An Examination of New Theories on Price Effects of Cross-Market Hospital Mergers

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Traditionally, mergers that involve combinations of hospitals in different markets have not raised concerns under the competitive effects framework of the Horizontal Merger Guidelines, but the FTC appears to be contemplating an expansion of antitrust scrutiny beyond that called for by the Guidelines.[2] Under the Guidelines framework, competitive effects are based substantially on the substitutability of hospitals *within* a properly defined geographic market. The new enforcement approach would, however, involve transactions that cross *between* separate markets, and this is likely to be an area of particular interest to hospital systems.

The FTC's search for a new economic theory for these "cross-market" transactions draws from an emerging body of economic literature, including a recent working paper by former FTC economist, Leemore Dafny and two coauthors, Kate Ho and Robin Lee ("DH&L").[3] DH&L propose a theory for evaluating whether and under what circumstances cross-market mergers might have anticompetitive effects. Based on empirical tests of their theory, DH&L find price increases of 6% to 10% attributable to certain cross-market hospital mergers**. Underlying the theory and empirical results, however, are some questionable assumptions that appear to limit their applicability and validity**.

The New Theory and Empirical Analysis of Cross-Market Hospital Mergers

DH&L propose a theory with two separate means by which cross-market hospital mergers could create market power: a "Common Customer" effect and a "Common Insurer" effect. The Common Customer effect, which DH&L imply is the more important of the two, arises as a result of employers that either have work sites in more than one geographic area or a workforce that resides in more than one area and commutes to a common work site.[4] DH&L hypothesize that in the presence of common customers, a hospital merger can enable the system to raise its

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2   *See* U.S. Dep't of Justice & Fed. Trade Comm'n Horizontal Merger Guidelines (2010) [hereinafter
        Guidelines], https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf. This
        approach relies on the definition of a geographic market, the calculation of market shares and HHIs, and a
        determination based on those figures, as well as other market evidence, whether a transaction is likely to
        increase the combined entities' market power and therefore substantially lessen competition within the
        defined geographic markets. Generally, courts have also accepted this approach.
3   Dafny, Leemore, Kate Ho, and Robin S. Lee, *The Price Effects of Cross-Market Hospital Mergers*, No.
        w22106. National Bureau of Economic Research (2016) [hereinafter DH&L].
4   DH&L, note 4.

prices above competitive levels even when the merged entities do not compete for patients.[5] This phenomenon arises insofar as common customers receive greater incremental value from a network that includes the merged hospitals together than from the sum of the value of networks that include them individually. Separately, DH&L hypothesize that merging hospitals in different markets that contract with a common insurer may also be able to increase price. They note, however, that the Common Insurer effect may not necessarily be anticompetitive and that it is not as significant a determinant of cross-market effects as the Common Customer effect.[6]

DH&L's analysis intends to separate the effect of cross-market mergers attributable to lessening competition from effects attributable to other causes. DH&L attempt to isolate competition-related price changes by estimating post-merger price changes for systems that acquire hospitals in an "adjacent" market and those that acquire hospitals in "non-adjacent" markets, comparing both to prices of hospitals unaffected by transactions. DH&L argue that effects that appear in non-adjacent markets are unrelated to competition, but changes in adjacent markets have roots in incremental hospital market power.[7] Their analysis finds post-merger price increases of 6% to 10% for adjacent market hospitals relative to unaffected hospitals and no price increases for non-adjacent market hospitals relative to unaffected hospitals.[8]

DH&L note that the same cross-market effects that span different geographic markets may also span different product markets or sets of services offered by providers.[9] The courts have shown skepticism toward cross-product market arguments, however. The Ninth Circuit in *FTC v. St. Luke's* overturned the district court's ruling that St. Luke's market power in physician services gave it market power in ancillary services.[10] Absent a finding of market power in ancillary services, the Ninth Circuit reasoned, St. Luke's could not harm competition in that market. The logical extension for geographic markets is that a hospital system that does not possess market power in an antitrust geographic market cannot harm competition in that market.

Serious Questions about the Theory and Estimation Process

Serious questions arise regarding both DH&L's model and their empirical analysis. One issue is whether their **model confuses key considerations in geographic market definition**. Another

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[5] More specifically, insurers will suffer a greater loss of profits when both hospitals are excluded from its network than the sum of the lost profits when each hospital is excluded individually. DH&L, pp. 3, 10.

[6] DH&L, p. 26. DH&L explain that the Common Insurer effect arises when the merger allows the system to bypass a pricing limitation in one market by charging a higher price in the other market where pricing constraints do not apply. They also theorize that the Common Insurer effect may arise if customers have different elasticities of demand across the two markets which may allow the system to increase price in one market and lower it in another.

[7] DH&L, p. 25.

[8] DH&L rely on a sample of hospital mergers consummated between 1997 and 2011 that were investigated by the FTC and a separate sample of other hospital mergers.

[9] DH&L, p. 2.

[10] FTC v. St. Luke's Health Sys., No. 13-cv-00116, 2014 WL 407446 (D. Idaho Jan. 24, 2014), *aff'd*, St. Alphonsus Med. Ctr. v. St. Luke's Health Sys., 778 F.3d 775 (9th Cir. 2015).

involves **the absence of considering the means by which health plans could avoid attempted cross-market price increases**. In addition, the **data used to estimate the model do not include actual prices and are highly aggregated thus potentially obscuring important differences among various payors**. The empirical analysis also appears **not to adequately distinguish effects related to changes in competition from those that are not**.

Geographic Market Too Restrictively Defined

According to DH&L's theory, the Common Customer effect may arise when employers have workers commuting from one geographic market to another. Such commuting patterns likely blur the boundaries of the areas that DH&L characterize as adjacent geographic markets, especially since DH&L define within-market transactions to include only hospitals within a 30-minute drive time of each other.[11] In healthcare mergers, a geographic market is typically defined by the boundary of the area to which patients would be willing to travel for services in the event of a small but significant price increase.

Under the geographic market approach laid out in the Guidelines, if all hospitals in area A increase their prices and enough commuters switch from using hospitals in area A to hospitals in area B, the hospitals in both areas combined rather than those in area A alone would constitute a properly defined geographic market. If so, the cross-market effects that DH&L ascribe to the presence of common customers, may be attributable to geographic markets that are too narrowly defined. With narrowly defined geographic areas, the "markets" that DH&L consider to be adjacent could actually be part of a single and broader geographic market and the pricing effects that DH&L attribute to cross-market effects may be due to within-market effects. The narrow, 30-minute drive time geographic area that DH&L use for within-market transactions raises the possibility that their adjacent markets are defined too restrictively.

Increase in Value Will Not Harm Competition

The Common Customers framework can also be evaluated by ignoring the patients consuming hospital services and focusing on employers as the common customers who arrange options for their employees to receive hospital services. From that perspective, it is easier to discern the incremental value of a hospital system over its component parts. The increased value of a system is a necessary element for DH&L to reach their conclusions**, but the incremental value can be driven by efficiencies that benefit customers**. Multi-hospital systems bring value to employers or insurers because they reduce transaction costs and possibly increase quality over what could be offered by their hospitals individually. Transaction costs related to negotiating contracts, monitoring consistency of service, and administering claims are reduced through centralization. Likewise, quality can be improved by standardizing and monitoring clinical

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[11]   DH&L, pp. 16, 18 and 24.

processes in a manner than cannot be done as readily across individual hospitals. **The increase in value from a system is consistent with DH&L's theory, and it changes the system's relative bargaining power, but it does not create harm to competition.**[12] **If these types of system efficiencies are more likely to be present and to be of value to a common customer when the hospitals are located in adjacent areas, a pricing differential may arise between adjacent and non-adjacent transactions.**

Ability to Replace Hospitals Discounted

DH&L's theory does not address some other implications of health plans' ability to substitute hospitals in local geographic markets prior to a cross-market merger. The cross-market theory does not require any individual hospital to possess market power in its local hospital market prior to the merger in order for a cross-market merger to create market power. The extent to which there are substitutes within each market is, by construction, irrelevant to the cross-market effect. Rather, the theory predicts competitive danger arising from merging hospitals that, through cross-market linkages, gain incremental market power over customers who purchase in multiple markets simultaneously. **Yet if a health plan could replace the individual hospitals in its network for each market in the pre-merger world, it stands to reason that it could replace the merged hospitals in each market just as readily. In that context, the merged hospitals could not acquire market power due to cross-market effects.**[13] If the merged entity creates efficiencies that are beneficial to the payor, it would be more costly to replace the merged entity than to replace each individual hospital, but that would not lead to antitrust harm.

In a similar vein, cross-market employers can avoid competitive harm if they can act like single-market purchasers.[14] Notably, purchasers that do not require hospital services in both markets simultaneously (i.e., single-market health plans or employers) are not subject to the exercise of whatever market power is created by a cross-market merger. There are no cross-market linkages for these purchasers that could be exploited by the merged hospitals. Health plans could act like single-market purchasers if they sold separate products with local networks for each local market. Employers with employees in each market could offer single-market options to each set of employees. As long as employers acquire health insurance through a health plan rather than purchasing services directly from the hospital system, the system would not be able to identify cross-market employers and price discriminate against them. If the hospital system attempted to raise rates above competitive levels in each local market, it would lose customers in the traditional way: customers would switch to lower-cost substitutes in the local markets.

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[12]   *See* DH&L, p. 14.

[13]   If instead one or both hospitals did not have good substitutes in their individual areas, it is possible that cross-market effects could arise, but conduct such as all-or-nothing contracting could be subject to challenge under tying or more traditional theories of leveraging market power and cross-market antitrust theories could be unnecessary.

[14]   DH&L note that a key requirement of the cross-market effects is the presence of at least one common customer who values having both of the system hospitals in their network. DH&L, p. 11.

Improvements in Quality, Capital Investments and Value of System Membership Not Accounted For

DH&L's empirical analysis also relies on some assumptions that may bias the findings. **One source of upward bias in the price estimates may arise from capital investments and quality improvements at the acquired hospitals. It is common for systems to invest significantly to improve quality at newly acquired hospitals**. In the Scranton, Pennsylvania area, for example, Geisinger Health System and Community Health System reportedly invested hundreds of millions of dollars in their newly acquired hospitals which has resulted in increased quality and access to care.[15] If systems tend to initiate these types of improvements at hospitals in adjacent markets before those in non-adjacent markets, possibly due to economies of scale and scope, pricing changes may be higher for hospitals in adjacent areas relative to those in non-adjacent areas. (Both Geisinger and CHS have hospitals in adjacent markets in Pennsylvania.) Importantly, DH&L find that prices rise in non-adjacent markets as well after a time delay, and the difference between adjacent and non-adjacent price increases is not statistically significant.

Other factors may also drive differential pricing at newly acquired hospitals, as DH&L recognize. Among these other unobservable factors are increased bargaining skill attributable to system-wide sharing of the cost of a more expensive and skillful contract negotiating team or by pooling information from a larger set of contract negotiations.[16] Tenet Healthcare explains its use of new technology and a standardized negotiating format to improve its system results, outcomes that would not be available to non-system hospitals.[17] Among other possible factors is the entrepreneurial talents of some hospital managers that leads them to not seek merger partners or rate increases from insurers

Changes in pricing of this nature are not driven by increases in market power, but rather by dynamics that arise due to membership in a system. DH&L attempt to control for these system-wide changes by comparing different price effects at system acquisitions in adjacent and non-adjacent markets. They believe that nearby hospitals will be more likely to increase prices because they are more likely to have common customers. However, they also find comparable price increases in adjacent and non-adjacent markets, which is consistent with system-wide factors that do not affect competition.[18]

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[15]   Morgan-Besecker, Terry, "Experts Say Consolidation of Hospitals Can Be Good and Bad for Consumers," The Times Tribune, March 13 (2016).

[16]   DH&L, p. 14.

[17]   Colias, M., "Ready to Rumble," *Hospitals & Health Networks*, January 2006, pp. 32-36.

[18]   DH&L, p. 25.

Highly Aggregated Data Obscure Potentially Important Differences Across Plans

The price estimation conducted by DH&L also relies on assumptions that affect the validity of their data. One of those is that they do not analyze actual negotiated transaction prices between health plans and hospital systems. Rather, they approximate prices based on total revenue, exclusive of Medicare payments but not omitting Medicaid revenue, with multiple adjustments to make the observations consistent.[19] It is not clear how this approximation affects their results. One possibility that cannot be divined from the data is whether health plans or employers are affected differently with some experiencing the estimated price increases while others do not. The highly aggregated data obscures any such price differences among payors.

Conclusion

The theories underlying concerns about cross-market effects are just coming into existence. There is little doubt that they will be the focus of continued academic research. The FTC has yet to employ a cross-market effects model in challenging a hospital merger in court, but it has begun to raise the question in its investigations. Although the courts have been unreceptive to cross-market merger theories, more such inquiries by the FTC are certain to be on the horizon.

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[19]   DH&L, p. 17.