, in principle one might separately delineate each individual inpatient GAC service as a distinct product market. Instead, solely for analytical convenience, a "cluster market" of inpatient GAC services is typically employed in hospital mergers.

16 Amended/Corrected Reply Memorandum in Support of Plaintiffs' Motion for a Preliminary Injunction, *FTC v. Advocate*, No. 15-cv-11473 (April 7, 2016), 6-8.

17 Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017), 17 n. 2.

by the number of admissions to the hospital from that ZIP code. This method measures the average level of concentration across the area from which a given hospital attracts patients. Moreover, it incorporates admissions to hospitals throughout the Chicago area without having to explicitly define a geographic market.

C. Post-Merger Elimination of Competition between Close Substitutes

The *Advocate-NorthShore* matter raised the standard unilateral effects concern that the elimination of competition between two close substitutes would lead to significant anticompetitive effects, such as higher prices. Both sides agreed that the competitive impact of the proposed merger is largely determined by the degree of substitution between the two systems, irrespective of the level of substitution from the parties to other hospitals.¹⁸

Perhaps surprisingly, the two sides also agreed that Advocate and NorthShore are good (close) substitutes for each other, and that they competitively constrain each other.¹⁹ The reason for this agreement is that both sides measured substitution by estimating similar hospital choice models using patient discharge data from the Illinois Department of Health. In fact, both sides cited to the same research paper as the basis for the analyses.²⁰ This econometric model has been used by some FTC economists for more than a decade, and had previously been employed in merger litigation in *FTC v. St. Luke's Health System, Ltd.*²¹ An advantage of this hospital choice model is that it flexibly controls for patient preferences.²²

D. Multiple Approaches for Predicting Merger Effects

The two sides disagreed on how to use the close level of substitution between Advocate and NorthShore to predict the post-merger price increase.²³ Plaintiffs relied on an economic model which takes as inputs the key factors that the Merger Guidelines identify as those which determine the incentive to raise price post-merger: the degree of substitution between the parties and variable cost margins. Defendants countered that the FTC's "standard" hospital merger simulation model should be used instead. In this approach, which as discussed below is not in fact standard, a regression model is used to estimate the relationship between price and a measure of bargaining leverage known as "willingness to pay" ("WTP").²⁴ The regression model is then used to predict the change in price that would arise from the parties' increased bargaining leverage post-merger.

The validity of the price-WTP regression approach relied upon by the defendants depends on whether it is possible to identify the causal effect of merger-related increases in WTP on price. The economics literature recognizes the difficulty of identifying causal effects in such price-concentration analyses.²⁵ An appropriate econometric model that is capable of identifying causal effects is required, rather than simply measuring the correlation between the two measures (price and WTP). The requisite causal effect was not estimated, a deficiency that was highlighted in the district court's opinion.²⁶

18 *FTC v. Advocate* trial transcript at 1645:16-1646:15 and 1655:3-10 [Tenn].

19 Amended/Corrected Reply Memorandum in Support of Plaintiffs' Motion for a Preliminary Injunction, *FTC v. Advocate*, No. 15-cv-11473 (April 7, 2016), 13-14.

20 Raval, Rosenbaum, & Tenn (Forthcoming), "A Semiparametric Discrete Choice Model: An Application to Hospital Mergers," *Economic Inquiry*.

21 Details of this matter are available at: <https://www.ftc.gov/enforcement/cases-proceedings/121-0069/st-lukes-health-system-ltd-saltzer-medical-group-pa>.

22 For details, see citation in footnote 20.

23 Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017), 17-26.

24 The WTP measure is calculated using the hospital choice model described earlier.

25 See, for example, Einav & Levin (2010), "Empirical Industrial Organization: A Progress Report," *Journal of Economic Perspectives*, 145-62. This literature is directly applicable since WTP is essentially a complicated share measure.

26 Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017), 25-26.

A key takeaway from this exchange is that there is no “official” empirical approach that has been endorsed or recommended by the FTC, the FTC’s Bureau of Economics, or economists generally to evaluate hospital mergers. As the Merger Guidelines make clear, merger review is a fact-specific process that may draw on a range of different analytical tools. The key question is whether the approach employed is sensible given economic theory and the facts of the case, and is implemented in a reliable manner. Since multiple approaches may be employed, this is an area where interactions between economists with the FTC and the merging parties can be particularly fruitful during the merger review process.

E. Compelling Competitive Effects Explanation Consistent with the Evidence is Critical

The controversy in the *Advocate-NorthShore* matter over which model should be employed highlights a well-known observation: the ability to consistently intertwine qualitative and quantitative evidence into a coherent explanation is critical. Plaintiffs’ market definition and competitive effects analyses flowed directly from payer and employer testimony that including local options makes a health plan far more desirable to employers with employees living in the northern Chicago suburbs.²⁷ This was corroborated by documentary evidence demonstrating strong competition between Advocate and NorthShore in the northern suburbs of Chicago. This qualitative evidence was consistent with empirical analysis showing the parties are close substitutes, with the proposed merger significantly increasing the parties’ bargaining leverage due to the fact that patients living in the northern suburbs generally prefer local treatment options (and, in particular, have a preference for being treated at either Advocate or NorthShore). Each of these elements was individually important in building a case that the elimination of competition between Advocate and NorthShore would lead to a significant anticompetitive effect. The merger simulation model provided an estimate of the post-merger price increase that is consistent with the overall body of evidence in this matter.

Since both sides agreed that the parties are close substitutes, and the level of substitution to other hospitals is not directly relevant, the defendants had the challenge of explaining why a merger of close substitutes should not raise competitive concerns. Ultimately, the district court judge was not convinced by their arguments.²⁸ In part, this was due to the limited qualitative evidence in support of their position. For example, a key part of their argument was that commercial payers supported the merger. The court discounted payer testimony on behalf of the parties, “agree[ing] with plaintiffs that the insurers’ support for the merger was equivocal, unenthusiastic, and without a factual basis.”²⁹ Moreover, the district court judge found defendants’ argument that even mergers between close substitutes would not significantly raise price to be counterintuitive.³⁰ This highlights the need for a compelling story consistent with the available evidence.

F. Efficiencies

The central efficiency claim presented by the parties in *Advocate-NorthShore* was that the merger would allow the combined entity to participate in a narrow network health plan in which Advocate, but not NorthShore, currently participates.³¹ The parties claimed that they would participate in the plan at the pre-merger price, which would benefit consumers since adding NorthShore to the plan would make it a more attractive product.

²⁷ As discussed below, some payers testified on behalf of the parties. Nonetheless, the details provided in their testimony were consistent with the plaintiffs’ story. As discussed in the Seventh Circuit opinion, commercial payers “testified unequivocally that it would be difficult or impossible to market a network to employers in metropolitan Chicago that excludes both NorthShore and Advocate.” Seventh Circuit Court of Appeals decision, *FTC v. Advocate*, No. 16-2492 (October 31, 2016), 4.

²⁸ Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017), 23-28.

²⁹ *Id.*, 24.

³⁰ *Id.*, 23 and 24-26.

³¹ *Id.*, 29-36.

The district court rejected this claim due to the parties' failure to show that the merger's benefits likely outweighed its anticompetitive effects.³² The parties' economic expert tried to quantify the consumer benefit associated with expanding the narrow network plan, however the court concluded that this analysis was based on assumptions that had no evidentiary basis.³³

The takeaway from this exchange is that, to be persuasive, efficiency claims must be strongly supported by reliable evidence and analysis. A concern that efficiency claims will be given relatively little weight may explain why efficiencies analyses are often insufficiently developed. But, such an approach makes it more likely that the claimed efficiencies will not be convincing and, therefore, will not be credited to the merging parties (by either the FTC during the investigatory review process or by the court in litigation).

In *Advocate-NorthShore*, as it has in other litigated mergers, the FTC pointed out that “[n]o court has ever found that a presumptively unlawful merger would generate efficiencies sufficient to outweigh its anticompetitive effects.”³⁴ Nonetheless, during the FTC’s investigatory review process, FTC staff may be more receptive to crediting merger efficiencies, particularly in situations where the likely competitive harm is relatively small in magnitude. This underscores the importance of developing a credible efficiencies analysis relatively early in the process where it has a better chance of affecting the outcome of the merger investigation.

IV. CONCLUSION

As is the case in any litigated matter, *Advocate-NorthShore* involved disagreement over a range of different topics. Nonetheless, there was agreement on a fair number of issues, suggesting that the set of “battleground” disputes has narrowed. Even where the two sides disagreed, there are key lessons to be learned from the litigation process. By getting a better appreciation for what factors may lead the FTC to conclude that a prospective hospital merger is likely anticompetitive, the merging parties can tailor their arguments and provide evidence to more effectively convey to the agency why the facts in a given matter do not support such a conclusion. This not only benefits the merging parties, but also FTC staff by facilitating their ability to effectively and efficiently review the proposed transaction.

³² Given this conclusion, the court did not need to rule on whether the claimed efficiency was merger-specific, which the plaintiffs argued it was not.

³³ Memorandum Opinion and Order, *FTC v. Advocate*, No. 15-cv-11473 (March 16, 2017), 31-34.

³⁴ Plaintiffs' Post-Remand Reply Brief in Support of Plaintiffs' Motion for Preliminary Injunction, No. 15-cv-11473 (January 11, 2017), 2.



THE LONG, SLOW DECLINE OF ELZINGA-HOGARTY AND WHAT COMES AFTER

BY CORY S. CAPPS, DAVID DRANOVE
& ZENON ZABINSKI ¹



I. THE LONG, SLOW DECLINE OF ELZINGA-HOGARTY

The history of federal hospital merger enforcement could be likened to an episode of *The Walking Dead*: the protagonist, thinking her opponent vanquished, looks up to find the same foe, though worse for the wear, attacking her anew. After some successes in the 1980s, federal antitrust agencies lost six successive attempts to block hospital mergers in the 1990s. During that decade, courts accepted broad relevant geographic markets (“RGMs”). The apparent presence of many hospitals competing with the merging parties contributed to most of these losses. Economists retained by merging hospitals used the Elzinga-Hogarty (“E-H”) test to identify broad RGMs (as had economists retained by the Department of Justice (“DoJ”) and the Federal Trade Commission (“FTC”) in the late 1980s and early 1990s). E-H delineates a geographic market by iteratively analyzing patient flows to and from a hypothetical market. By the early 2000s, academic research had identified critical flaws in E-H, provided a more precise framework for studying competition between hospitals and generated new empirical tools for analyzing hospital markets.²

Starting in 2004, the FTC, armed with these new insights, went on a winning streak. It won a challenge to a consummated hospital merger, blocked several prospective mergers in court, and used the threat of litigation to induce several other hospitals to abandon their merger plans. Applying a similar analytic approach, the FTC also successfully challenged a physician group merger. Along the way, it also prevailed in two Circuit Courts of Appeals. Courts had come to accept the new approach to hospital merger analysis, and the E-H test was dead and buried. Or so it seemed.

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² For a detailed treatment, see Capps, “From Rockford to Joplin and Back Again: The Impact of Economics on Hospital Merger Enforcement,” *Antitrust Bulletin* 59, no. 3 (2014): 443–78.

In December 2015, the FTC filed for preliminary injunctions against two proposed hospital mergers: between Hershey Medical Center and PinnacleHealth in Pennsylvania and between Advocate Health Care and NorthShore University HealthSystem in the north Chicago suburbs. In both cases, District Court judges concluded that the FTC failed to define a proper RGM and denied an injunction. Both Courts relied on the logic of the E-H test, even though they did not explicitly refer to it by name. The agencies' nemesis from the 1990s had come back to life.

The FTC chose to fight on, and, on appeal, the respective Circuit Courts reversed both decisions. They accepted the FTC's proposed RGMs, recognizing that the lower Courts' analyses shared the flaws of the E-H test. Both mergers were subsequently abandoned.

It appears the E-H test may now have breathed its last breath.

A. The E-H Test and its Perils

In 1989, the DoJ successfully blocked the merger of Rockford Memorial and Swedish American hospitals in Rockford, Illinois, applying E-H to define the RGM. *Rockford Memorial* effectively enshrined E-H as the standard method for geographic market definition in hospital merger cases for the next decade.³

The E-H approach to defining the RGM examines the fraction of sales of the relevant product in the geographic area by purchasers from outside the area (inflows) and the fraction of purchasers within the area that obtains the product from outside the area (outflows). An RGM must account for at least 75 percent of sales by firms inside the RGM, and inflows and outflows of the relevant product must be low.⁴ When applied to hospitals, E-H tends to generate large relevant geographic markets with many competitors. Nearly all mergers in such broad RGMs would fail to meet the concentration threshold in the Horizontal Merger Guidelines ("HMG") for a "presumptively anticompetitive" merger.⁵

Even as courts used E-H to justify approval of hospital mergers, research demonstrated that hospital mergers systematically led to higher prices. In a 2000 paper, Vistnes advanced a *two-stage model of hospital competition* that helped resolve this tension. In the first stage, hospitals negotiate with insurers for network inclusion; in the second stage, hospitals compete for patients.⁶ Prices are determined in the first stage, where insurers are the primary customers. Therefore, while patient flow patterns "may suggest significant second stage competition, they shed little light on the magnitude of first-stage competition," namely, the extent to which merging hospitals could exercise market power and raise prices to insurers.⁷ Subsequent research showed that a hospital's bargaining leverage with insurers depends on the incremental value that the hospital brings to insurer networks.⁸ A 2003 paper by Capps et al. developed a metric for assessing this bargaining leverage, which they call Willingness to Pay ("WTP").⁹ A hospital will command higher prices from insurers when there are few substitutes available *from the perspective of insurers*, thereby giving that hospital a high WTP.

These insights highlighted conceptual flaws of E-H for analyzing hospital mergers. E-H assumes that because *some* patients travel outside the geographic area for hospital care, *many* patients would travel if prices increased. However, since insurance largely

3 *United States v. Rockford Mem'l Corp.*, 717 F. Supp. 1251, 1266-78 (N.D. Ill. 1989), aff'd, 898 F.2d 1278 (7th Cir. 1990).

4 Elzinga & Hogarty, "The Problem of Geographic Market Delineation in Antimerger Suits," *Antitrust Bulletin* 18, no. 1 (1973): 45-82; Elzinga & Hogarty, "The Problem of Geographic Market Delineation Revisited: The Case of Coal," *Antitrust Bulletin* 23, no. 1 (1978): 1-18.

5 US Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, Aug. 19, 2010, <https://www.justice.gov/atr/horizontal-merger-guidelines-08192010>.

6 Vistnes, "Hospitals, Mergers, and Two-Stage Competition," *Antitrust Law Journal* 67, no. 3 (2000): 671-92.

7 *Id.* 673.

8 Town & Vistnes, "Hospital Competition in HMO Networks," *Journal of Health Economics* 20, no. 5 (2001): 733-53.

9 Capps, Dranove & Satterthwaite, "Competition and Market Power in Option Demand Markets," *RAND Journal of Economics* 34, no. 4 (2003): 737-63.

insulates patients from the actual price of healthcare services, they are unlikely to respond to a price increase by switching providers (the “payer problem”).¹⁰ Moreover, while some patients may be willing to travel for hospital care, others will prefer to receive care locally. To market health plans to these patients, insurers need to include local providers in their hospital networks. Accordingly, a merger that reduces competition in a relatively small geographic area will enable the combined system to increase prices to insurers that market plans in that area, even though some patients in the area may be willing to bypass their local providers (the “silent majority fallacy”).¹¹ The consequence of these flaws is that E-H tends to overstate the size of geographic markets and understate the potential for local mergers to enhance market power.

B. The Hershey-Pinnacle Merger

In December 2015, the FTC filed to block the merger between Hershey and Pinnacle, alleging that it would give the parties a 64 percent market share in a four-county area around Harrisburg, Pennsylvania.¹² The District Court ruled against the FTC, finding that “FTC’s four county ‘Harrisburg Area’ relevant geographic market is unrealistically narrow and does not assume the commercial realities faced by consumers in the region.”¹³ In reaching its conclusion, the Court quoted the Eighth Circuit’s *Little Rock Cardiology* opinion for the proposition that the “end goal [of geographic market definition] is to delineate a geographic area where, in the medical setting, few patients leave. . . and few patients enter.”¹⁴ Though the *Little Rock Cardiology* decision does not specifically refer to E-H, its analysis is based on the E-H test employed in *Rockford Memorial*.

The Court observed that 43.5 percent of Hershey’s patients came from outside the four-county area and concluded that high inflows “controvert the FTC’s assertion that [general acute care] services are ‘inherently local.’”¹⁵ The Court also asserted that the “19 hospitals within a 65 minute drive of Harrisburg” would “readily offer consumers an alternative” to accepting a price increase, even though 91 percent of area residents received care at a hospital within the four counties.¹⁶ In other words, the Court rejected the proposed four-county area as an RGM because it did not satisfy the E-H criteria that inflows and outflows are both small.

The FTC appealed the decision to the Third Circuit, which found that “[a]lthough the District Court correctly identified the hypothetical monopolist test, its decision reflects neither the proper formulation nor the correct application of that test.”¹⁷ Under the hypothetical monopolist test (“HMT”), a candidate RGM satisfies the test if a hypothetical monopolist of all firms in the region could profitably impose a small but significant and non-transitory increase in price (“SSNIP”).¹⁸

10 Elzinga & Swisher, “Limits of the Elzinga-Hogarty Test in Hospital Mergers: The Evanston Case,” *International Journal of the Economics of Business* 18, no. 1 (2011): 133–46.

11 Capps, Dranove, Greenstein & Satterthwaite, “The Silent Majority Fallacy of the Elzinga-Hogarty Criteria: A Critique and New Approach to Analyzing Hospital Mergers,” NBER Working Paper No. 8216 (2001), available at: <http://www.nber.org/papers/w8216>; Capps, Dranove, Greenstein & Satterthwaite, “Antitrust Policy and Hospital Mergers: Recommendations for a New Approach,” *Antitrust Bulletin* 47, no. 4 (2002): 677–714.

12 Complaint, *FTC et al. v. Penn State Hershey Medical Center et al.*, No. 1:15-cv-2363 (M.D. Pa. Dec. 9, 2015), available at: <https://www.ftc.gov/system/files/documents/cases/151214hersheypinnaclecmpt.pdf>, ¶¶ 4, 6.

13 Opinion, *FTC et al. v. Penn State Hershey Medical Center et al.*, No. 1:15-cv-2363 (M.D. Pa. May 9, 2016), at 11.

14 Id. at 9 (internal quotation marks omitted), quoting *Little Rock Cardiology Clinic PA v. Baptist Health*, 591 F.3d 591 (8th Cir. 2009) (quoting *United States v. Rockford Mem’l Corp.*, 717 F. Supp. 1251, 1267 (N.D. Ill. 1989), aff’d 898 F.2d 1278 (7th Cir. 1990)).

15 Id. at 9–10.

16 Id. at 10. Brief of Appellants FTC and Commonwealth of Pennsylvania, *FTC et al. v. Penn State Hershey Medical Center et al.*, No. 1:15-cv-2363 (3d Cir. June 2016), available at: <https://www.ftc.gov/system/files/documents/cases/160601pinnacleappealbrief.pdf>, at 10.

17 Opinion, *FTC et al. v. Penn State Hershey Medical Center et al.*, No. 1:15-cv-2363 (3d Cir. Sept. 27, 2016), available at: <https://www.ftc.gov/system/files/documents/cases/160927pinnacledecision.pdf> [hereinafter Third Circuit Appeals Court Opinion], at 16.

18 HMG § 4.1.1. Interestingly, the Third Circuit also noted in passing that the HMT is not necessarily “the only test that the district courts may use in determining whether the Government has met its burden to properly define the relevant geographic market.” Third Circuit Appeals Court Opinion, at 28.

The Third Circuit correctly observed that the District Court had applied the E-H method from *Rockford Memorial*, which — referencing the payer problem and silent majority fallacy — it labeled a “discredited economic theory.”¹⁹ It criticized the lower Court for ignoring the fact that only 9 percent of patients leave the four-county area to receive care and for incorrectly neglecting the two-stage model of hospital competition.²⁰

Patients are relevant to the analysis, especially to the extent that their behavior affects the relative bargaining positions of insurers and hospitals as they negotiate rates. But patients, in large part, do not feel the impact of price increases. Insurers do. And they are the ones who negotiate directly with the hospitals to determine both reimbursement rates and the hospitals that will be included in their networks.

The Circuit Court concluded that a proper application of the HMT in hospital merger cases must be performed “through the lens of the insurers,” which the District Court had not done.²¹ It held that the FTC had properly defined the RGM, reversed the District Court’s decision, and directed it to issue a preliminary injunction. The parties then abandoned the transaction.

C. The Advocate-NorthShore Merger

Also in December 2015, the FTC and the State of Illinois filed to block the proposed merger of Advocate and NorthShore. The FTC alleged an RGM of northern Cook and southern Lake Counties (“the North Shore Area”) in which the parties owned six of eleven hospitals and had a 55 percent share.²²

The FTC’s expert, Steven Tenn, proposed a candidate RGM consisting of hospitals satisfying specific criteria, including that they are not “destination hospitals,” such as academic medical centers that offer advanced services that patients travel long distances to obtain.²³ Based on diversion analysis and other evidence, Dr. Tenn concluded that hospitals within his candidate RGM were sufficiently close substitutes that a hypothetical monopolist of the 11 included hospitals could profitably impose a SSNIP.²⁴

The District Court rejected that RGM. It found that Dr. Tenn “offers no economic basis for the ‘destination hospital’ designation in his first criterion. . . . Even if he had, his rationale for excluding such hospitals—that they are not substitutes for Advocate and NorthShore—assumes the answer to the very question the geographic exercise is designed to elicit; that is, are the destination hospitals substitutes for the merging parties?”²⁵ The Court also dismissed evidence that patients prefer to receive hospital care near their homes as “equivocal.”²⁶

19 Id. at 16, 17, 19.

20 Id. at 21, 22–23.

21 Id. 23.

22 Complaint, *In the Matter of Advocate Health Care Network et al.*, No. 9369 (FTC Dec. 2015), available at: <https://www.ftc.gov/system/files/documents/cases/151218ahc-pt3cmpt.pdf>, ¶¶ 23, 29.

23 Opinion, *FTC et al. v. Advocate Health Care et al.*, No. 15 C 11473 (N.D. Ill. June 20, 2016), available at: https://www.ftc.gov/system/files/documents/cases/2016.20.16_eef_no_485_redacted_opinion_and_order.pdf, at 7.

24 Id. at 8. For example, Dr. Tenn estimated that 48 percent of patients admitted to a hospital in the North Shore Area would seek care at another hospital in the area if their first choice became unavailable.

25 Id. at 9.

26 Id. at 10.

On appeal, the Seventh Circuit reversed the District Court's decision, determining that the lower Court had incorrectly applied the HMT and that its analysis of the candidate RGM was flawed.²⁷ It explained that using the HMT to identify the RGM is an iterative process: "[i]f a candidate market is too narrow, the test will show as much, and further iterations will broaden the market until it is big enough. . . . The district court seems to have mistaken those iterations for circularity."²⁸

The Circuit Court also concluded that Dr. Tenn's exclusion of "destination hospitals" was valid, stating that "demand for those few hospitals differs from demand for general acute care hospitals like these parties' hospitals, which draw patients from much small geographic areas."²⁹ And the Court rejected the assertion that the evidence that patients prefer to receive hospital care locally was "equivocal," stating instead that "evidence on that point is strong."³⁰

Finally, although the District Court's analysis was not a direct application of E-H, as it was in the *Hershey* matter, the Seventh Circuit recognized that it nevertheless embedded a version of the silent majority fallacy. The Circuit Court observed that "insurers are the most relevant buyers" and that even if some patients are willing to travel, many are not.³¹ For that reason, "an insurer's network must include either Advocate or NorthShore to offer a product marketable to employers" in the North Shore Area.³² Therefore, it found that the District Court erred in "focus[ing] on the patients who leave a proposed market instead of on hospitals' market power over the patients who remain."³³

The parties likewise abandoned the transaction after the District Court reevaluated the case and issued a preliminary injunction. The FTC's winning streak in hospital merger cases was fully restored.

D. Implications for Hospital Merger Analysis

The precedent set by *Little Rock Cardiology* still holds in the Eight Circuit. Nevertheless, in light of the more recent decisions by the Third and Seventh Circuits discussed above, and other opinions in the Sixth and Ninth Circuits, arguments that rely on E-H are unlikely to succeed going forward.³⁴

Although E-H may be unreliable for defining RGMs, patient flow analysis may aid evaluation of hospital mergers in other ways. One example is the use of diversion ratios, as Dr. Tenn employed in *Advocate* to measure the fraction of patients that would substitute among the hospitals included in his North Shore Area RGM rather than substitute to outside hospitals. Diversion ratios also provide a direct measure of how closely substitutable merging hospitals are.³⁵

This is consistent with recent court decisions. Although the Third Circuit ruled in *Hershey* that "relying solely on patient flow data is not consistent with the hypothetical monopolist test," it nevertheless found it informative that 91 percent of patients residing

27 Opinion, *FTC et al. v. Advocate Health Care et al.*, No. 15 C 11473 (7th Cir. Oct. 31, 2016), available at: https://www.ftc.gov/system/files/documents/cases/161101advocate_ca7_opinion.pdf.

28 *Id.* at 20–21 (citations omitted).

29 *Id.* at 21.

30 *Id.* at 22.

31 *Id.* at 24.

32 *Id.* at 23.

33 *Id.* at 25.

34 *ProMedica Health Sys., Inc. v. FTC*, 749 F.3d 559 (6th Cir. 2014); *St. Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke's Health Sys., Ltd.*, 778 F.3d 775 (9th Cir. 2015). Showing that legal approaches can evolve in response to advances in economics, in 2015, the Supreme Court in *Kimble* stated that it "felt relatively free to revise . . . analysis as economic understanding evolves and . . . to reverse antitrust precedents that misperceived a practice's competitive consequences." *Kimble v. Marvel Entm't, LLC*, 135 S. Ct. 2401 (2015), at 2412–2413.

35 See HMG § 6.1.

in the four-county area did not leave the area for hospital care.³⁶ In *Advocate*, the Seventh Circuit, in addition to placing great weight on Dr. Tenn’s diversion ratios, found the fact that 80 percent of patients travel less than 20 minutes for care compelling evidence that hospital services are largely local.³⁷ In the same case, on remand, the District Court agreed:³⁸

[T]he Court agrees with plaintiffs that “the Seventh Circuit did not hold that it is inappropriate to consider patient-level diversions;” it merely criticized how defendants and this Court interpreted them. . . . The purpose of the diversion ratios is to show whether the level of substitution between hospitals in the North Shore Area is high enough that, should a merger occur, the merged entity could profitably impose a SSNIP. (Citations omitted.)

Overall, the Courts recognized that patient travel patterns may be informative, but only if they are correctly interpreted in the context of the two-stage model of hospital competition.

II. FUTURE BATTLEFRONTS IN HOSPITAL MERGER ENFORCEMENT

These cases provide clarity regarding hospital mergers that are likely to face stiff antitrust challenges. Absent strong failing firm or efficiencies arguments (and no strong alternative buyers), challenges to three-to-two and two-to-one mergers in smaller metro areas are likely to succeed. This does not describe most mergers, however. Given the ongoing wave of hospital consolidation, enforcement battles are unlikely to stop, but they likely will shift to different fronts.

A. Urban Mergers

While the repudiation of E-H and the adoption of the new two-stage modeling approach has clear implications for market definition in smaller metro areas, what is perhaps more startling is what the new approach says about market definition in larger metropolitan areas. Consider Chicago, which has nearly 80 hospitals, but no system that dominates the entire area. On the surface, the presence of so many hospitals and systems in a major metropolitan area suggests that further consolidation would not be presumptively anticompetitive. Yet the FTC chose the Chicago area as the battleground for its first case involving the new approach — its 2004 challenge to the consummated merger of Evanston Northwestern Hospital and Highland Park Hospital. FTC expert economist Deborah Haas-Wilson foreshadowed Dr. Tenn’s analysis in *Advocate* by describing how area employers specifically value access to hospitals in Chicago’s lakefront North Shore suburbs, an area immediately east of the RGM defined by the FTC in *Advocate*. Using the logic of the two-stage bargaining model, Dr. Haas-Wilson successfully argued that these suburbs represented an RGM.

The FTC has now successfully argued that two different slices of Chicago northern suburbs are RGMs. Nevertheless, questions remain about merger enforcement in large metro areas. For example, while the two-stage approach suggests that narrow slices of metropolitan areas may be RGMs, a purely qualitative analysis may lack a limiting principle, leading to the (likely incorrect) conclusion that all mergers of neighboring hospitals are anticompetitive. Economists can use the WTP measure to more precisely define an RGM, but it is not clear whether courts will find this quantitative approach dispositive. Perhaps with this in mind, Dr. Tenn employed multiple qualitative and quantitative criteria in arriving at his RGM. And while the Court was ultimately satisfied that a diversion ratio of 52 percent away from the area was sufficiently low to satisfy the HMT, both court precedent and economic literature provide little guidance regarding the correct threshold.

36 Third Circuit Appeals Court Opinion, at 20, 21.

37 Opinion, *FTC et al. v. Advocate Health Care et al.*, No. 15 C 11473 (7th Cir. Oct. 31, 2016), available at: https://www.ftc.gov/system/files/documents/cases/161101advocate_ca7_opinion.pdf, at 22–23.

38 Opinion, *FTC et al. v. Advocate Health Care et al.*, No. 15 C 11473 (N.D. Ill. Mar. 16, 2017), available at: https://www.ftc.gov/system/files/documents/cases/advocate_health_care_opinion_granting.pdf, at 14.

Similar questions regarding thresholds confront the other metrics commonly used by the agencies to evaluate hospital mergers. For example, in hospital merger cases, post-merger concentration has largely been well above the HMG thresholds for deals to be presumptively anticompetitive. Will courts block mergers that result in lower levels of concentration?

These issues, which have largely not been tested, are most likely to arise in merger cases in large urban areas.

B. Cross-Market Mergers

Of the hundreds of hospital mergers since 2000, the federal antitrust agencies have challenged only a handful. A key reason is that hospital merger enforcement has focused primarily on mergers that increase concentration within local markets. Most acquisitions, however, are by out-of-market systems. These are cross-market mergers.

A number of economists have recently begun studying such mergers. Motivated by concerns expressed by insurers that cross-market mergers enhance hospital bargaining leverage, a 2013 paper by Vistnes and Sarafidis proposed that merging parties may be able to command higher prices when they both serve a common customer, for example, a large employer with presence in both geographic markets. The basic intuition is that “even though a health plan may be able to continue marketing its plan to employers when they have one or two important ‘holes’ in their provider network, at some point a plan may have so many holes in its network that employers will be unwilling to offer that plan to their employees.”³⁹ This means that even if hospitals are not substitutes from the perspective of individual patients, they may be somewhat substitutable from the perspective of insurers and employers. Under this theory, a cross-market merger could give hospitals the leverage needed to extract higher rates from insurers. Lewis and Pflum (2015) propose that information exchange between the merging entities may enhance their negotiating ability.⁴⁰ That is, mergers do not create additional bargaining leverage, but rather a greater ability to use existing bargaining leverage.

Recent empirical research has found evidence that cross-market mergers do lead to higher prices. Dafny et al. (2016) present evidence that price increases resulting from cross-market mergers are larger when the merging hospitals share common insurers and when they are closer in proximity, suggesting the effect is driven by common customers.⁴¹ Meanwhile, Lewis and Pflum (2016) cautiously interpret evidence that price increases are larger when the acquiring system is large or the acquired hospital is small to imply that improvements in negotiating ability may play a role.⁴² Thus far, the antitrust agencies have not challenged cross-market mergers, but this could change as economic research lends greater insight into their potential effects.

Given this evidence, it could be tempting to conclude that the now standard approach to geographic market definition may, in fact, be drawing the market too narrowly, since hospitals can be somewhat substitutable from the perspective of insurers even when they are not from the perspective of patients. However, such a conclusion would be mistaken. In any merger analysis, there may be multiple RGMs. Even if distant hospitals were to provide some price constraint, this would not generally imply that a merger that increases concentration in a smaller RGM would not also lead to an increase in market power.

39 Vistnes & Sarafidis, “Cross-market Hospital Mergers: A Holistic Approach,” *Antitrust Law Journal* 79, no. 1 (2013): 255.

40 Lewis & Pflum, “Diagnosing Hospital System Bargaining Power in Managed Care Networks,” *American Economic Journal: Economic Policy* 7, no. 1 (2015): 243–74.

41 Dafny, Ho & Lee, “The Price Effects of Cross-Market Hospital Mergers,” NBER Working Paper No. 22106 (2016), available at: <http://www.nber.org/papers/w22106>.

42 Lewis & Pflum, “Hospital Systems and Bargaining Power: Evidence from Out-of-Market Acquisitions,” *RAND Journal of Economics*, forthcoming, available at: https://mslewis.people.clemson.edu/Research/Lewis_Pflum_hosp_bp.pdf.

C. Vertical Mergers

After decidedly mixed results in the 1990s, a second wave of vertical integration (“VI”) that centered on local hospital systems launched in the mid to late 2000s, when hospital systems began acquiring physician practices at an rapid pace and increasingly entering into accountable care organization (“ACO”) arrangements, which effectively are partial risk contracts.⁴³ Indeed, growing demand by insurers, including Medicare, for risk-based contracts could be driving VI.

A 2017 paper by Capps et al. provides evidence that VI has led to an increase in physician prices of as much as 14 percent three or more years post-integration, accounting for effects on both “facility fees” meant to cover costs for office space and equipment and “professional fees” meant to cover the cost of physician labor.⁴⁴ In most insurer contracts, facility fees are mechanically higher when a hospital owns the facility, even if the “facility” is a physician office. This accounts for about half of the observed price increase. At the same time, a hospital, especially if it has some degree of market power, may have previously negotiated higher professional fees and may bill at those higher rates when it acquires a physician practice. Capps et al. do not find evidence of offsetting improvements in efficiency (i.e. no consistent pattern of lower utilization). The latter finding echoes that of earlier studies and suggests that VI may be anticompetitive or simply inefficient on average.⁴⁵

If VI does not enhance the hospital system’s bargaining leverage, then price increases could be negotiated away in future contracts. The fact that they seem to persist for at least three years suggests that VI does increase leverage. Theories advanced in studies of cross-market mergers offer some insight into how VI might increase bargaining leverage. Even though hospital and physician services are not direct substitutes, they are both sold by insurers as a part of a bundle. Since insurer profitability may depend in part on the quality of these bundles, mergers could result in price increases even when components of the bundle are not direct substitutes to end consumers. Unfortunately, this logic lacks a limiting principle and might justify opposition to all VI. The economics literature, as it currently stands, provides little guidance to enforcement agencies in vertical merger investigations.

In practice, the agencies have rarely challenged vertical mergers, and when they have, those challenges have usually resulted in behavioral remedies rather than injunctions.⁴⁶ The exception is when VI includes an important horizontal component, in which case the agencies may simply challenge the merger on horizontal grounds. The most important example is *FTC v. St. Luke’s*, in which the FTC prevailed by showing that St. Luke’s acquisition of Saltzer Medical Group would likely increase prices for physician services.⁴⁷

While St. Luke’s did not successfully rebut the FTC’s horizontal arguments, it argued that VI would generate substantial efficiencies. St. Luke’s efficiency expert Alain Enthoven testified that the market was rapidly integrating and this both enhanced efficiency and served policy goals, for example, by promoting ACOs. The FTC’s expert, David Dranove, countered that the economic evidence in favor of efficiencies from VI was “unambiguously ambiguous” and that independent providers could contract with one another to create ACOs. The Court ultimately rejected St. Luke’s efficiency defense. Moving forward, questions remain regarding both efficiency arguments and theories of harm based on VI.

43 Capps, Dranove & Ody, “The Effect of Hospital Acquisitions of Physician Practices on Prices and Spending,” 2017. This is an updated version of a paper appearing as Northwestern University Institute for Policy Research Working Paper WP-15-02.

44 Id.

45 For a good review of this literature, see Burns, Goldsmith & Sen, “Horizontal and Vertical Integration of Physicians: A Tale of Two Tails,” in *Annual Review of Health Care Management: Revisiting the Evolution of Health Systems Organization, Advances in Health Care Management*, ed. Friedman, Goes & Savage, 39–117 (Bingley, U.K.: Emerald Group Publishing, 2013).

46 Salop & Culley, “Vertical Merger Enforcement Actions: 1994–2015,” Georgetown Law Faculty Publications and Other Works 1529 (2015), available at: <http://scholarship.law.georgetown.edu/facpub/1529>; FTC, “The FTC’s Merger Remedies 2006-2012: A Report of the Bureau of Competition and Economics,” January 2017, available at: https://www.ftc.gov/system/files/documents/reports/ftcs-merger-remedies-2006-2012-report-bureaus-competition-economics/p143100_ftc_merger_remedies_2006-2012.pdf.

47 *FTC et al. v. St. Luke’s Health System, Ltd. et al.*, No. 1:13-CV-00116-BLW (D. Id. Jan. 24, 2014).

III. CONCLUSION

Court decisions in *Hershey* and *Advocate* have reaffirmed that the flaws of E-H make it inappropriate for geographic market definition in hospital merger cases. Specifically, evidence concerning patient travel patterns must be interpreted in light of the two-stage model of hospital competition. The likely effect is that future mergers of competing hospitals in smaller metropolitan areas are likely to be blocked, absent mitigating circumstances. Such mergers may still attempt to evade federal antitrust scrutiny under the state action doctrine by pursuing Certificates of Public Advantage.⁴⁸ Time will tell whether such efforts are merely a coincidence or the beginning of a trend. Nevertheless, a number of open questions regarding federal hospital merger enforcement remain, including the agencies' treatment of urban mergers, cross-market acquisitions and vertical integration.

⁴⁸ See FTC, "Cabell Huntington Hospital/St. Mary's Medical Center, In the Matter of" (July 6, 2016), available at: <https://www.ftc.gov/enforcement/cases-proceedings/141-0218/cabell-huntington-hospitalst-marys-medical-center-matter>; Tennessee Department of Health, "COPA Application Proceedings" (May 22, 2017), available at: <https://www.tn.gov/health/article/certificate-of-public-advantage-application-proceedings>.

GETTING MARKET DEFINITION RIGHT: HOSPITAL MERGER CASES AND BEYOND

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I. INTRODUCTION

In 2016 the Federal Trade Commission (“FTC”) lost its motions for preliminary injunctions against the mergers of Penn State Hershey Medical Center with PinnacleHealth in Hershey, Pennsylvania, and Advocate Health Care with NorthShore University Health System in Northern Chicago.⁴ In both cases the district courts rejected the FTC’s geographic market definitions, arguing that they were too narrow. These losses had echoes of the 1990s when the FTC and the Antitrust Division of the Department of Justice (the agencies) suffered a string of losses in litigated hospital mergers largely (though not exclusively) related to issues of geographic market definition.⁵ This time, however, the FTC ultimately prevailed on appeal. The appeals courts concluded that the district courts erred in their analyses of the market and that the FTC correctly defined the antitrust relevant geographic markets and thus established a *prima facie* case that the mergers are anticompetitive.

These decisions strongly reinforce the use of the hypothetical monopolist test as the standard for market definition in both hospital merger cases and in horizontal merger cases in general, and clarify how it is to be used correctly. In this article we first review the process used by the agencies to define antitrust relevant markets and discuss how this process applies to the markets for

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⁴ We refer to these as *Penn State Hershey* and *Advocate Health Care* in what follows.

⁵ *California v. Sutter Health Sys.*, 84 F. Supp. 2d 1057 (N.D. Cal.), *aff’d mem.*, 2000-1 Trade Cas. (CCH) ¶ 87,665 (9th Cir. 2000), revised, 130 F. Supp. 2d 1109 (N.D. Cal. 2001); *FTC v. Tenet Healthcare Corp.*, 17 F. Supp. 2d 937 (E.D. Mo. 1998), *rev’d* 186 F.3d 1045 (8th Cir. 1999); *United States v. Long Island Jewish Med. Ctr.*, 983 F. Supp. 121 (E.D.N.Y. 1997); *FTC v. Butterworth Health Corp.*, 946 F. Supp. 1285, 1300-1301 (W.D. Mich. 1996), *aff’d*, 1997-2 Trade Cas. (CCH) ¶ 71,863, 71,867-68 (6th Cir. 1997); *United States v. Mercy Health Services*, 902 F. Supp. 968 (N.D. Iowa 1995), *vacated as moot*, 107 F.3d 632 (8th Cir. 1997); *FTC v. Freeman Hosp.*, 911 F. Supp. 1213 (W.D. Mo.), *aff’d*, 69 F.3d 260 (8th Cir. 1995); *In re Adventist Health Sys.*, 117 F.T.C. 224 (1994).

hospital services specifically. We next summarize the courts' opinions in the two recent hospital merger cases, discuss the ways in which the courts erred in their analyses, then describe the impacts the appeals courts' decisions will likely have on market definition in future merger cases, both for hospitals and in general.

II. MARKET DEFINITION

Market definition is a critical component of a horizontal merger antitrust case. It often determines the results of antitrust cases⁶ and is the focus of intense battles by the opposing parties. Plaintiffs claim narrower markets and defendants broader markets.⁷ And although there has been criticism of a rigid reliance on market definition and the market shares and measures of concentration implied by a market definition,⁸ the agencies⁹ and the courts¹⁰ have emphasized an ongoing role for market definition.

An antitrust market should be defined as the set of products and locations that exercise a significant competitive constraint on each other.¹¹ As straightforward as this definition is, when the goods or services under consideration are imperfect substitutes because of differences in characteristics or geographic location, identifying the set of suppliers and demanders that establish the price is not a straightforward exercise.

The U.S. Department of Justice introduced the "hypothetical monopolist" or "SSNIP" (Small but Significant and Non-transitory Increase in Price) test as a method for delineating markets,¹² and this approach has been adopted by competition authorities worldwide. The latest version of the Horizontal Merger Guidelines ("HMG"), issued jointly by the agencies and updated in 2010, describe the hypothetical monopolist test as follows:¹³

The hypothetical monopolist test...requires that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future seller of those products ("hypothetical monopolist") likely would impose at least a small but significant and non-transitory increase in price ("SSNIP") on at least one product in the market, including at least one product sold by one of the merging firms. For the purpose of analyzing this issue, the terms of sale of products outside the candidate market are held constant.

6 Areeda, Hovenkamp & Solow, *Antitrust Law*, 3rd ed. (Aspen Publishers, 2007); Baker, *Market Definition: An Analytical Overview*, 74 *Antitrust Law Journal* 129-173 (2007); Farrell & Shapiro, 2010, op. cit.; Jacobson et al., (eds.), *ABA Section of Antitrust Law, Antitrust Law Developments*, 6th edition, (American Bar Association, 2007); Kaplow, 2010, op. cit.; Pitofsky, *New Definitions of Relevant Market and the Assault on Antitrust*, 90(7) *Columbia Law Review* 1805-1864 (1990); *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 469 n.15, 1992.

7 E.g. *FTC v. Staples, Inc.*, 970 F. Supp. 1066 (D.D.C. 1997); *FTC v. Whole Foods Mkt. Inc.*, 548 F.3d 1028 (D.C. Cir. 2008), *United States v. Oracle, Inc.*, 331 F. Supp. 2d 1098 (N.D. Cal. 2004).

8 Farrell & Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10(1) *The B.E. Press Journal of Theoretical Economics* 1-39 (2010); Kaplow, *Why (Ever) Define Markets?*, 124 *Harvard Law Review* 437-517 (2010).

9 Section 4 in "Horizontal Merger Guidelines," U.S. Department of Justice and the Federal Trade Commission, Issued: August 19, 2010, <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf>; Fry, McGuire & Schmierer, *Horizontal Market Power: The Evolving Law and Economics of Mergers and Cartels*, 18(4) *George Mason Law Review* 819-832 (2011), <http://www.georgemasonlawreview.org/doc/18-4-CONFERENCE-REPORT.pdf>; Shapiro, *Update From The Antitrust Division: Remarks as Prepared for the American Bar Association Section of Antitrust Law Fall Forum*, (2010), <http://www.justice.gov/atr/public/speeches/264295.pdf>; Werden, *'Why (Ever) Define Markets?' An Answer to Professor Kaplow*, (2012): <http://ssrn.com/abstract=2004655>.

10 E.g. *FTC v. CCC Holdings, Inc.*, 605 F. Supp. 2d 26, 37, 39-40 (D.D.C. 2009), *City of New York v. Group Health Inc.*, No. 10-2286-cv (2d Cir. Aug. 18, 2011); Federal Trade Commission Office of Administrative Law Judges, Docket No. 9346, In The Matter Of ProMedica Health System, Inc., December 12, 2011. This is in part because of the role of precedent in case law (e.g. *United States v. E.I. du Pont de Nemours and 11 Co.*, 353 U.S. 586, 593 (1957), "Determination of the relevant market is a necessary predicate to a finding of a violation of the Clayton Act because the threatened monopoly must be one which will substantially lessen competition within the area of effective competition.")

11 Stigler & Sherwin, *The Extent of the Market*, 28 *Journal of Law and Economics* 555-585 (1985); Motta, *Competition Policy: Theory and Practice* (Cambridge University Press, 2004).

12 U.S. Department of Justice, 1982, 1982 Merger Guidelines, available at: <http://www.justice.gov/atr/hmerger/11248.htm>.

13 Horizontal Merger Guidelines, issued Aug. 19, 2010, op. cit. § 4.1.

Relevant geographic markets are defined in a similar fashion:¹⁴

The hypothetical monopolist test requires that a hypothetical profit-maximizing firm that was the only present or future producer of the relevant product(s) located in the region would impose at least a SSNIP from at least one location, including at least one location of one of the merging firms.

The SSNIP test used by the agencies ensures that a relevant market (both product and geographic) is not defined too narrowly. It begins by defining a narrow market and asking whether a hypothetical monopolist in the defined market could profitably implement a SSNIP (usually a 5 percent price increase for one year). If sufficient numbers of consumers are likely to switch to alternative products so that the price increase is unprofitable, then the firm or cartel lacks the power to raise price. The relevant market therefore needs to be expanded. The next closest substitute is added and the process is repeated until the point is reached where a hypothetical monopolist could profitably impose the SSNIP. The set of products/locations so defined constitutes an antitrust relevant market. Once the candidate market has been expanded to the point that a hypothetical monopolist would find a SSNIP profitable, an antitrust relevant market is identified.¹⁵ The focus on whether a hypothetical monopolist can profitably impose a SSNIP ensures that a relevant market (both product and geographic) is not defined too narrowly. If a SSNIP is unprofitable for a hypothetical monopolist in the candidate market, then the candidate market is too narrow, since there are suppliers outside the candidate market exerting sufficient competitive pressure to constrain prices. The candidate market must therefore be expanded by adding products or by expanding the relevant geographic area and the profitability of a SSNIP re-evaluated.

A number of other informal *ad hoc* methods have been used for market definition, such as the Elzinga-Hogarty (“EH”) test¹⁶ and Critical Loss analysis.¹⁷ The EH test, in particular, was used extensively in hospital merger cases. The method was originally developed in the 1970s to delineate geographic markets for relatively homogenous consumer goods like coal and beer; it defines a market as an area that has both low inflows and low outflows.¹⁸ A market passes the EH test if both a high level of sales (usually 75 or 90 percent) is to buyers located in the market and a similarly high percentage of buyers located in the market buys within it. As we discuss in Section V, the use of an EH-style method based on patient flows to define the geographic markets for hospital services is problematic given the unique institutional features of the market.

III. HOSPITAL MARKET DEFINITION

A. The Two Stages of Hospital Competition

Generally the demanders in a market are the individuals who both purchase *and* consume the good or service. However, the presence of health insurance introduces a third party into the mix. Insurers are the primary payers for care and individuals the consumers. This important institutional feature of health care markets means that competition occurs in two stages:

Stage one: Selective contracting for inclusion in insurers’ provider networks.

¹⁴ Id. § 4.2.

¹⁵ Id. § 4.1.

¹⁶ Elzinga & Hogarty, *The Problem of Geographic Market Delineation Revisited: The Case of Coal*, 23 Antitrust Bulletin 1-18 (1978); Elzinga & Hogarty, *The Problem of Geographic Market Delineation in Antimerger Suits*, 18 Antitrust Bulletin 45-18 (1973).

¹⁷ Harris & Simons, *Focusing Market Definition: How Much Substitution is Necessary?*, 12 Research in Law and Economics, 207-226 (1989). Critical loss is related to the SSNIP test, but suffers from some serious problems. For criticisms, see Danger & Frech, *Critical Thinking about Critical Loss in Antitrust*, 46(2) Antitrust Bulletin, 339-355 (2001); Katz & Shapiro, *Critical Loss: Let’s Tell the Whole Story*, 17(2) Antitrust 49-56 (2003); Langenfeld & Li, *Critical Loss Analysis in Evaluating Mergers*, 46(2) Antitrust Bulletin 299-337 (2001); O’Brien & Wickelgren, *A Critical Analysis of Critical Loss*, 71(1) Antitrust Law Journal 161-184 (2004).

¹⁸ The outflow percentage is the proportion of consumers who reside in that area but purchase from a seller located outside the area (e.g. the percentage of area residents who travel to a hospital located outside the area for hospital care); and the inflow percentage is the percentage of sales by firms in an area that are to consumers who reside outside the area (e.g. of all patients treated by an area hospital, the percentage who come from outside that area).

Stage two: Non-price competition among in-network providers for patient volume.

This “two-stage” model of provider competition has been used extensively in economic research on hospital price-setting¹⁹ and embraced by the FTC since its *Evanston* complaint in 2004.²⁰

In stage one, insurers construct networks of health care providers qualified to render the medical services that their enrollees may require through selective contracting. A provider network generally includes a wide variety of provider types such as hospitals, surgical centers, physician specialists and primary care practitioners. Enrollees have a strong incentive to obtain care from providers in their insurer’s network, since they pay much lower out-of-pocket costs if they obtain care from in-network providers. A provider gains from being in an insurer’s network by obtaining greater volume. Providers treat more — typically significantly more — of an insurer’s enrollees and earn greater revenues from the insurer by being in the insurer’s network.

Because there is generally a large difference in a patient’s out-of-pocket costs for in-network and out-of-network providers, enrollees generally place more value on plans with broader provider networks compared to plans with narrower networks. That is, they value more plans that give them the option of receiving care from more providers on an in-network basis.²¹ By adding a provider to its network, an insurer increases its network’s value. Network inclusion creates value for the provider as well by increasing the volume of patients that the provider can expect to receive from the insurer’s members.

Although additional providers increase the value of an insurer’s network, it does not necessarily want to include all providers in its network. Restricting the number of providers in its network gives an insurer leverage over providers to agree to lower prices in exchange for network membership. An insurer loses that leverage if it seeks to include most or all of the area’s providers in its network. In consequence, an insurer faces a trade-off: add more providers to its network to increase the network’s value or limit the size of its provider network to extract more favorable reimbursement terms.

In stage two, the health care providers in an insurer’s network compete with one another to attract the insurer’s enrollees. Because insurance eliminates or sharply attenuates differences in out-of-pocket costs, providers typically must compete for patient volume by differentiating in non-price dimensions such as clinical quality, wait-times and patient experience. The locus of price competition among health care providers is therefore stage one, where price plays a leading role in the competition for network inclusion.

B. Market Definition

To accurately capture the impact of a hospital merger on competition, a defined relevant market for hospital services must align with the principles of this two-stage model. This means that the relevant market should include all hospitals that constrain the merging parties in stage one price negotiations with insurers. These will be hospitals that are sufficiently substitutable for the merging parties, i.e. those hospitals that consumers see as good alternatives.

Although hospitals provide a broad array of medical services, both plaintiffs and defendants in hospital antitrust cases have generally agreed that the range of services within an inpatient care setting face similar competitive conditions and thus can be treated as a single “cluster” market. Since many inpatient services are too intensive to provide in an outpatient setting, the courts

19 Town & Vistnes, *Hospital Competition in HMO Networks*, 20(5) *Journal of Health Economics* 733-752 (2001); Capps, Dranove & Satterthwaite, *Competition and Market Power in Option Demand Markets*, 34(4) *RAND Journal of Economics* 737-763 (2003); Vistnes, Cooper & Vistnes, *Employer Contribution and Health Insurance Premiums: Does Managed Competition Work?*, 1 *International Journal of Health Care Finance and Economics* 159-187 (2001); Lewis & Pflum, *Diagnosing Hospital System Bargaining Power in Managed Care Networks*, 7(1) *American Economic Journal: Microeconomics* 243-271 (2015); and Gowrisankaran, Nevo & Town, *Mergers When Prices Are Negotiated: Evidence from the Hospital Industry*, 105(1) *American Economic Review* 172-203 (2015).

20 See also, Opinion, *Saint Alphonsus Med. Ctr. – Nampa Inc. v. St. Luke’s Health Sys., Ltd.*, No. 14-35173 (9th Cir. Feb. 10, 2015), at n.10 (“This ‘two-stage model’ of health care competition is ‘the accepted model.’” Citing John J. Miles, 1 *Health Care & Antitrust L.* § 1:5 (2014)). Complaint, *In re Evanston Northwestern Healthcare Corp.*, No. 9315 (2004),

21 Capps, Dranove & Satterthwaite (2003), op. cit., refer to enrollees’ preference for plans that give them the option of receiving healthcare services from a large variety of providers as “option demand.”

have recognized inpatient services as a product market distinct from outpatient services.²²

Disputes over market definition in hospital merger cases are generally over the extent of the relevant geographic market and not the scope of the relevant product market.²³

To accurately define the extent of the geographic market, one must identify those hospitals that constrain one another in stage one competition. To illustrate how the hypothetical monopolist test identifies such constraining hospitals, suppose there are three hospitals A, B, and C, where some patients prefer A to the other hospitals, some prefer B, and some prefer C. Consider patients for whom A is their first choice. If A is excluded from an insurer's provider network, patients who would otherwise select A will turn to their next-best alternative, either B or C. A network that excludes A will lose less value when patients view one of the other hospitals as a close substitute for A. For example, suppose most patients who prefer A view B as a close second and view C as a very distant substitute. The presence of B constrains A's bargaining leverage and its ability to negotiate higher prices since an insurer could substitute B for A with little impact on the value of their network. This means that A's bargaining leverage is significantly constrained by the presence of B, and its negotiated price will therefore be relatively low.

Now consider a proposed merger between hospitals A and B. Start with a candidate market that contains A and B. After the (hypothetical) merger, if an insurer cannot reach an agreement with the combined entity AB, then the value of the insurer's network would be significantly diminished since B is a close substitute for A but C is not. This leaves the insurers with significantly less attractive networks if they fail to reach an agreement with AB. This enhances the merged entity's bargaining leverage and enables them to extract a higher price. If the bargaining leverage is increased enough that entity AB can profitably impose a SSNIP, then hospitals A and B represent a relevant antitrust market.

Of course, some patients will go to hospital C instead of either A or B. It's important to recognize that this fact alone doesn't mean that A and B do not constitute a relevant market. The mere fact that some patients will go elsewhere doesn't mean that a potential market doesn't pass the hypothetical monopolist test. A and B constitute a relevant antitrust market if they can (jointly) profitably impose a SSNIP, even if some nontrivial number of patients would go elsewhere. Patient preferences over hospitals matter, but only to the extent that they affect the value placed on an insurer's provider network and the impact that has on stage one negotiations.²⁴

In general, the increase in bargaining leverage from a merger is determined by the prevalence of patients who view the merging hospitals as close substitutes and by how much they dislike having to turn to less preferred alternatives. The two-stage model of competition described above captures this fundamental of health care competition; it serves as the theoretical foundation of published economic research on provider competition; and, importantly, the empirical predictions of this framework have been verified in studies of hospital mergers, as well as in other health care services markets.²⁵ Specifically, mergers between hospitals that are close competitors generally lead to price increases.²⁶

22 See, e.g. *FTC v. OSF Healthcare Sys.*, 852 F. Supp. 2d 1069, 1076 (N.D. Ill. 2012); *FTC v. ProMedica Health Sys.*, 2011 U.S. Dist. LEXIS 33434, No. 3:11 CV 47, at *24 (N.D. Ohio 2011); *In re Evanston Nw. Healthcare Corp.*, 2007 FTC LEXIS 210, No. 9315, at *148–51 (F.T.C. Aug. 6, 2007).

23 This was true in both the *Penn State Hershey* and the *Advocate Health Care* cases.

24 If those preferences are strong enough and if there are enough of such patients, then the presence of C can defeat attempts by AB to impose a SSNIP, since enough patients would go to C to make such a price increase unprofitable.

25 Vogt & Town, *How Has Hospital Consolidation Affected the Price and Quality of Hospital Care?*, Robert Wood Johnson Foundation Synthesis Project (2006); Gaynor & Town, *The Impact of Hospital Consolidation—Update*, Robert Wood Johnson Foundation Synthesis Project (2012); Gaynor, Ho & Town, *The Industrial Organization of Health-Care Markets*, 53(2) *Journal of Economic Literature* (2015).

26 While most research focuses on prices, the market power arising from provider mergers could be exercised, in whole or in part, through reductions in the quality of services provided, and indeed there is empirical evidence that hospital mergers are associated with quality reductions as well. *Id.* See also, Cooper et al., *Does Hospital Competition Save Lives? Evidence from the English NHS Patient Choice Reforms*, 121(554) *Economic Journal* 228-260 (2011); Gaynor, Propper & Seiler, *Free To Choose? Reform, Choice, and Consideration Sets in the English National Health Service*, 106(11) *American Economic Review* 3251-57 (2016); Gaynor, Moreno-Serra & Propper, *Death by Market Power: Reform, Competition, and Patient Outcomes in the National Health Service*, 5(4) *American Economic Journal: Economic Policy* 134-166 (2013); and Kessler & McClellan, *Is Hospital Competition Socially Wasteful?*, 115(2) *Quarterly Journal*

IV. THE COURTS' INTERPRETATION OF THE FTC'S GEOGRAPHIC MARKET DEFINITION

In *Penn State Hershey* the FTC used the hypothetical monopolist test to conclude that the relevant antitrust geographic market is “roughly equivalent to the Harrisburg Metropolitan Statistical Area (Dauphin, Cumberland and Perry Counties) and Lebanon County.”²⁷ Based on this geographic market definition, the FTC argued that the merger would result in a presumptively unlawful increase in market concentration. The District Court for the Middle District of Pennsylvania rejected the FTC's market definition, found that plaintiffs did not show that they were likely to succeed on the merits, and denied the request for an injunction to block the merger.

In rejecting the FTC's market definition, the court focused on the locations and travel patterns of patients as well as the contractual agreements between the merging hospitals and two of Central Pennsylvania's largest health insurers, Capital BlueCross (“CBC”) and Highmark. The court argued that the market definition advanced by the FTC was too narrow because a large proportion (43.5 percent) of Hershey Medical Center's (“Hershey”) patients travel to Hershey from outside the four county region proposed by the FTC as the relevant market. Noting that 20 percent of Hershey's patients travel over an hour to reach Hershey, the court argued that the 19 hospitals within a 65 minute drive of Harrisburg — many of which are closer to patients who travel into Hershey — would readily offer consumers an alternative if the merged hospitals were to impose a SSNIP.

The Court also noted that the merging hospitals agreed to a five-year contract with Highmark and a ten-year contract with CBC that maintain the existing rate structures and rate differentials between the hospitals. The court therefore argued that, because the contracts prevent the hospitals from imposing a SSNIP even if it was profitable to do so, it cannot enjoin the merger based on a prediction of what might happen five years into the future after the Highmark contract expires.

In *Advocate Health Care*, the FTC's expert, Dr. Tenn, used the hypothetical monopolist test to conclude that a contiguous region that includes the four NorthShore hospitals and the two nearby Advocate hospitals represents an antitrust relevant market. Dr. Tenn excluded from the market four academic medical centers and two specialty hospitals that he referred to as “destination hospitals” because they drew patients from across the entire Chicago area. Dr. Tenn also considered two broader geographic markets. In one, he identified five additional hospitals that had at least a two percent share of the admissions in *both* Advocate's and NorthShore's service areas. In the other, Dr. Tenn identified four more hospitals that had at least a one percent share of the admissions from *either* NorthShore or Advocate's service areas. In both instances, he concluded that a hypothetical monopoly consisting of these hospitals could profitably impose a SSNIP.

Similar to the district court in *Penn State Hershey*, the District Court for the Northern District of Illinois rejected the FTC's market definition and denied an injunction. In rejecting the FTC's market definition, the court focused on the criteria Dr. Tenn used to include and exclude hospitals in his candidate market. It disagreed with the assumption that patients generally prefer to have access to local hospitals, calling the evidence that they do “equivocal.”²⁸ The court additionally argued that there is no reason a competitor must constrain both Advocate and NorthShore to be in the geographic market, and that there was no economic basis for distinguishing between academic medical centers and local hospitals.

In both cases the appellate courts rejected the district courts' opinions and reversed the denials of requests for an injunction. The U.S. Court of Appeals for the Third Circuit stated that the district court's argument suffered from the “silent majority fallacy”²⁹ and what the court referred to as the “payor problem,”³⁰ both of which arise by failing to recognize the two-stage model of competition present in the market for hospital services. The Third Circuit wrote that together “[these errors] render the [district court]'s analysis

of Economics 577-615 (2000).

²⁷ *Penn State Hershey* opinion, §II.C, pg. 6.

²⁸ *Advocate Health Care* opinion, pg. 10.

²⁹ Capps, Dranove, Greenstein & Satterthwaite, *The Silent Majority Fallacy of the Elzinga-Hogarty Criteria: A Critique and New Approach to Analyzing Hospital Mergers*, National Bureau of Economic Research working paper No. W8216.

³⁰ 3rd Cir. opinion, §1.b, pg. 19.

economically unsound and not reflective of the commercial reality of the health care market.”³¹

The U.S. Court of Appeals for the Seventh Circuit similarly argued that in rejecting the FTC’s market definition, the district court misunderstood the hypothetical monopolist test by overlooking the test’s results and misinterpreting the test’s iterations as “logical circularity.” The Seventh Circuit further concluded that the district court had three mistaken criticisms: it incorrectly found that Dr. Tenn lacked a basis for distinguishing local hospitals from academic medical centers; it erroneously determined that the evidence about patient preferences for local hospitals was “equivocal;” and, its analysis suffered from the “silent majority fallacy.”

V. DISCUSSION

The two district courts made several errors in their analyses of the relevant geographic markets. At the core of these errors was their failure to correctly apply the hypothetical monopolist test to the market for hospital services. The courts appear to have ignored the fact that hospital prices are established by negotiations between insurers and hospitals and that those prices have little effect on patient hospital choice. As a consequence, the district courts’ opinions contained arguments that relied on patient flow patterns and other faulty logic (e.g. interpreting the hypothetical monopolist test’s iterative process as circular reasoning and incorporating private pricing agreements) to conclude that the FTC’s market definitions were too narrow. We discuss these errors in more detail here.

Both the Third and Seventh Circuits observed that the district courts erred by incorporating the silent majority fallacy as a basis for their opinions — the assumption that, because there are patients who travel to a distant hospital to receive care, these distant hospitals act as a constraint on the prices that the closer hospitals can charge for those patients who do not travel.^{32,33} As both courts correctly noted, this assumption is incorrect. A patient’s hospital choice is almost entirely based on non-price factors (when choosing between in-network hospitals) such as location, clinical quality and patient experience. Thus the fact that some patients travel relatively far to receive care says little about what the (silent) majority of “non-travelers” would do in response to a post-merger price increase. Utilizing patient-flow data to define the relevant geographic market is akin to the EH test, which focuses on the number of customers who come from outside the proposed market to purchase goods and services, and the number of customers who reside inside the market but leave to purchase goods and services.

An EH-style approach was frequently utilized by courts to define geographic markets in hospital merger cases in the 1980s and 1990s. This typically produced broad geographic markets, with correspondingly low market shares and low concentration. This led to courts approving a series of hospital mergers challenged by DoJ and the FTC.³⁴ Subsequent research has shown that EH markets are too broad,³⁵ and that the mergers of closely competing hospitals result in substantial post-merger price increases, even

31 *Id.* §1.b, pg. 27.

32 In *Penn State Hershey*, the 3rd Cir. noted in its opinion that the district court relied almost exclusively on the fact that Hershey attracts many patients from outside of the Harrisburg area without acknowledging that Hershey is a leading academic medical center that provides highly complex medical services. In consequence, the 3rd Circuit argued, patients who travel to Hershey for these complex services are unlikely to go to other hospitals in the area. Furthermore, the 3rd Circuit noted that the district court created a misleading characterization of the relevant geographic market by not considering patient outflows and the undisputed evidence presented by the FTC that 91 percent of patients who live in Harrisburg use services in the Harrisburg area.

33 In *Advocate Health Care*, the 7th Circuit argued that the district court was in error to reference the high proportion of patients would seek care outside of the proposed market if their first choice hospital were unavailable as a reason to dismiss Dr. Tenn’s proposed geographic market definition. Even if a sizable minority of patients consider Northwestern Memorial — a hospital excluded from Dr. Tenn’s geographic market — as a close substitute (as indicated by the diversion ratios), the court argued, it does not follow that Northwestern Memorial could offer it as a sufficient substitute for a commercially viable insurance network. The 7th Circuit also noted that the district court’s reasoning is not precisely the same as the silent majority fallacy, which treats current travel patterns as a proxy for post-merger travel patterns, while diversion ratios predict likely post-merger travel more directly. Nevertheless, “. . . [these] share a critical flaw: they focus on the patients who leave a proposed market instead of on hospitals’ market power over the patients who remain, which means that the hospitals have market power over the insurers who need them to offer commercially viable products to customers who are reluctant to travel farther for general acute hospital care.”

34 Competition Law: Hospitals, in *Improving Health Care: A Dose of Competition*, FTC and DOJ, chap. 4 (2004). In the 1990s, the FTC and DOJ lost 6 consecutive hospital merger challenges. Capps, *From Rockford to Joplin and Back Again: The Impact of Economics on Hospital Merger Enforcement*, 59(3) Antitrust Bulletin 443-478 (2014).

35 Gaynor, Kleiner & Vogt, *A Structural Approach to Market Definition With an Application to the Hospital Industry*, 61(2) Journal of Industrial Economics 243-

though such mergers were not considered presumptively anticompetitive in the more expansive geographic markets produced by EH-style methods.³⁶

The reason an EH-style method is ineffective at identifying an antitrust relevant market for hospital services is because simply examining patient travel patterns does not indicate how insurers will respond to a hypothetical price increase. The Third Circuit correctly recognized that insurers are the party principally affected by price increases and referred to the district court's failure to account for the insurers' response to a SSNIP as the "payor problem."³⁷ The Third Circuit argued that the hypothetical monopolist test must be conducted through the lens of the insurers:

If enough insurers, in the face of a small but significant non-transitory price increase, would avoid the price increase by looking to hospitals outside the proposed geographic market, then the market is too narrow. . . . It was error for the district court to completely disregard the role that insurers play in the healthcare market.³⁸

In *Advocate Health Care*, the Seventh Circuit similarly noted that insurers are the most relevant buyers and must consider both whether employers would offer their plans and whether employees would sign up for them. The Seventh Circuit argued that "...measures of patient substitution like diversion ratios do not translate neatly into options for insurers. The district court erred in assuming they did."³⁹

In addition to failing to recognize the importance of the two stages of provider competition, the district court for *Advocate Health Care* erroneously criticized the FTC's expert for selecting the hospitals to include in the relevant market by assumption, rather than by "analyzing data." The Court cites the defense expert, saying "...you can constrain the postmerger system by constraining any [one] of its hospitals. . .," so requiring a hospital to constrain both parties to be included in the geographic market makes little sense."⁴⁰

This logic is flawed. If an omitted hospital is a sufficiently close substitute, then the SSNIP test will fail. This is precisely the purpose of the SSNIP test: to identify whether there are other hospitals that provide a strong enough competitive constraint to prevent the hospitals in the proposed market from profitably imposing a SSNIP. If there are hospitals that overlap with the service area of only one of the merging hospitals and provide such a constraint, then that proposed market would fail a SSNIP test. Similarly, a correctly defined relevant market need not include all substitutes to which customers may turn (e.g. the so-called "destination hospitals"). If the exclusion of all hospitals in the proposed market lowered the value of an insurer's network by more than the collective price increase, then that market is relevant for purposes of merger analysis. This remains true even if a sizeable share of patients travel into or out of the proposed geographic market.

The district court erred by not evaluating the FTC's market definition against this standard. In short, the key question is not whether certain hospitals are "arbitrarily" included or excluded from a proposed market but whether the hospitals in that proposed market can profitably impose a SSNIP.

289 (2013); Frech, Langenfeld & McCluer, *Elzinga-Hogarty Tests and Alternative Approaches for Market Share Calculations in Hospital Markets*, 71(3) *Antitrust Law Journal* 921-947 (2004).

36 Capps & Dranove, *Hospital Consolidation And Negotiated PPO Prices*, 23(2) *Health Affairs* 175-181 (2004); Dafny, *Estimation and Identification of Merger Effects: An Application to Hospital Mergers*, 52(3) *The Journal of Law & Economics* 523-550 (2009); Haas-Wilson & Garmon, *Hospital Mergers and Competitive Effects: Two Retrospective Analyses*, 18(1) *International Journal of the Economics of Business* 17-32 (2011); Tenn, *The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction*, 18(1) *International Journal of the Economics of Business* 65-82 (2011).

37 3rd Cir. opinion, §1.b, pg. 21.

38 *Id.* §1.b, pg. 23.

39 7th Cir. Court opinion, §III.D, pg. 25.

40 *Advocate Health Care* opinion, pg. 13.

In *Penn State Hershey* the district court additionally erred in incorporating the contractual agreements between the merging hospitals and the insurers, Highmark and CBC. As the Third Circuit noted, the hypothetical monopolist test is based on what a hypothetical monopolist would do, free of any price caps or contractual limits.

VI. CONCLUSION

The rulings for *Penn State Hershey* and *Advocate Health Care* threatened to turn back the clock on hospital merger enforcement to the 1990s, when EH-style flow-based analyses were *de rigueur*. A return to their use by the courts would have been a mistake. Patient flow-based analyses generate unreliable and incorrect conclusions regarding hospital market definition and market power. Their application to hospital markets has been thoroughly discredited by many economists, including Professor Elzinga, one of the originators of the approach.⁴¹ Fortunately the appeals courts correctly identified the flaws with using this approach to define markets and reversed the district courts' decisions.

These decisions reinforce the use of the hypothetical monopolist test as the correct standard for market definition in horizontal merger cases generally, and clarify how it is to be used correctly. This is a welcome development that will help lead courts to better decisions in both health care and merger cases in general.

⁴¹ Elzinga & Swisher, *Limits of the Elzinga-Hogarty Test in Hospital Mergers: The Evanston Case*, 18(1) International Journal of the Economics of Business 133-146 (2011). Professor Elzinga himself testified in a hospital merger case that the test was not appropriate for healthcare provider markets. *In re Evanston Northwestern Healthcare*, No. 9315, 2007 WL 2286195, at **63–66 (FTC Aug. 6, 2007).



HOSPITAL MERGERS – RETROSPECTIVE STUDY TO IMPROVE PREDICTION

BY CHRISTOPHER GARMON ¹



Weather forecasting — once notoriously unreliable — has become extremely accurate in recent years. The forecasts for catastrophic storms, such as hurricanes, were once no more than educated guesses. Now, hurricane forecasts are relatively precise and rapidly improving. Since the turn of the twenty-first century, the U.S. National Hurricane Center's mean error for a two-day forecast track has fallen from 130 nautical miles to 60.² The improvements have come about due to better forecast models, more extensive observations of the atmosphere with which to calibrate the models and the rigorous analysis of past hurricanes and the accuracy of the forecast models in those events.

By comparison, the science of forecasting the effects of hospital mergers is in its infancy. However, much progress has been made in the past 20 years, through the development of more realistic models and the rigorous analysis of consummated hospital mergers and other events. Where hospital merger forecasting lags behind other predictive sciences most acutely is the collection of reliable data. Also, unlike physical sciences like meteorology, hospital merger forecasting aims to predict the behavior of individuals, which presents its own unique analytical challenges.

Modern hospital merger forecasting in the U.S. traces its roots to the 1990s — a period of crisis for hospital antitrust enforcement. After an era of relative success challenging hospital mergers, the federal and state antitrust agencies lost in eight straight attempts to block alleged anticompetitive hospital mergers. Reviews of this period point to two primary factors for the antitrust agencies' lack of success. First, courts of this period relied on patient flow statistics to establish relatively large geographic markets (and, thus, a low inferred probability of post-merger harm) even when the merging hospitals were close substitutes. Second, courts of this period were swayed by non-profit defendants' arguments that they would not exercise any market power obtained or enhanced by the merger.

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² http://www.nhc.noaa.gov/verification/figs/GPRA_track.jpg.

This losing streak of the U.S. antitrust enforcers spurred an explosion of research into the effects of hospital competition. Many researchers studied the cross-sectional relationship between hospital competition and market outcomes, such as clinical quality and the price charged to commercial payers. Generally, these studies established that, all else equal, competition leads to lower prices and higher quality on average in hospital markets, similar to its effect in non-hospital markets. Other articles analyzed the effects of past hospital mergers. The studies in this latter literature that looked at a sample of mergers of competing hospitals usually found that the mergers resulted in higher prices on average. Case studies of individual mergers had more mixed results. However, the individual case studies established that mergers of competing non-profit hospitals can, in some cases, lead to substantial price increases (refuting the argument that non-profits would never exercise market power obtained through a merger). In addition, the case studies documented large price increases for some mergers of competing hospitals located in large metropolitan areas containing many other hospitals, indicating that relevant antitrust markets may be much smaller than traditional flow statistics would suggest. Finally, the case studies established that the price effects for a particular merger could vary substantially across the commercial payers who contract with the merging hospitals.

This empirical literature was quickly complemented by a theoretical literature that developed new tools and methods for analyzing proposed hospital mergers and predicting their effects. The focus of this new theoretical literature was on the negotiation between the hospital and health insurer for the hospital's inclusion in the insurer's network of providers. One new tool developed from this bargaining framework is Willingness-to-Pay ("WTP"), which is a proxy for a hospital system's leverage in negotiations with health insurers and can be used to approximate the change in leverage when competing hospitals merge. WTP was used by the plaintiff's economic expert in most of the Federal Trade Commission's ("FTC") recent challenges of hospital mergers. Another tool, Upward Pricing Pressure ("UPP"), which was developed to analyze mergers in markets with product or geographic differentiation, was adapted to fit the hospital/health insurer bargaining framework. UPP became a centerpiece of the FTC's two most recent hospital merger challenges, against the proposed merger of Pinnacle Health and Penn State Hershey in central Pennsylvania and the proposed merger of Advocate Health and NorthShore University Health in the Chicago area. Both WTP and UPP are based on the predictions of econometric models of patient choice that estimate how patients would change their behavior if a hospital or health system were dropped from their health insurer's network.

However, little work has been done, until recently, to evaluate the accuracy of the new tools and better understand their advantages and limitations. How do the econometric patient choice models perform in predicting actual changes in patient behavior in response to the loss of a hospital from the patient's options? How well do the new tools (WTP and UPP) perform in predicting the effects of hospital mergers? Do they do a better job of forecasting than the traditional methods of market definition and concentration measurement? Are there models and tools that are more accurate than WTP and UPP? If so, what data are necessary to calibrate them? These are the same type of questions that weather forecasters grappled with to evaluate and improve their models. However, unlike weather forecasters studying storms and the physical, thermodynamic processes that dictate their behavior, economists studying hospital mergers must account for the behavior of hospital executives and patients, which presents unique analytical challenges.

For instance, consider the first question above: How well do econometric patient choice models perform in predicting changes in patient behavior when a hospital is dropped from a health insurer's network? You might think that the best way to answer this question would be to look at instances in which a hospital was dropped from a health insurer's network, see how patients responded, and compare these responses to the models' predictions. However, health insurance network construction is a function of consumer preferences. If you observe patients switching to another hospital after a hospital is dropped from a health insurer's network, it might be in response to losing this choice. It might also be the case that the dropped hospital was becoming less popular with patients and that's why it was dropped. How can a researcher disentangle this "chicken and egg" problem: Did patients switch in response to the hospital being dropped or was the hospital dropped in response to a change in patient preferences?

Three FTC economists developed a novel way to avoid this problem and test the accuracy of patient choice models.³ And, appropriately, it involves using severe weather phenomena like hurricanes and tornados. Occasionally, a storm is so severe that it damages a hospital to the point where it must be closed for an extended period of time for repair. The FTC economists used these hospital closures to test the accuracy of the choice models, knowing that the hospitals were closed by an “Act of God,” not because they were losing patients. They compared each model’s prediction of how patients would respond to the patients’ actual change in behavior after the hospital’s closing. They found that the patient choice models that form the basis of hospital merger forecasting are accurate and particular combinations of the models are even more accurate at predicting patient behavior.

What about the accuracy of WTP and UPP? How well do these measures predict the outcomes of hospital mergers? Testing the accuracy of merger screening tools, like WTP and UPP, using actual hospital mergers also presents empirical challenges to overcome. First, imagine the ideal laboratory for testing merger screening tools like WTP and UPP. In this ideal laboratory, a scientist could select hospitals at random to merge, calculate the upward pricing pressure and change in leverage (as measured by the change in WTP) associated with each merger of random hospitals, and then observe what actually occurred after each merger (measuring the outcomes relative to a suitably chosen group of control hospitals that did not merge). The scientist in charge of this ideal lab could then compare the predictions of WTP and UPP to the actual outcomes for each randomly selected set of merging partners to evaluate the accuracy of these predictions.

Unfortunately, the real world does not resemble this ideal laboratory. In particular, hospitals are not randomly selected to merge. There are reasons hospitals merge (e.g. because one hospital is failing, because the combination will lead to lower costs, etc.) that might affect the post-merger outcomes in non-random ways. Most relevant for the evaluation of screening tools like WTP and UPP is the fact that these tools are in active use by the antitrust agencies. Because of that, mergers that WTP and UPP would be likely to flag as anticompetitive are likely to be blocked by the antitrust agencies or never proposed in the first place. Thus, the mergers that can be used to test the accuracy of WTP and UPP in the real world are most likely to be those that WTP and UPP would not flag as anticompetitive. It’s as if hurricanes that the weather models predicted would be severe decided to dissipate on their own because of the prediction. Obviously, that would make it challenging to test the accuracy of weather models against actual hurricanes.

For this empirical challenge, there are no perfect solutions. Instead of looking at hospital mergers, some economists have tested how well WTP explains differences in hospital prices that other factors cannot explain.⁴ Other ongoing research tests WTP and UPP in a virtual world where hospitals are randomly selected to merge.⁵ My own research looks at actual hospital mergers, but focuses on mergers in periods with less effective antitrust enforcement and excludes mergers involving failing hospitals and cost reductions.⁶ Overall, this recent research tends to show that the new tools (WTP and UPP) are more accurate at predicting the outcomes of hospital mergers and explaining price variation than the traditional tools of market shares and concentration.

However, the new hospital merger screening tools, while more accurate than traditional methods, are not perfect predictors of hospital merger effects. In particular, both WTP and UPP are based on the “first-order” incentives of hospitals and health insurers in their post-merger negotiations. Neither measure accounts for the “second-order” feedback effects that occur in the shift to a new post-merger equilibrium. Just as weather forecasters developed better models to account for the complex feedback effects in the atmosphere, economists have recently attempted to build richer models of hospital competition that incorporate the additional complexities and feedback effects of health care markets. For instance, the structure of local health insurance markets may impact hospital competition and some recent articles attempt to model both markets simultaneously to better understand the feedback effects between the health insurance and hospital markets.⁷ Other recent models of hospital competition incorporate coinsurance

3 Raval, Rosenbaum & Wilson, (2016, May). Industrial Reorganization: Learning about Substitution Patterns from Natural Experiments. *FTC Bureau of Economics Working Paper #329*.

4 Dranove & Ody, (2016). Evolving Measures of Provider Market Power. *American Journal of Health Economics*, 2(2), 145-160.

5 Brand & Balan, (2017). *Simulating Hospital Merger Simulations*. Working Paper.

6 Garmon, (Forthcoming). The Accuracy of Hospital Merger Screening Methods. *The RAND Journal of Economics*.

7 Ho & Lee, (Forthcoming). Insurer Competition in Health Care Markets. *Econometrica*.

and patient responsiveness to price, even for hospitals within the patient's network.⁸ Some industry observers have speculated that hospital mergers may impact competition even when the merging hospitals serve different patients. Recently, models have been developed to explore and estimate the effects of these “cross-market” hospital mergers.⁹

Although these new models incorporate more features of hospital and health care markets and may be more accurate at forecasting hospital mergers, a significant limitation of the models is the information and data needed to calibrate them. One big practical advantage of WTP is that it can be calculated from patient discharge data, which most states collect and make available to researchers. However, many of the recent, more detailed models require more detailed health insurance claims data. Far fewer states collect the all-payer claims data (“APCD”) needed to calibrate many of the recent models of hospital competition and fewer still make this data available to researchers. Even then, many state collections of APCD are relatively new and only capture a small number of past hospital mergers. Private collections of health insurance claims data either mask the identity of the hospital (making research on hospital mergers impossible) or contain only a subset of health insurers.

Continuing progress in the quest for more accurate methods of hospital merger prediction will depend on data collection and availability. Unfortunately, a recent U.S. Supreme Court decision (*Gobeille v. Liberty Mutual Insurance Co.*) casts doubt on the ability of states to collect the type of data most likely needed to advance our understanding of hospital competition. In that decision, the court ruled that states do not have the power to compel employer-sponsored health plans to provide their data if the health plans are governed by the federal Employee Retirement Income Security Act (“ERISA”), as many are. States may attempt to collect the data voluntarily or they may wait for more guidance from the Department of Labor, which regulates ERISA health plans. Either way, the challenge of obtaining the data needed to better understand health care competition may continue.

Another shortcoming of hospital merger prediction to date is its almost exclusive focus on price. Hospital mergers may also affect quality and access to care, but these aspects of health care are more difficult to measure than price. Although there is a large literature on the relationship between competition and hospital quality, there is relatively little research describing the effects of hospital mergers on quality. The literature that does exist focuses almost exclusively on outcome measures of quality (e.g. mortality rates) and describes mixed results. This is consistent with theoretical predictions of the effect of a loss of competition on quality. Whereas theory predicts that a merger of competing hospitals will lead to increased bargaining leverage and an increase in price (absent other changes, such as cost savings), the effect of a merger on quality is theoretically ambiguous when prices are negotiated.¹⁰ However, such ambiguity would argue for more research, not less. What factors typically lead to improved quality after a hospital merger and what factors typically lead to a decline? What about other aspects of quality apart from clinical outcomes? How do hospital mergers affect things like customer service, the ability of a patient to get an appointment or the waiting time before a surgical procedure? These issues are largely unexplored and should be a focus of future research.

Overall, hospital merger research and prediction has come a long way in a relatively short period of time. It is nowhere near the level of accuracy of current weather forecasting. Given the empirical challenges health economists face that weather forecasters do not, hospital merger forecasting may never reach weather forecasting's level of accuracy. Still, the importance of the hospital industry to the U.S. economy, and the rapid pace of hospital consolidation in recent years, necessitates that we continue to research hospital mergers and develop better methods to predict their effects.

8 Gowrisankaran, Nevo & Town, (2015, January). Mergers When Prices are Negotiated: Evidence from the Hospital Industry. *American Economic Review*, 105(1), 172-203.

9 Dafny, Ho & Lee, (2016). The Price Effects of Cross-Market Mergers. *NBER Working Paper #22106*.

10 Gaynor, Ho & Town, (2015). The Industrial Organization of Health Care Markets. *Journal of Economic Literature*, 53(2), 235-284.

MERGER-SPECIFICITY OF QUALITY AND COST EFFICIENCIES IN HOSPITAL MERGER CASES

BY DAVID J. BALAN ¹



I. INTRODUCTION

The most basic result in the economic analysis of horizontal mergers is as follows. A merger eliminates whatever competition had existed between the merging firms. If the eliminated competition is significant, the merger would tend to harm consumers through some combination of higher prices and lower quality. But mergers may also generate efficiencies, meaning that the merged firms might be able to do something better or cheaper together than they could do on their own. A cost efficiency reduces the cost of producing a unit of output which, insofar as it is passed through to consumers, tends to reduce price. A quality efficiency reduces the cost of producing a unit of quality (holding output constant), which tends to increase quality. The principal goal of an antitrust analysis of a horizontal merger is to determine its likely effect on price and quality.² The greater the lost competition, the larger the negative effects of the merger are likely to be, and therefore the larger the efficiencies must be in order to render the merger benign.³

The purpose of this article is to lay out one important point regarding the analysis of potential efficiencies, specifically those efficiencies that are only achievable via a merger.⁴ The discussion will focus on efficiencies in hospital mergers (in which analysis of quality effects plays a particularly large role),

¹ Bureau of Economics, Federal Trade Commission. The views expressed in this paper are those of the author and do not necessarily reflect those of the Federal Trade Commission.

² The 2010 DOJ/FTC Horizontal Merger Guidelines use the following language: "To make the requisite determination, the Agencies consider whether cognizable efficiencies likely would be sufficient to reverse the merger's potential to harm customers in the relevant market, e.g. by preventing price increases in that market." (U.S. Department of Justice & the Federal Trade Commission. (2010). *Horizontal Merger Guidelines*. Retrieved July 12, 2017, from FTC Web site: <http://www.ftc.gov/os/2010/08/100819hmg.pdf>.)

³ Ideally, all of the merger's effects would be readily quantifiable and comparable. This is often not the case. Nevertheless, it is often possible to conclude with high confidence that a merger will be (or will not be) harmful on balance even absent complete quantification.

⁴ Some efficiencies might be achieved independently by the would-be merging firms, or through non-merger partnerships of some kind. The discussion in this article assumes that this is not possible, and that the efficiencies under consideration would only be achieved via a merger.

but some of it may apply in other industries as well. The point, simply stated, is that whether or not a merger efficiency is rooted in geographic proximity between the merging hospitals will often be a key question in determining whether that efficiency is merger-specific.

II. BACKGROUND

The analysis of merger efficiencies is discussed in detail in the 2010 DOJ/FTC Horizontal Merger Guidelines. In order for an efficiency to be “cognizable” (i.e. to count against the harm caused by lost competition), it must be verifiable. That is, there must be good reason to believe that the efficiency will actually happen. This is common sense; if the efficiency will not occur, then it should not be weighed against the merger harm. And since efficiencies are much easier to claim than they are to achieve, vague or aspirational claims should be regarded with skepticism. Throughout this article, I abstract from this and assume that the efficiencies under consideration are verifiable.

More importantly for the purposes of this article, a cognizable efficiency must also be merger-specific, meaning that it must be an efficiency that would be achieved by the merger but would not be achieved absent the merger. Again, this is common sense. If an efficiency would be achieved absent a competition-reducing merger, then there is no reason to permit the merger and suffer the resulting competitive harm in order to realize it.

Among the verifiable efficiencies, the portion that is merger-specific, and is therefore cognizable, is only the *increment* by which the merger efficiencies exceed those that would occur but-for the merger. As noted above, these but-for alternatives may include actions that the merging firms would take on their own, or things that they would do through non-merger affiliations. But the focus of this article is on efficiencies that will only be achieved through a merger, so the relevant comparison is between those that would be achieved through the merger under review and those that would be achieved through an alternative merger.

The alternative merger (which we assume does not generate competitive concerns of its own) will be with the hospital’s *most preferred choice* among willing partners. This will not necessarily be the single most efficiency-generating merger, as there may be other factors besides efficiencies that influence the choice of a merger partner. But unless efficiencies and those other factors are negatively correlated, the most preferred merger is likely to be among the more efficiency-generating ones. For this reason, the increment between the efficiencies from the merger under review and those from the most preferred alternative could be small, or even negative.

This focus on merger-specificity has the beneficial effect of directing attention to what is relevant. Merging firms frequently claim that the transaction will improve quality, reduce costs or both. Firms also often claim that the merger will advance other important goals, such as providing clinically integrated care, or improving healthcare in distressed communities. But unless they are shown to be merger-specific efficiencies, they do not count under the Horizontal Merger Guidelines.⁵

III. GEOGRAPHICALLY PROXIMATE VS. NON-PROXIMATE EFFICIENCIES

In many merger cases, particularly cases involving hospitals and other healthcare facilities, the competitive harm from the merger is rooted in the geographic proximity between the merging firms’ facilities. All else equal, hospitals that are proximate to each other are much more likely to be close substitutes in the eyes of patients, and antitrust economics predicts that mergers between firms that are close substitutes in the eyes of their customers are more likely to lead to competitive harm, especially when non-merging firms are distant substitutes. Certain factors that are particular to healthcare mergers, notably the role played by insurance intermediaries, complicate the analysis somewhat, but the same basic principles apply. For this reason, FTC challenges of hospital and other

⁵ Healthcare is constantly changing, and hospitals routinely have plans to implement beneficial new practices. For these plans to qualify as merger-specific efficiencies, it must be that they will be implemented with the specific merger under review and would not be implemented otherwise. It is not valid to point out an improvement that is occurring around the same time as the merger and ascribe its benefits to the merger.

healthcare provider mergers almost always involve geographically proximate facilities.^{6,7}

In hospital mergers, geographic proximity also plays a role in the efficiencies analysis. To see why, consider a merger between two proximate hospitals that significantly reduces competition.⁸ Suppose that this merger has a number of verifiable efficiencies, and that these efficiencies can be cleanly divided between those that are rooted in geographic proximity and those that are not (in the real world there may be intermediate cases). I consider each in turn.

A. Proximity-Based Efficiencies

Proximity-based efficiencies, by definition, can only be achieved through mergers with proximate partners. These efficiencies can only be achieved either through the merger under review or through a merger with another proximate firm. But there may be few or no other proximate firms, and any such firms may not be interested in a merger, or they may be unsuitable partners for some reason. Moreover, the fact that these firms are also proximate may mean that merging with them would be competitively harmful as well. The relative paucity of willing, suitable, non-competitively-problematic alternative partners through which to achieve proximity-based efficiencies provides a reason why those efficiencies are likely to be largely merger-specific.

A full discussion of which particular hospital merger efficiencies are rooted in geographic proximity is beyond the scope of this article, as is a discussion of the magnitudes of the ones that are deemed to be so. That said, a list of frequently offered candidates, accompanied by very incomplete discussion, is as follows:

- **Consolidation of services with a demonstrated volume/outcome relationship**

For some procedures and treatments (usually complex ones) there is evidence that hospitals that perform a higher volume of procedures achieve better outcomes. (Importantly, the evidence does not support a general volume/outcome relationship.) Following a merger between proximate hospitals, one or more of these services could be consolidated at one facility. If the pre-merger volumes were low enough that the increase in volume is likely to lead to better outcomes (which would not be the case if pre-merger volumes are sufficiently high at both hospitals), then this would count as a merger-specific quality efficiency. Note, however, that even with proximate hospitals, the consolidation will increase travel times for some patients, which could lead to worse outcomes for those with time-sensitive conditions. Also note that the consolidation would eliminate the most preferred option for some patients.⁹

- **Merging Electronic Health Records (“EHR”) systems**

When a patient is being treated in a hospital, there is value in having all medical records immediately available. For example, suppose that a patient is admitted to Hospital *A*. Also suppose that the patient had recently had an imaging scan performed at a center affiliated with Hospital *B*. Before the merger, the results of the scan might not be immediately available to the physicians at *A*, and the scan might even be unnecessarily repeated. If as a result of the merger the two EHR systems were merged, the scan would be immediately available, which has value. This efficiency is proximity-based; if the two hospitals were far apart, there would be few patients who were first treated in one and later treated in the other. The magnitude of this efficiency will depend on the clinical importance of the information, and

⁶ There is some recent economic research suggesting that mergers between non-proximate facilities can cause higher prices. Discussion of this research is beyond the scope of this article, except to note that to date no FTC merger cases have been brought based on this research.

⁷ Geographic proximity is not strictly required for a merger to cause a competitive problem. One could imagine, for example, two hospitals that perform extremely complex procedures that are performed at only a handful of high-end academic medical centers in different parts of the country. If most of the patients who receive those procedures must travel long distances regardless, then mergers between hospitals that are located very far apart from each other may be problematic. That said, all of the recent FTC hospital merger cases, listed in Balan (2017), involved mergers of geographically proximate facilities. (Balan, “Competitive Effects of Hospital Mergers,” under review at *Netherlands Economic Review*, 2017.)

⁸ If the merger did not significantly reduce competition, then the question of efficiencies would never be reached.

⁹ There is often reason to question the verifiability of clinical consolidation claims. The reason involves what is sometimes called “leakage.” If one of the merging hospitals stops doing a procedure, not all of its patients will go to the merger partner instead. Some will “leak” to non-merging rivals. If the leakage is large enough, it provides a strong financial reason not to follow through with the consolidation.

also on how easily it could be obtained through other means, either directly from *B* or through other avenues such as Health Information Exchanges.

- **Movement of Personnel between facilities**

As discussed in Romano & Balan (2011),¹⁰ one way that a hospital merger could generate clinical quality efficiencies is if one of the hospitals enjoys “clinical superiority” over the other. If one hospital is simply better run, and if there is a way for that hospital’s superior management practices to be transferred to the weaker hospital, that could constitute an efficiency.¹¹ Whether or not the efficiency is proximity-based depends on the mechanism by which those superior practices will be transferred. If it is simply a matter of leadership or resources, then the benefits potentially would be achieved with a non-proximate partner, and so would not be proximity-based. But if the transfer of practices will arise because of an in-person physical connection between personnel, say with staff cycling from one hospital to the next to observe and implement best practices, then the efficiencies would be proximity-based. Proximity might also matter for a different reason, namely that a proximate hospital that is already involved in the community might be the only one that is willing to take on the project of improving the weaker hospital. These efficiencies would be proximity-based as well. In cases involving a clinical superiority argument, these questions are of central importance.

- **Capital Cost Avoidance**

In some cases, merging firms argue that the merger will allow them to avoid a large capital expenditure that they otherwise would make. For example, Hospital *A* might claim that it is capacity constrained, necessitating the construction of a new bed tower at a cost of \$100M. But Hospital *B* has unused capacity. If the merger occurs, *A* will shift some of its patients to *B*, alleviating the congestion at *A* and eliminating the need for the new tower.¹² (There may be reasons unrelated to merger-specificity why such a claim would not be cognizable. The capital cost avoidance in question may result from an anticompetitive reduction in output, or it may fail to lead to a reduction in the marginal cost of capital.¹³ There may also be uncertainty about whether the decisions regarding the capital cost plans were made completely independently of the merger. But for the purposes of this discussion we assume that these reasons do not apply.) Assuming there is no way the hospital would gain access to the necessary additional space by alternative means that are less competitively harmful, efficiencies of this nature are rooted in geographic proximity, because Hospital *A* could not alleviate congestion by shifting patients to a non-proximate partner.¹⁴

10 Romano & Balan, “A Retrospective Analysis of the Clinical Quality Effects of the Acquisition of Highland Park Hospital by Evanston Northwestern Healthcare,” *International Journal of the Economics of Business*, 18(1), 2011: 45-64.

11 See Feinstein (2014) for a discussion of how clinical superiority claims are evaluated. (Feinstein, “Antitrust Enforcement in Health Care: Proscription, not Prescription,” *speech at the Fifth National Accountable Care Organization Summit – Washington, DC*, June 19, 2014.)

12 Similar claims are often made involving expensive new equipment like imaging scanners, where the merging hospitals say that they would have bought an additional scanner, but that the merger will eliminate the need to do so. The analysis of these claims is similar to that of the bed tower.

13 Capital cost avoidance claims are usually fixed-cost efficiencies, not variable cost efficiencies, and so are less likely to be passed through to consumers. Whether or to what extent fixed-cost efficiencies should be credited depends on one’s opinion about how to weigh consumer surplus vs. producer surplus. This question is beyond the scope of this article.

14 However, the \$100M figure in this example likely overstates the efficiency, as it ignores several factors that should be taken into account, including: (1) any direct costs associated with adapting *B* for the additional patients who would otherwise have gone to *A*; (2) the extent to which using the spare capacity at *B* is less good for consumers than the (brand new) bed tower would have been; (3) the fact that the patients who are moved from *A* to *B* will now be using their second choice hospital instead of their first. (This harm is mitigated, but not eliminated, by the fact that *A* and *B* are (by assumption) close substitutes, which implies that a substantial number of consumers are readily willing to switch between them); and (4) any negative effects of the influx of new patients at *B*. (Unless there was a lot of slack capacity at *B* prior to the merger, those new patients from *A* will increase congestion at *B*, for example by increasing the demands on facilities and equipment such as operating rooms and imaging scanners. This would affect the patients who would have used *B* even absent the merger.) These costs may or may not be large, and they may be difficult to measure, but if they are material they should be taken into account in evaluating this type of efficiency.

B. Non-Proximity-Based Efficiencies

Now consider efficiencies that are not rooted in geographic proximity. There may be many more possible merger partners for realizing these efficiencies than there are for realizing proximity-based ones. This creates doubt about whether non-proximity-based efficiencies are likely to be merger-specific. The greater the number of potential alternative partners, the more likely it is that one of them (specifically the most preferred of them) would also generate large non-proximity-based efficiencies.

Ideally, it would be desirable to identify all of the willing alternative merger partners, and to evaluate the efficiencies that would be realized with each of them. Sometimes it is possible to obtain documents or testimony regarding alternative mergers that the merging parties also considered.¹⁵ But often there is little or none of this documentation. For a variety of reasons, the merging hospitals may not have actively considered alternative partners.

Absent clear, case-specific evidence regarding the set of alternative partners and the efficiencies that would be achieved with them, what can be done? One possibility in those circumstances would be to credit *all* non-proximity-based efficiencies as merger-specific. But this would wrongly credit many efficiencies that are not in fact merger-specific.

A better approach is to attempt to establish some broad principles that can inform how large the set of willing alternative partners is likely to be, and what portion of the non-proximity-based efficiencies from the merger are likely to be realized with the most preferred partner in this set. These principles, combined with case-specific evidence, can help to establish how much weight should be given to different kinds of non-proximity-based efficiency claims. Below is an outline of what those principles might be.

But before laying out these principles, it is important to emphasize that they do not represent an attempt to establish a formal legal or policy standard for how to evaluate one kind of efficiency or another. Nor are they intended to rule in or rule out any specific category of efficiency claim. Rather, they are an attempt to frame the problem in a way that will be useful and tractable given the limited evidence available in real-world cases.

We now turn to the principles. First and most obviously, the set of alternative merger partners through which non-proximity-based efficiencies would be achieved only includes firms that would actually be willing to merge. This point is reflected in the Horizontal Merger Guidelines, which state that only “practical” alternatives to the merger under review will be considered. As noted above, direct evidence on this is often not available, but it may be possible to determine whether a hospital has attributes that make it attractive to potential partners. For example, there may be evidence on whether similar hospitals had recently been purchased, or had attracted serious interest in the form of a bid or an offer. There may also be evidence on whether an aggressively expanding system had recently acquired or expressed serious interest in similar hospitals. Other attributes such as being located in a particular part of the country, or having a particular religious affiliation, may be relevant as well.

Aside from the general fact that hospital mergers between non-proximate partners are common, there is also some direct empirical evidence on this point. As reported in Balan (2016),¹⁶ there were four recent cases in which the FTC took an enforcement action to block a merger, and for which the final disposition of the would-be acquired facility was known at the time the article was written. All four found alternative partners following the FTC’s enforcement action. The fact that these alternative partnerships occurred suggests that they involved non-proximity-based efficiencies that were at least large enough to justify the merger.

Second, the nature of the non-proximity-based efficiencies matters as well. Some are more clearly achievable through an alternative merger than others. While certainly not a complete typology, the following examples provide a broad sketch of some factors to be considered.

¹⁵ Sometimes alternative partners publicly declare an interest in merging with one of the parties to the merger under review. When this happens, it is obviously useful evidence. But even then, there is often no detailed analysis of which non-proximity-based efficiencies such a merger would achieve.

¹⁶ Balan, “Hospital Mergers That Don’t Happen,” *NEJM Catalyst*, 2016 (<http://catalyst.nejm.org/hospital-mergers-dont-happen/>).

- **Efficiencies arising from pure economies of scale**

Some efficiencies come from an increase in the pure size of a hospital system. One commonly-claimed efficiency in this category is that higher total patient volume makes it easier for the merged entity to enter into risk-based contracts. This benefit comes from size alone, which means that these efficiencies would be realized through a merger with *any* willing alternative partner of the same size. Similarly, scale-based efficiencies from combining back-office administrative functions are likely to be achievable with nearly any potential partner.

- **Non-proximity-based clinical quality efficiencies**

As discussed in Romano & Balan (2011), one possible source of quality efficiencies is when one hospital is clinically superior to the other, and can export its superior practices. As noted above, some part of this may be proximity-based. But what about the part that is not proximity-based? This can be quite nuanced. For example, suppose a high-quality, but not outstanding, hospital system proposes to buy a lower quality hospital. Insofar as the weaker hospital appears likely to be attractive to similar-quality systems, this efficiency is unlikely to be merger-specific. At the other extreme, suppose that the would-be acquired hospital is in such poor condition that it is not an attractive merger partner, and so it is likely that *only* the proposed merger partner is willing to take it on, essentially as a public service. In this case, the efficiency would likely be credited as merger-specific.¹⁷ Intermediate instances are also possible. For example, the proposed acquirer could be of unusually high quality. In that case, it may be better than the best of the alternative acquirers, and so some portion of the efficiencies should be credited. For another example, suppose the proposed acquirer is known to have a specific strength, say successful infection-reducing protocols, and the proposed acquired hospital is weak in this area. It is possible that the most preferred of the alternative acquirers would have a similarly good protocol. But it is also possible that it wouldn't. The more specific the efficiency, the less justified is an assumption that it would be realized with an alternative partner.

IV. CONCLUSION

Analysis of efficiencies is central to the evaluation of horizontal mergers. This is true of both cost efficiencies and quality efficiencies. Quality efficiencies loom particularly large in cases involving mergers of hospitals and other healthcare facilities. The correct way to evaluate efficiency claims, specifically regarding whether or not the claimed efficiencies are merger-specific, can be somewhat subtle. The purpose of this article is to illuminate one of these subtleties, namely the role that geographic proximity or non-proximity between the merging firms plays in determining whether efficiencies are merger-specific.

¹⁷ As noted above, such an efficiency might be thought of as proximity-based insofar as the interest of the buyer is the product of its involvement in the local community.

A NOVEL LOOK AT ANTITRUST ANALYSIS IN HEALTH INSURANCE MARKETS

BY BARAK D. RICHMAN & KEVIN A. SCHULMAN ¹



I. INTRODUCTION

Health care markets are in constant evolution. But the remarkable proposals for mergers of four of the five largest health insurance companies in the United States, Anthem with Cigna and Aetna with Humana, would have transformed the industry. The U.S. Department of Justice (“DoJ”) filed to block the mergers due to concerns over market concentration in the large employer market (in the case of the *Anthem-Cigna* merger) and in the Medicare Advantage and the Affordable Care Act exchange markets (in the case of the *Aetna-Humana* merger).

In both cases, the DoJ did a thorough and skillful job of defining markets, measuring market share and finding hotspots where the mergers would create presumptively illegal market concentration. When the insurers claimed the mergers would generate certain efficiencies, the DoJ successfully rebutted their efforts and cast dispersion on the claims that savings would be achieved and transmitted to customers.

A less obvious but more revealing — and more alarming — narrative focuses on how the insurance industry arrived at a point where four of the “big five” were in a position to request these megamergers. By nature, the antitrust cases focused on narrow definitions of specific markets and the likely impact of these mergers. The cases omitted a broader discussion of the forces acting on the health care market that brought these proposals forward. This would have been an instructive exercise, both in evaluating these merger agreements and in preparing for further merger proposals that are sure to come.

In this paper, we examine the structure of health care markets, examine some specific questions about antitrust theory in this case, examine alternative theories of antitrust regulation addressing innovation and conclude with a new model to consider the market itself in developing theories of antitrust enforcement.

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II. BACKGROUND: HEALTH CARE MARKETS

To better understand the market, it is helpful to understand the role of health insurers today. Health insurers are an integral part of the system for financing health care services. They have two essential roles in the market. The first role is to develop a network of providers — hospitals and physicians — that are contracted to provide clinical services at negotiated prices. These networks are a powerful response to the extraordinary prices set for services in the absence of a contract, a system based on a concept called “charges.”² The second role is to sell access to this network to customers, individuals, employers and government, either in the form of health insurance products that carry full insurance risk or as a concept called “administrative services” only for self-insured employers.

The key feature of this market is the negotiating leverage of the parties in developing the networks. We have seen a remarkable transformation of the provider market over the past two decades. In many markets, not-for-profit hospitals have developed extensive networks of acquired and managed hospitals, and they have acquired physician practices to cement their patient referral networks. This consolidation has proceeded rapidly, with economists suggesting that half of U.S. hospital markets are highly concentrated, one-third are moderately concentrated and the remaining markets unconcentrated. None are considered highly competitive.³ Given this level of consolidation, the DoJ has successfully blocked several proposed provider mergers recently but has done little to address the significant consolidation already in existence.

Viewed from this perspective, health insurers are intermediaries, negotiating contracts for services with hospitals systems and physicians on behalf of the ultimate payers. A great deal of the value of the insurance network can be assessed by the size of the network (i.e. which hospitals and physicians are included in the network) and by the unit prices achieved in contract negotiations. Insurers proffer these attributes as a significant part of their value.

Provider consolidation has had a significant impact on the cost of health care services. In one study in California, patients who see physicians who own their own practice cost their health plan \$3066, whereas patients who see physicians whose practice is owned by a multihospital system cost their health plan \$4776.⁴ Across multiple studies, hospital consolidation in concentrated markets results in price increases of at least 20 percent.⁵ Overall, the total cost of employer-sponsored health insurance in 2016 was \$6435 for an individual and \$18,142 for family coverage. These costs represent a 58 percent increase from 2006.⁶

Thus, coming into the insurance merger cases, we have a market in which hospitals are highly concentrated with significant pricing leverage driving up costs. Whether consolidation of the private health insurance market could have had a significant impact on this dynamic was a question at trial, and the court showed significant skepticism on this issue in the end. In the *Anthem* case, the merger of the second and third largest health insurers in the U.S., Anthem outlined the anticipated economic savings from the merger. Anthem argued that it could rebrand Cigna plans as Anthem to gain access to Anthem’s lower rates, could use its “affiliates” clause to extend its current discounts to Cigna health plans and could renegotiate lower rates with providers. The court rejected this efficiencies defense. Beyond the concept that extending the Anthem discount was not merger-specific, the court expressed skepticism about extending the affiliates clause, “because the providers were unlikely to accept lower rates and provide more services without getting anything in return.” On the concept of market leverage, the district court found that:

attempts to achieve the claimed savings through renegotiation of provider contracts would run into similar problems. It

2 Richman, Kitzman, Milstein & Schulman, *Battling the Chargemaster: A Simple Remedy to Balance Billing for Unavoidable Out-of-Network Care*, Am J Manag Care. 2017;23(4):e100-e105.

3 Cutler & Morton, *Hospitals, Market Share, and Consolidation*, JAMA. 2013;310(18):1964-1970.

4 Robinson & Miller, *Total Expenditures per Patient in Hospital-Owned and Physician-Owned Medical Groups in California*, JAMA. 2014;312(16):1663-1669.

5 Gaynor & Town, *The Impact of Hospital Consolidation-Update*, Robert Wood Johnson Foundation. June 2012. http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2012/rwjf73261.

6 The Kaiser Family Foundation and the Health Research and Educational Trust. Employer Health Benefits 2016 Annual Survey. <http://files.kff.org/attachment/Report-Employer-Health-Benefits-2016-Annual-Survey>.

found that any savings would take time to be realized, and that Anthem's expert failed to account for utilization, i.e., the amount of medical services that would be consumed by a given customer. In sum, it found the claimed savings were aspirational inasmuch as every proffered strategy either floundered in the face of business reality or was achievable without the merger, or both.⁷

III. ADDITIONAL DEFENSES

Economic theory teaches that concentrated markets generate higher prices, and this has been shown to be true in insurance markets. When fewer insurance companies compete, prices for insurance are higher.^{8,9} This is reason enough for many to oppose the mergers.

There are many reasons, however, why these mergers might not have translated into a sharp increase in prices. First, health insurance rates are highly regulated, both by state insurance commissioners and also by the Affordable Care Act's "medical loss ratio" ("MLR") requirements. (The MLR is the proportion of the health insurance premium used for medical expenses.) Both federal and state regulations could limit how much an insurer with market power can increase prices.

Second, to the degree that market power exists in health insurance markets — and, indeed, many regional markets are dominated by insurers with monopoly power — such market power is often enjoyed by Blue Cross—licensed insurance plans (Anthem is the for-profit Blue's licensee in 14 states). In markets where more competition among health insurers may be sorely needed, the mergers would bestow little additional market power to the merging parties compared to these dominant plans. Furthermore, the merged Anthem-Cigna entity would face entry restrictions on expanding into additional states based on Anthem's licensing agreement with the Blue Cross Association. However, there might be reason to think that the Aetna-Humana merged entities could have mounted a more meaningful challenge in these Blue-dominant markets.

Third, the markets in which some of these merging health insurers dominate offer limited prospects for supra-competitive pricing. A combined Aetna and Humana, for example, could control the Medicare Advantage market, but those products are heavily regulated — on both price and quality — by the Centers for Medicare & Medicaid Services. Some fear that reducing the number of national health insurers will concentrate the availability of multistate plans, but that void can be filled by coalitions of independent Blues, third-party administrators, or private health insurance exchanges that incorporate regional health plans.

These concepts were or could have been part of the argument at trial to support these mergers.

IV. THE DOJ'S BEDFELLOWS

Extremely telling in the analysis of these mergers were the identification of the parties most vocally against the mergers. The leading opponents were not consumers or employers (who remained strikingly silent) but the American Hospital Association ("AHA") and the American Medical Association ("AMA"). These associations have argued that the enlarged insurers will squeeze reimbursements to providers and threaten the quality and availability of care.

There is a painful irony in the arguments proffered by the AHA and AMA. Yes, dominant insurers will have more negotiating power against providers, but insurers have long decried continued consolidation of providers. As already discussed, most local hospital markets are now highly concentrated — and insurers have complained that dominant providers enjoy excessive power in contract negotiations.¹⁰

7 United States Court of Appeals for District of Columbia Circuit, No. 17-5024. Argued March 24, 2017. Decided April 28, 2017.

8 Dafny, Duggan & Ramnarayanan, *Paying a Premium on Your Premium? Consolidation in the U.S. Health Insurance Industry*, Am Econ Review. 2012;102(2):1161-1185.

9 Dafny, Gruber & Ody, *More Insurers Lower Premiums: Evidence from Initial Pricing in the Health Insurance Marketplaces*, Am J Health Econ. 2015;1(1):53-81.

10 Capps & Dranove, *Market Concentration of Hospitals*, (Bates White Economic Consulting Analysis, June 2011). www.ahipcoverage.com/wp-content/

There are plausible reasons to buy the insurers' argument that dominant providers justify dominant insurers. Health care costs have increased 58 percent over the past decade, largely as a result of increases in the prices charged by providers. It is possible that an insurer with negotiation power could counteract provider monopoly power and can secure more favorable health care prices. Since the Affordable Care Act requires a minimum MLR of 80 percent or 85 percent depending on the market, insurers are somewhat limited in how their market power could drive up additional costs to consumers. If they saved more than the expected MLR they used to calculate the premium under this statute, they would have to pass any savings along to consumers.

However, there are two grave dangers in this posturing. The first is that in several markets in which there are both dominant insurers and dominant providers, such as in Michigan and Boston, the twin giants used their collective leverage not to extract concessions from each other, but rather, to coordinate efforts to secure their collective leadership.¹¹ Whereas haggling between insurers and hospital systems are often described as a giant Gordian knot with payers and providers arm-wrestling over payments of epic proportions, recent evidence suggests that the giants are at least as likely to quietly collude and support each other, while excluding potential competitors.¹²

The other danger is that battles between providers and insurers are described as a fight over a fixed pie. The true test of a merger, however, is not the impact on other parties but its impact on consumers in the short and medium terms. In America's health care markets, primary attention ought to focus on how these mergers affect innovations in how we currently pay for and deliver health care. Evaluating the impact of these mergers should not exclusively use current U.S. prices and quality as a baseline, but should also consider possibilities to move towards an ideal reference price based on health care unit prices widely available in Europe (50 percent of U.S. costs), or even India (10 percent of U.S. costs).

V. INNOVATION AND CONSOLIDATION

Beyond the specific considerations at issue in the case, the health insurance market, and the structure of the health care market more broadly, became an issue in the arguments when looking at ways to achieve better value for consumers. This narrative was revealed in the *Anthem-Cigna* trial in a remark made by DoJ expert witness David Dranove when he was asked to assess the merger's impact on innovation. Dranove's central remark was that Cigna has been innovative only because of its relatively smaller position in the marketplace. He was concerned that, once Cigna became part of the larger Anthem, it would stop innovating. (During summation, the DoJ's lead attorney, Jon Jacobs, emphasized this argument, stating, "This merger will eliminate Cigna's incentive to innovate.") But Dranove made a broader observation about the industry, not just about Cigna and Anthem, when he decried the lack of industry-wide innovation among health insurers. He concluded, "My evaluation left me quite sober. . . . I was very concerned about the path this industry has been going on."¹³

Antitrust law considers the concept of innovation in evaluating consumer surplus. One of us recently evaluated antitrust actions against IBM's many tying arrangements and found:

first, that the DOJ was successful in forcing IBM to unbundle several of its significant bundling strategies—i.e., but for the DOJ's scrutiny, IBM would have proceeded bundling several of its products and services; and second, when IBM acceded to the DOJ's demands and ended the targeted bundling arrangements, it proceeded to open new markets and unleash significant economic surplus. In short, this case study offers at least one instance in which prosecuting illegal ties yielded significant social benefits.¹⁴

[uploads/2011/10/ACOs-Cory-Capps-Hospital-Market-ConsolidationFinal.pdf](https://www.fda.gov/oc/2011/10/ACOs-Cory-Capps-Hospital-Market-ConsolidationFinal.pdf).

11 Herzlinger, Richman & Schulman, *Market-Based Solutions to Antitrust Threats—The Rejection of the Partners Settlement*, N Engl J Med. 2015;372(14):1287-1289.

12 Havighurst & Richman, *The Provider-Monopoly Problem in Health Care*, Oregon Law Review. 2011;89:3.

13 Hoover, *Economist Says Anthem-Cigna Deal Will Stifle Innovation*, <https://www.law360.com/health/articles/866453/economist-says-anthem-cigna-deal-will-stifle-innovation>.

14 Richman, Usselman & Elhauge, *On Tying: Vindicated by History*, Tulsa L. Rev. 2014;49(3):689-711.

Another classic case of innovation and antitrust law concerns AT&T. The DoJ filed suit in 1974, alleging that “AT&T had illegally manipulated its dominant position in three sets of telecommunications markets—equipment, local exchange, and long-distance—in order to monopolize the entire domestic telecommunications industry. . . . The Justice Department also alleged antitrust violations by AT&T in its use of the regulatory process.”¹⁵ Upon the settlement that broke up the company, the telecommunications industry underwent dramatic change. Evaluation of these changes suggests that:

innovations have been more rapidly deployed in telecommunications networks the more competitive have been the markets in which those networks operated. This positive correlation between competition and adoption of new technology suggests that regulators and enforcement officials should be wary of claims that, by adhering to policies designed to preserve competition, they will impede firms from deploying innovations or bringing new services to consumers.¹⁶

Both the IBM and AT&T cases suggest a need to understand the market more broadly in evaluating potential mergers in health care.

VI. PATHWAYS TO INNOVATION

Dranove’s lament begs for a new framework for assessing future consolidation in the health care markets, at either the health plan level or the provider level. Rather than a static assessment of a proposed merger in a single market, we can consider the potential dynamic impact of a proposed merger on a market taking into consideration the overall “market architecture.” We define this concept as the interaction of the entire value chain within a market, including actions of incumbents and patterns of firm entry or exit from the market. In health care, we have described a market with concerns about market concentration of providers (hospitals and physicians), and consolidation among insurers (even without the mergers). The result is an architecture characterized by extremely high prices, lack of market entry and significant questions of value. The dynamic question to consider is how any proposed merger would change this equation and improve value for consumers.

The merger trials revealed that the prevailing business model among U.S. health insurers is to seek scale: size offers insurers efficiencies in managing financial risk and offers negotiation leverage against health care providers. The business model predicated on scale has insurers focusing only on prices paid for medical services and claims made by beneficiaries, with little analysis of value creation for consumers. There is little evidence that insurers become more innovative as they grow in size; there also is little reason to suspect valuable innovations will emerge from the current market structure. But this lack of empirical direction only reaffirms the need for policy makers to consider creative policy interventions to promote innovation, and the proposed mergers might have offered a unique opportunity to do so.

Insurers were represented as little more than large-scale purchasers and check writers. In many ways, the business model drives a market not dissimilar to early computer or telecommunications markets in which a key attribute of the market architecture was the lack of market entry.

In the management literature, there are two separate but related concepts about innovation, organizational innovation and disruptive innovation.¹⁷ Organizational innovation can drive performance of an existing business model through business process improvement or business restructuring, typical efficiencies defenses claimed as benefits in mergers. Disruptive innovation involves the introduction of a new business model, often accompanied by new technology, to drive markets to a new business paradigm. Disruptive innovation is the type of innovation that drove the tremendous value from unlocking the computer and telecommunications markets. Disruptive innovation can be an antidote to the adverse effects of market concentration by offering a truly competitive threat

15 MacAvoy & Robinson, *Winning by Losing: The AT&T Settlement and Its Impact on Telecommunications*, Yale Journal on Regulation. 1983;1(2):1-42. <http://digitalcommons.law.yale.edu/yjreg/vol1/iss1/2>.

16 Shelanski, *Competition and Deployment of New Technology in U.S. Telecommunications*, University of Chicago Legal Forum. 2000;2000(1):85-118. <http://chicagounbound.uchicago.edu/uclf/vol2000/iss1/5>.

17 Richman, Mitchell & Schulman, *Organizational Innovation in Health Care*, Health Management, Policy and Innovation. 2013;1(3):36-44.

to current incumbents in a market. Even the threat of disruptive innovation can be an existential threat that can drive behavior of firms in a market.

We have seen the impact of disruption on many markets, with significant benefit to consumers.¹⁸ In wide-ranging businesses from music (iTunes) to transportation (Lyft) to shopping (Amazon), consumers benefit from innovation, especially from innovation in business models enabled by technology. However, these types of innovation have appeared to be remarkably absent from the health care space (or, if they enter, the firms mostly struggle and fail to achieve significant impact on the market). The opportunity cost from the lack of disruptive innovation in health care is enormous.

Consumers have experienced enormous benefit from innovation in other markets. Productivity gains resulting from the digital transformation of telecommunications has led to one percent to eight percent annual improvements in performance.¹⁹ Yet innovation has been painfully slow in health care markets, and one major reason has been the continued dominance of monopoly providers and monopsony purchasers. With both providers and purchasers in a dance of mutual reliance, there has been little incentive to introduce organizational innovations that will rewire care delivery, reform bloated financial transaction costs and drive down overall spending. There is especially little appetite for disruptive innovations that introduce uncertainty in financing or delivery. There is enormous incentive, meanwhile, to block new entrants who offer consumers potential improvements in cost, quality or access. Policy makers, in an effort to drive efficiencies in the provider market for the Medicare program, may actually have exacerbated the market power of providers and reduced the opportunity for significant disruption in the market.^{20,21}

This discussion leads to a two-part test that can be considered for assessing future consolidation in the health care market: (1) the traditional direct assessment of likely consumer benefit from the proposed merger, and (2) the novel question of market architecture — what is the opportunity cost of the merger on the potential for entry of new organizations or new business models into the market? See Figure.

		Efficiency Defense	
		Synergy	Innovation
Market Architecture	Value Producing	Allowed	Allowed
	Value Consuming	Rejected	Required

There is no question that the current health care market is not delivering the value it could to consumers. This is an issue across the market and has reached into the policy arena in Washington. Novel approaches to address the underlying structure of the market are unfortunately scarce. For these reasons, health care competition policy should focus on possibilities to spur innovation and market changes. This perspective should shape how regulators view future proposed mergers. For example, regulators should inquire whether the merged entities will contract with specialty, low cost providers, or whether their plans will direct subscribers to enshrined dominant hospital systems. More aggressively, we could use proposed mergers as an opportunity to open existing insurance carrier provider networks to new entrants in a model akin to the market access programs in the phone industry. Not only would this approach bring greater transparency to the opaque metrics of healthcare pricing and quality, it would also enable novel entrants to gain traction by offering consumers new sets of services that would be viable when linked to an existing carrier infrastructure. Developing an enforceable pathway to innovation in the market could offer opportunities to truly transform the role of the insurer in health care, and to transform the market to the benefit of consumers.

18 Christensen, *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, Boston, MA: Harvard Business School Press; 1997.

19 Hillestad, Bigelow & Bower, et al., *Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs*, Health Aff (Millwood). 2005;24(5):1103-1117.

20 Richman & Schulman, *A Cautious Path Forward on Accountable Care Organizations*, JAMA. 2011;305(6):602-603.

21 Schulman & Richman, *Reassessing ACOs and Health Care Reform*, JAMA. 2016;316(7):707-708.



HOSPITAL MERGER CONTROL IN THE NETHERLANDS: WAS THE BARN CLOSED IN TIME OR HAS THE HORSE ALREADY BOLTED?

BY MARCO VARKEVISSER ¹ & ERIK SCHUT ²



I. INTRODUCTION

After decades of top-down health care rationing policies, the Netherlands has opted for a system of regulated (or managed) competition with wide-ranging reforms implemented since the mid-2000s to strengthen the role of market mechanisms. In 2006, introduction of the Health Insurance Act reinforced competition among health insurers by making competing private health insurers responsible for providing affordable mandatory health insurance for every Dutch citizen. With this reform, the government gave insurers more room to negotiate with health care providers about the price, volume and quality of care. Because of the market-oriented reforms, competition policy has become crucially important in Dutch health care. In this article, we discuss the track record of the Netherlands Authority for Consumers and Markets (“ACM”) in hospital merger control.³

II. RELEVANT REGULATORY FRAMEWORK

In the Netherlands, the general rules of the Competition Act (“Mw”), introduced in 1998 and modelled after the competition rules in the EC Treaty and subsequent legislation, provide the relevant regulatory framework for competition policy. It includes a prohibition on cartels, a prohibition on the abuse of a dominant position and a preventive merger control regime. As an independent administrative body, ACM is responsible for applying the Mw in any market with competition, including all health care markets.

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² Professor of Health Economics at iBMG / EUR.

³ See also Schmid & Varkevisser (2016), Hospital merger control in Germany, the Netherlands and England: past experiences and future challenges, *Health Policy*, 120(1): 16-25 and Schut & Varkevisser (2017), Competition policy for health care provision in the Netherlands, *Health Policy*, 121(2): 126-133.

Under the Mw, mergers are subject to notification and prior approval by ACM. This requirement applies to all mergers between firms whose combined turnover has exceeded €113 million in the preceding calendar year, with at least €30 million realized in the Netherlands by at least two of the firms involved. For the health care industry lower thresholds apply (€55 million and €10 million respectively), because geographic markets for health care are typically small and competition is still emerging and thus fragile.⁴

When hospitals notify ACM about their plan to merge, the competition authority starts a general review. If the merger is not likely to be anticompetitive, ACM directly clears the merger. Otherwise, it decides that a license is required. When the merging hospitals then apply for this license, a more substantial assessment of the proposed merger takes place. According to Section 41.2 of the Mw, ACM will eventually prohibit the merger “if, as a result of the proposed concentration, effective competition on the Dutch market or a part thereof would be appreciably impeded, specifically as a result of the creation or strengthening of a dominant economic position.” Based on supranational European guidelines, a dominant position is defined as “a position of one or more undertakings that enables them to prevent effective competition being maintained on the Dutch market or a part thereof, by giving them the power to behave to an appreciable extent independently of their competitors, their suppliers, their customers or end-users” (Mw, Section 1.i). When assessing the likely competitive effects of proposed hospital mergers, ACM takes into account the non-binding opinion of the Dutch Healthcare Authority (“NZA”).⁵

III. WAS THE BARN CLOSED IN TIME...

From the start of preventive merger control in hospitals markets in 2004 until the summer of 2015,⁶ ACM cleared all twenty-six merger cases after an initial or more substantial investigation. These decisions were frequently criticized for being too permissive. In some cases, ACM permitted hospital mergers on very questionable grounds and without a proper definition of the relevant geographic market. Most often the exact size of the geographical market was not defined at all. In those cases the competition authority argued that current patient flows were not indicative for patients’ willingness to travel in the future because quality differences across hospitals were expected to become more transparent. The approval of the merger between two hospitals in the city of Tilburg was a clear example of failing hospital merger control in the Netherlands.⁷ ACM cleared this merger in November 2012 while based on patient flow data the post-merger market share was around 70 percent. The competition authority, however, based its decision on insurers’ speculative claims about patient willingness to travel and their future countervailing buyer power without properly examining their validity.

Things seem to have changed now. In recent years, the Dutch health insurers started expressing their concerns about the increased concentration in regional hospital markets. Following this change of opinion, in July 2015, ACM for the first time prohibited a proposed hospital merger. This merger involved two hospital groups – Albert Schweitzer Ziekenhuis (“ASz”) and Rivas Zorggroep (“Rivas”) – in the southwestern part of the Netherlands, near the cities of Dordrecht and Gorinchem. In contrast to previous cases, ACM now made a thorough analysis of the likely competitive effects, including in-depth analyses of patient travel times and research among the GPs who refer patients to the merging hospitals and their (potential) competitors. In its investigation, ACM concluded the following:⁸

4 A third threshold is present to prevent these thresholds from applying to mergers involving firms whose health care services are only a small part of their business. This requires that, for at least two of the firms, revenues from health care services alone must exceed €5.5 million.

5 Dutch hospitals also require formal permission from the NZa for their merger plans. This requirement, however, focuses on the merger process and the accessibility of some essential hospital services (24/7 emergency care) and does not involve an assessment of the likely competitive effects.

6 Prior to 2004, the competition authority argued that the supply and price regulation at the time prevented hospitals from competing.

7 Loozen, Varkevisser & Schut (2014), Dutch Authority for Consumers & Markets fails to meet the standard of proof in recent hospital merger decisions, *European Competition Law Review*, 35 (1), 17-23.

8 ACM (2015), *Besluit in zaak 14.0982.24/Stichting Albert Schweitzer Ziekenhuis – Stichting Rivas Zorggroep*, ACM/DM/2015/203943_OV, The Hague.

- for both hospitals the relevant patient outflow⁹ from their catchment area to other hospitals is 23 percent (inpatient care) and 27 percent (outpatient care) at most;
- the GPs located in the catchment area of ASz refer 80-90 percent of their patients to ASz;
- the GPs located in the catchment area of Rivas refer 70-80 percent of their patients to Rivas;
- based on both current patient flows and the opinion of the GPs, ASz is the most important alternative for Rivas;
- the post-merger combined market share in the relevant geographic market equals 70-80 percent;¹⁰
- ASz and Rivas are important competitors according to patients' organizations as well as health insurers.

Based on the findings summarized above, ACM concluded that the merging hospitals were strong competitors. As a result, the competition authority argued, health insurers would have insufficient alternatives to negotiate good prices and quality with the merged hospital:¹¹ "This means that there is a potential risk that the merger hospitals would, for example, raise prices or reduce quality by investing less in innovation, customer-friendliness or hygiene. That would harm patients and the insured." The merging hospitals appealed against this decision stating that, among other things, ACM previously allowed other hospital mergers that resulted in similar or even higher combined market shares. In September 2016, the court ruled in favor of ACM. In its ruling, the court concluded that ACM based its merger prohibition on careful research. The judges therefore argued that ACM was correct when deeming this hospital merger anticompetitive. Finally, the court refuted the merging hospitals' argument that ACM was much more permissive in previous cases by accepting the explanation of enhanced insights. Most importantly, based on practical experiences, Dutch health insurers – as well as ACM – have become much less optimistic about their bargaining power when negotiating contracts with hospitals because (i) consumers are very reluctant to accept restricted hospital networks; (ii) courts have ruled that based on the current legislation, it is only allowed to limit the reimbursement of non-contracted care to such an extent that it is still affordable for patients to visit any provider they want.

The prohibition decision discussed above may mark the beginning of a more stringent approach to hospital mergers in the Netherlands. Additionally, the Dutch government has announced new measures to strengthen competition policy in health care. These measures include the transfer of regulatory tools from the Dutch Healthcare Authority to ACM. Additionally, the government funded the formation of a health care specific taskforce at ACM. The basic idea underlying these measures is that making ACM responsible for all competition policy in health care will help make it more effective.

IV. ...OR HAS THE HORSE ALREADY BOLTED?

Due to the permissive hospital merger control that can be observed for more than a decade, the number of general hospitals has steadily declined from 90 in 2004 to 71 in 2016.¹² As a result, the average Dutch hospital has a market share of almost 60 percent in its catchment area.¹³ Taking into account existing merger plans, local and regional hospital markets are likely to become even more concentrated. An important question is whether patients' willingness to travel – currently Dutch patients on average travel about twenty minutes for non-emergency hospital care – will increase in the future if quality differences across hospitals become more transparent. If not, insurers may have limited bargaining power *vis-à-vis* merged hospitals.

⁹ That is, the patient outflow after taking into account the travelling of patients with specific complex care needs.

¹⁰ Because of confidentiality reasons the precise figure is not revealed.

¹¹ ACM (2015), *ACM prohibits proposed merger between two Dutch hospital groups*, press release July 15, 2015, The Hague.

¹² There are also eight university medical centers in the Netherlands, of which the two located in Amsterdam (AMC and VUmc) have now asked permission to merge.

¹³ NZa (2017), *Marktscan medisch-specialistische zorg 2016*, Utrecht.

The jury is still out but preliminary empirical evidence from the Netherlands suggests that mergers may result in higher prices without improving quality of care. Kemp et al. have studied the price effects of six hospital mergers.¹⁴ They investigated whether hospitals raised their prices for hip surgery after the merger. Additionally, they analyzed how patients reacted to higher prices. The results were mixed: for seven of the twelve hospitals a statistically significant price increase for hip surgery was found.¹⁵ A clear relationship between price changes of hip surgery and post-merger changes in travelling behavior of patients was not observed. In a more recent study, Roos et al. used a “difference-in-difference” model for comparing a merged hospital’s price changes to price changes at comparison hospitals.¹⁶ This study found evidence of heterogeneous price effects across health insurers, hospital products and hospital locations. First, significant post-merger price increases were observed for hip replacements, but not for knee replacements and cataract surgery. Second, the merged hospital significantly raised its price for hip replacements at the more geographically isolated one of its two locations. Third, when disaggregating the post-merger price increase, it was found that the merger’s price effect varied between health insurers from -12 to 16 percentage points relative to the control group. In addition to the price effects presented above, ACM recently commissioned a study into the quality effects of fourteen hospital mergers in the period of 2007-2013.¹⁷ Using almost a hundred quality indicators, the study compared the development of the quality of merged hospitals and non-merged hospitals. It was found that hospital mergers do not demonstrably improve health care quality.¹⁸

V. CONCLUSION

Due to horizontal consolidation, hospital markets in the Netherlands have become highly concentrated. It is doubtful whether insurers have sufficient countervailing buyer power to prevent hospitals from charging too high prices and to effectively encourage them to improve quality. The future will tell whether ACM has seriously erred in clearing all but one hospital mergers since 2004. The ongoing hospital consolidation, however, has at least put the potential for effective insurer-hospital negotiations about quality and price at risk. While the first prohibition of a hospital merger in the summer of 2015 definitely was a step in the right direction, it may turn out that the barn was closed after the horse has bolted. This is particularly worrying since once markets have consolidated it is extremely difficult, if not impossible, to restructure these markets to prevent the abuse of market power. By being very permissive in the past, the competition authority has not only complicated hospital competition in the present but also restricted the scope for effective hospital competition in the future.

14 Kemp, Kersten & Severijnen (2012), Price effects of Dutch hospital mergers: an ex-post assessment of hip surgery, *De Economist*, 160(3): 237-255.

15 For three hospitals a significant price decrease was found.

16 Roos, Croes, Shestakova, Varkevisser & Schut (2017), *Price effects of a hospital merger: heterogeneity across health insurers, hospital products and hospital locations*, iBMG Working Paper, Erasmus University Rotterdam.

17 ACM (2016), *ACM: hospital mergers do not demonstrably improve health care quality*, press release September 7, 2016, The Hague.

18 ACM is currently also studying the price effects of hospital mergers. The results of this study are expected to be released later this year.

DUTCH HOSPITAL MERGERS: NO EVIDENCE FOR IMPROVEMENT OF HEALTHCARE QUALITY

BY BART BROERS & RON KEMP ¹



I. INTRODUCTION

The hospital sector has become increasingly concentrated in recent years. This is also true in the Netherlands. Since 2004, the Netherlands Authority for Consumers and Markets (“ACM”) assessed more than 30 hospital mergers. In 2016 there are 71 general hospitals and 8 academic hospitals.

Several developments may have triggered the merger wave. First of all, the introduction of managed competition among hospitals. Mergers may reduce rivalry and increase the bargaining power of the hospitals *vis-à-vis* purchasers, i.e. health insurance companies. Also the market for health insurance became more concentrated and by merging, hospitals improve their relative bargaining position.

Second, scale economies and improved efficiency can be a reason to merge. Hospitals argue that the increased scale will benefit the provision of care and is necessary to meet the volume norms for specific treatments developed by the professional associations of surgeons. Surgeons can specialize even further and perform more (complex) treatments. Hospitals claim that this will improve the quality of care.

However, the further concentration also comes with a cost. Larger entities may experience a lack of flexibility and a slower adoption of innovations as the competitive incentive diminishes. Also, the integration process after the merger may take quite some time and may result in (cultural) clashes between the management and/or surgeons from both merging hospitals. This can have negative effects on the clinical operations and the quality of care delivered. Finally, the merged entity might become “too big to fail” giving it extra bargaining power over insurance companies resulting in higher prices and/or lower quality.

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In this study, we investigate the effects of hospital mergers on the quality of care in the Netherlands. First, we discuss the relevant literature on the concentration-quality relationship. Second, we present the research design followed by the results.² Finally, we discuss the implications of the results for the ACM practice of merger control.

II. LITERATURE OVERVIEW

Most studies on the relationship between hospital mergers and quality are done in the United States. In a review article, Vogt and Town³ concluded that there are indications that hospital mergers result in lower quality. A majority of the studies indicated a lower quality, although some studies showed a quality improvement. The effects of mergers on hospital prices were clearer: hospital mergers resulted in price increases of at least 5 percent and even bigger if two neighboring hospitals were involved.

In 2012, Gaynor and Town⁴ confirmed the results of Vogt and Town; that more competition leads to better quality. This especially holds true in countries where the prices are regulated. In countries with negotiated prices, as in the Netherlands, the results were mixed. If patients react stronger on price than on quality differences, then more competition results in lower prices and also lower quality.

Romano and Balan⁵ studied the effect of the merger between Highland Park Hospital and Evanston Northwestern Healthcare. The parties claimed in the FTC procedure that the merger was necessary to improve quality. The authors found the opposite effect: the quality decreased *ex-post*.

Mutter et al⁶ studied 42 hospital mergers. For most merging hospitals, no effect on the 25 used indicators was found. The effects were, however, different for the different roles the hospitals had in the merger; the quality of acquiring hospitals improved for three indicators, for acquired hospitals, four indicators significantly worsened. Thus the role of the hospital might influence the relationship.

Hayford⁷ studied the effect of hospital mergers on treatment intensity. Merged hospitals performed more intense treatments, in terms of the number of treatments as well as more complex treatments. Also the mortality rate increased. This might be an indication that the merging hospitals treated more complex patients.

In the United Kingdom, many hospitals merged in the period 1997-2006, partly stimulated by the government. Gayner et al.⁸ studied the effects of these mergers. They concluded that the quality improved for a few indicators. The number of treatments decreased without an improvement of the productivity, the financial position of the hospitals deteriorated and the waiting time became longer.

2 The results are based on the study of Significant commissioned by ACM, Significant (2016), Ziekenhuisfusies en kwaliteit van zorg: Onderzoek naar de effecten van ziekenhuisfusies op de kwaliteit van zorg, Barneveld: Significant (in English: Hospital mergers and the quality of healthcare: Research into the effects of hospital mergers on the quality of healthcare).

3 Vogt & Town (2006), How has hospital consolidation affected the price and quality of hospital care? Research Synthesis Report and Policy Brief #9 The Synthesis Project, Princeton: Robert Wood Johnson Foundation, available at: <http://www.policysynthesis.org>.

4 Gaynor & Town (2012), The impact of hospital consolidation – Update, The Synthesis Project, Princeton: Robert Wood Johnson Foundation, available at: <http://www.policysynthesis.org>.

5 Romano & Balan (2011), A retrospective analysis of the clinical quality effects of the acquisition of Highland Park Hospital by Evanston Northwestern Healthcare, International Journal of the Economics and Business, 18(1), 45-64.

6 Mutter, Romano & Wong (2011), The effects of US hospital consolidation on hospital quality, International Journal of the Economics and Business, 18(1), 109-126.

7 Hayford, (2012), The impact of hospital mergers on treatment intensity and health outcomes, Health Services Research, 47(3 pt 1):1008-1029.

8 Gaynor, Laudicella & Propper (2012), Can governments do better? Merger mania and hospital outcomes in the English NHS, Journal of Health Economics, 31, 528-543.

In the Netherlands, Zuiderent-Jerak et al.⁹ studied the effect of volume norms set by associations of surgeons on the quality of care. Often a positive relationship is claimed. The authors found, however, that the volume-quality relationship was often not proven or even not studied. For some treatments, often the more complex ones, there was a positive relationship. The authors also argue that the concentration to realize the volume norms means that the patients had to travel further. This longer travelling time is often left out in the volume norms/quality discussion.

Perry and Cunningham¹⁰ concluded that the existing empirical results do not support the claim that hospital mergers always, or most of the time, result in better quality and that several studies found even a negative effect. Therefore merging hospitals should provide case specific facts and proof that, in their case, the merger will result in improved quality. Also, Zuiderent-Jerak et al.¹¹ claimed that the parties lobbying for more concentration should better substantiate their quality claims.

Overall, the empirical literature shows a negative relationship between hospital mergers and the quality of care delivered. In the next section, we present the results of our study on the merger-quality relationship in the Netherlands.

III. RESEARCH DESIGN

In this section, we will describe the research design. First, we will discuss the merger sample followed by the selection of the quality indicators we used in our study. Then, we describe the quantitative “difference-in-differences” approach and the econometric specification.

In 2004, ACM started with the substantive assessment of hospital mergers as market reforms allowed hospitals to compete with one another. More than 30 hospital mergers were assessed since. Most mergers were unconditionally cleared, one cleared subject to remedies, in three cases a voluntary behavioral price remedy was given and one merger was prohibited. In the remedy case, the quality argument played a role in the assessment. The remedy looked at price as well as quality to be sure that the quality effects would be realized without price increases. All 14 hospital mergers in the period 2007-2013 are included in our study. Mergers after 2013 are not included as we only have information after 2014 for waiting times and we need at least some post-merger observations for our analysis.

In this study, we use all publicly available quality outcome indicators that are comparable over time, accessible and have observations for a sufficient number of hospitals. In total 97 quality indicators: 11 measuring quality on the hospital level and 86 for specific treatments. The indicators consist of, among others, disorder-related indicators like pain measurement in recovery rooms and observed delirium risk, (standardized) mortality rates, waiting times and consumer quality indices. Not all indicators are necessarily available for the whole period, but are at least partly available in the period 2007-2016.

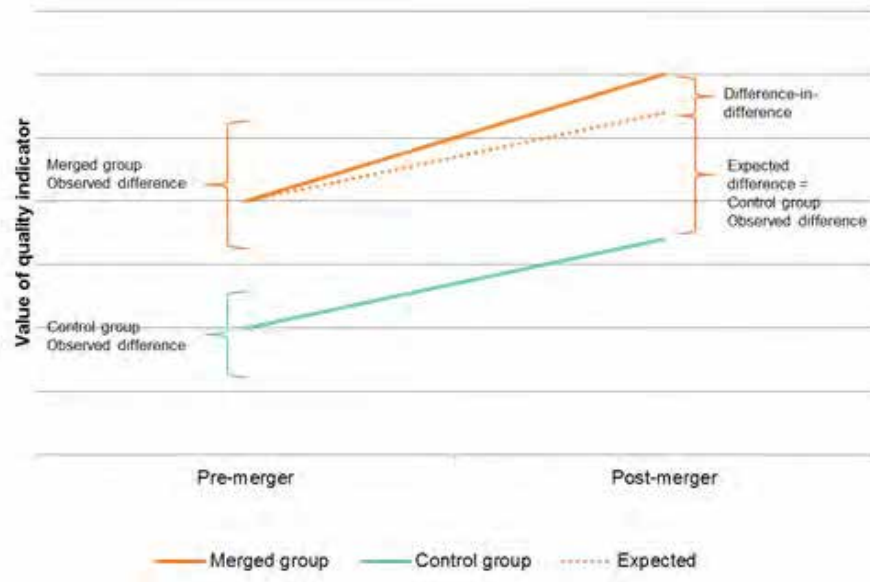
We use a difference-in-differences approach (“diff-in-diff”) to test whether the mergers have an effect on the quality of care. In figure 1, a fictional example of a diff-in-diff analysis is displayed. The control group of hospitals shows a certain development in quality, in this case an improvement (solid blue line). Without the merger, we assume that the merging hospitals follow the same development as the control hospitals (dotted orange line). This is our counterfactual. In reality, the merging hospitals improve even more (solid orange line). The difference between the assumed and realized post-merger quality value is the diff-in-diff estimator of the merger-effect and the coefficient of interest.

9 Zuiderent-Jerak, Kool & Rademakers (eds.) (2012), *De relatie tussen volume en kwaliteit van zorg: tijd voor een brede benadering*, Utrecht/Nijmegen/Rotterdam: Consortium Onderzoek Kwaliteit van Zorg (in English: *The relationship between volume and quality of care: time for a broad approach*).

10 Perry & Cunningham (2013), *Effective defenses of hospital mergers in concentrated markets*, *Antitrust*, 27(2), 42-47.

11 *Id.*

Figure 1. Representation of the difference-in-difference method



The composition of the control group is important in the diff-in-diff approach. In this study, we use as our control group all general hospitals that did not merge in the research period. We excluded academic hospitals, specialized hospitals and independent treatment centers. Furthermore, at least ten hospitals should be in the control group in order to reliably estimate the autonomous development.

Besides the merger dummy to estimate the merger effect, we included several control variables in our regression, like the status of the hospital (top clinical vs general hospital), the population density, the number of competitors within a 20 kilometer radius and the size of the hospital. In addition, we also included a ceiling and floor effect. Hospitals with relatively poor quality scores can be expected to work on quality improvement regardless of whether they merged or not, while hospitals with very high scores for certain indicators will not be able to improve the scores very much. As we estimate a large number of coefficients, we controlled for the multiple-comparisons problem by using the Bonferroni correction.

IV. RESULTS

In table 1, we present the significant results for the hospital level indicators (in total 11 indicators). All five significant effects show a decline in quality. After a merger, there was 12.5 percent less frequent measurement of malnutrition in adults. In merged hospitals, there is an almost 10 percent lower frequency of pain measurement in the nursing ward than one can expect based on the control group. This effect remains significant after the Bonferroni correction. Waiting times for outpatient clinics increase by 0.2 weeks compared to the control group. The waiting times for diagnostics increase by almost 0.5 weeks. The interpretation of the differences in waiting times needs to be done with caution. All other things being equal, a shorter waiting time would appear to be beneficial, a longer waiting time a deterioration. However, it cannot be ruled out that an increase in clinical quality (if recognized as such by patients or referring medical staff) could lead to more patients and hence longer waiting times. As quality is not that transparent for patients yet and patients mainly select a hospital based on proximity, we argue that longer waiting times are an indication for deteriorated quality. Finally, the mortality rate increases in absolute terms by 0.1 percent compared to the control hospitals.

Table 1. Significant results hospital level quality indicators

<i>Indicator</i>	<i>Effect on quality^a</i>
Screening of malnutrition in adults	Lower
Pain measurement in nursing ward	Lower ^b
Waiting times, diagnostics	Longer
Waiting times, outpatient clinic	Longer
Mortality rate (unweighted)	Increase

^a significant at 5 percent level

^b significant after Bonferroni correction

For the treatment specific indicators (n=86), we only found 12 significant effects, all waiting times. For eight outpatient clinical treatments, the waiting times increase, for three outpatient clinical treatments the waiting times decrease. For the treatment specific diagnostics waiting times, we found one significant increase. The effects range from 1.2 weeks shorter to 2.5 weeks longer waiting times. Only two of the 12 significant effects remain significant after the Bonferroni correction (an increase in waiting times).

In the results above, we assume that hospitals have the incentive to improve their quality to at least the industry average (the floor effect). If we waive this assumption, for some treatments the waiting times become shorter compared to the control group of hospitals. Although they have not reached the level of the control group, they become closer to the industry average. So the merger might be used to catch up (although this is never claimed by the merging parties in a procedure).

In interviews for this study, hospital representatives pointed out the risks for quality reduction. For example, attention to quality could wane and waiting times could rise because of the uncertainty and distraction from the primary process during the merger process. On the other hand, the interviewees also pointed out that mergers result in higher volumes for specific treatments. This may lead to further specialization, which, in turn, may lead to increased healthcare quality. However, this has not yet been found in the examined indicators.

Based on the quantitative results, the most important conclusion of our study is that there seems to be no indication of a strong effect of hospital mergers on healthcare quality. Among the majority of the 97 examined indicators we used, no significant change takes place after the merger compared with the control group of non-merged hospitals. For a limited number of indicators, a deterioration as well as an improvement can be observed (such as shorter or longer waiting times), although there is a tendency towards lower quality. Therefore, the claim by merging hospitals that a merger is good for quality of care is not supported by our research findings.

The research has several limitations. The observed period is relatively short. For a limited number of mergers, we could test the merger-quality relationship for a 3-5 year period. Merging hospitals often claim that it will take some time before quality effects emerge, i.e. longer than the 3-5 years we studied. As this may be true for the clinical quality indicators, we think that waiting times can be influenced relatively quickly. This assumption is in line with our results, although the significant effects often indicate lower quality, i.e. longer waiting times.

Also, the number of studied mergers is limited. It is therefore not possible to study the effect of characteristics of different hospital mergers like Mutter et al.¹² did. Possible interesting distinctions could be the level of integration, the motive to merge, whether the provision of care is reorganized and concentrated over the different locations and whether it is a takeover versus a merger among equals.

12 Id.

V. IMPLICATIONS FOR MERGER ASSESSMENT

In merger assessment, a common theory of harm is that the merger may result in higher prices or lower quality as a result of lower competition. When it comes to hospital mergers, the key question increasingly asked is what value the merger adds to the quality of healthcare. Though hospitals themselves often argue that a merger is needed in order to improve healthcare quality, such improvement is not the initial focus in the legal framework that governs merger assessments by ACM. Instead, the primary question for a competition authority is whether or not competition and sufficient choice remain in the market after the merger. After all, sufficient competition creates an incentive to compete on quality and price. Only if no sufficient competition remains after the merger, with thus potentially higher prices, potential quality benefits may be taken into consideration as part of an efficiency defense. The improvement in quality must then offset the drawbacks of higher prices and possibly reduced accessibility. In practice so far, ACM has very seldom had to make such an assessment. Yet, we expect this to change in the future, one reason being that Dutch health insurers increasingly point to the risks of market power and higher prices associated with mergers. If ACM proves this point valid, one may expect hospitals, in response to this, to put forward, more often and more explicitly, that healthcare quality will improve as a result of the merger.

The findings of the study described above raise several issues in this respect. First of all, they indicate that, in healthcare mergers, there is no fundamental difference between the risk of price increases and the risk of quality losses. Such difference is sometimes claimed by hospital representatives pointing to “special characteristics” of the medical profession, including the Hippocratic Oath, the presumption that in healthcare there is no relation between competition and the quality of care and that any quality improvement most directly benefits patients’ lives. Also, the findings reinforce that there is no *a priori* reason to treat quality improvement claims in the healthcare sector differently than “other” claims typically associated with efficiency defenses. As there is no evidence for quality improvements resulting from hospital mergers, ACM will continue to take a critical look at the quality benefits that merging hospitals claim in advance, on a case-by-case basis. ACM will assess materially whether these benefits will actually emerge, whether they are substantial and whether the merger is necessary for producing these benefits. In assessing these benefits, views from other authorities like the Health Care Inspectorate (“IGZ”) can be valuable.

If quality improvements are to be the deciding factor in the assessment of a merger, the expected quality benefits for patients will have to be substantiated concretely, specifically and factually by the merging parties. Furthermore, hospitals need to provide evidence of their efforts to produce these quality benefits as quickly as possible and to demonstrate the feasibility of the schedule. In the study, interviewed hospital representatives indicated that it will most likely take up to at least three years after the integration before the benefits have been fully produced and have become visible. This long time frame poses a challenge in merger control, as competition authorities particularly value benefits that hospitals are able to produce in the short run. With regard to benefits that will only emerge in the longer run, it will be more difficult to establish the certainty and the causal connection with the merger.

Whereas three years is already quite “long run” in merger assessment, in some instances, hospital representatives explicitly link projected quality improvements to necessary real estate (re)developments and/or step-by-step redistribution of medical disciplines over hospital locations, extending over five or even ten years. In the (so far hypothetical) situation that the foreseeable healthcare quality benefits to patients as such are substantial, undisputed and factual, leaving the long time frame as the “only” uncertainty, the imminent question for the competition authority is how to avoid blocking healthy innovation.

Although at odds with the widely accepted notions of a successful efficiency defense, in theory one could envision innovations in merger control that are in tune with the Dutch healthcare system based on “managed competition.” In essence, this would entail a regime of clearing the above mergers on the basis of a sunset clause, i.e. with regulatory measures that may be removed or at least lightened conditional on realization of the projected quality improvements within the scheduled period. However, the downside of such an approach is obvious: there needs to be a credible “Plan B.” The consequences in case the ultimate condition is not fulfilled, particularly demerging or permanent regulation, do not appear to be attractive and come at considerable costs. Moreover, at a bare minimum, a strict quality based sunset clause would require a compact set of unambiguous and well-established healthcare quality indicators which have been structurally monitored through the ordinary course of business prior to the development of the merger

plans. In general practice, none of these (minimum) conditions appears to be fulfilled.

Indeed, a second central issue that emerged from the study is the clear need in the Netherlands to further develop comprehensible and accessible quality indicators and making these available to patients. As to the latter, in the study we found that internally available quality information based on which of the merger's effect could have been analyzed, was not always accessible. For example, not all hospitals made quality indicators (hospital level CQI) available for the purpose of the study and the researchers were not given direct access to Intensive Care data. If a competition authority like ACM is not able to collect this quality information (without exercising formal powers), this clearly is an impossible task for patients. Yet, healthcare quality can only play a role in merger assessments if it can play a role in consumer preferences: patients choosing a hospital for their treatments and basing their decisions on, among others, the quality offered.

Furthermore, in the course of the study we were confronted with various discussions between healthcare professionals on what "good" quality indicators are, and how quality in healthcare should be defined in the first place. Clearly, if the field of practice is divided on these (admittedly thorny) questions, ACM is not in a position to conclude that claimed quality improvements are sufficiently "concrete" and "certain" in relation to merger control. Again, this carries the risk of blocking welfare enhancing mergers (type II errors). This is one of the reasons that ACM fully supports the ambitions and efforts of more specialized Dutch governmental bodies like the National Health Care Institute ("ZiN"), the Dutch Healthcare Authority ("NZa") and the IGZ with regard to the development of well-grounded evidence based quality indicators.

The third issue highlighted by the study challenges that mergers are "absolutely necessary" to achieve the claimed quality benefits. Hospitals often consider mergers as the way to improve quality, whereas less drastic forms of cooperation may also realize these objectives. Focused collaborations, for example on high-complexity low-volume care, could also be an option and are less likely to result in anticompetitive concerns than a full merger. If these collaborations prove to be problematic in due course, they can more easily be reversed than a full merger. In concrete cases, ACM regularly provides clarity, as recently done in an informal opinion about a collaboration on complex oncology in the province of Utrecht. In this case there was sufficient consensus in the field that the benefits of closer collaboration to quality of healthcare offset any potential competition concerns. The latter included the risk of reduced accessibility to care for patients in the form of longer travelling times, a risk we regularly see downplayed or even ignored by parties in self assessments of their merger or collaboration plans.

However, given the pervasive need for well-established and evidence-based quality indicators, even for focused collaborations, ACM will not always be in a position to make a fact based judgement of claimed quality gains. For collaborations, unlike for mergers, ACM has no obligation to provide clarity upfront. And, indeed, parties intending to collaborate are under no obligation to inform or ask ACM in the first place. Uncertainty about healthcare quality effects thus raises a potential dilemma for *ex-post* cartel enforcement as well. In fact, there may be a difference between, on the one hand, a situation with a divided professional field with dissenting opinions on quality effects and, on the other hand, a situation with consensus about the promise and potential of a collaboration regarding quality gains, but with limited factual evidence so far. In both cases, the collaboration, with potential competitive restrictions as a result, needs to be necessary to achieve the envisioned quality improvement. Furthermore, proper documentation of plans and progress on quality is relevant. Yet, one might argue that a competition authority has grounds to look more leniently at the second situation, weighing that the collaboration provides a relevant experiment for fact based progress and innovation in healthcare.

Finally, we recall that quality is only one of the competition parameters. Apart from the accessibility of healthcare, a merger (as well as a collaboration for that matter) may also influence price and volumes. For this reason, ACM is currently conducting a study into the price and volume effects of Dutch hospital mergers. Combining the results of both studies, ACM will be able to arrive at a more complete picture of the effects of hospital mergers, as well as of potential implications for its merger control practice.

VI. CONCLUSION

In conclusion, our study found no evidence for improvement of quality of healthcare after hospital mergers. This is not in line with the claim by merging parties that a merger is necessary in order to improve healthcare quality. To prevent the risk of business chilling and less quality improvements, hospitals as well as competition authorities are challenged to be creative and explore new paths. The availability of well-established quality indicators is a basic condition for this.



