A Profile of Professor Martin S. Gaynor (Director, FTC Bureau of Economics)

By Dr. Subramaniam (Subbu) Ramanarayanan[1]
NERA, New York, NY

Introduction

As of October 1, 2013, Dr. Martin Gaynor, a professor of Economics and Health Policy at Carnegie Mellon University, was appointed the new Director of the Bureau of Economics ("BE") at the Federal Trade Commission ("FTC"). Like his predecessors, Dr. Gaynor has considerable experience analyzing antitrust issues in general. But, as suits this moment of health care reform and restructuring, he is also an extremely accomplished scholar of health care antitrust issues, his primary field of research. His academic research has contributed especially to the dialogue on the nature of competition in hospital markets, as well as agency issues in physician services,[2] and he has written extensively on the effect of competition (or its lack thereof) on market outcomes, such as prices and quality of medical care. His research is characterized by his ability to bring state of the art econometric methods to bear on important and policy-relevant issues in health care. This article attempts to convey the richness of Dr. Gaynor's experience with health care issues and highlight some of the research findings in his work that might have a bearing on how BE reviews health care matters during his tenure.

In addition to his focus on the specific competitive outcomes detailed below, Dr. Gaynor has addressed the more fundamental question of whether competition leads to socially desirable outcomes in health care. Economists generally acknowledge that effective antitrust regulation of health care markets is challenging in part because the sector possesses some unique characteristics, such as information asymmetries and the presence of moral hazard.[3] This might raise questions as to whether the competitive outcome is the optimal benchmark policymakers should be aiming to achieve. As an example, Dr. Gaynor cites the fact that, because patients are largely shielded from the actual price of medical care by virtue of being insured, they tend to consume a greater amount of health care services than they would otherwise, leading to higher health care costs.

[1] Dr. Subbu Ramanarayanan is a Senior Consultant in the New York office of NERA. The author would like to thank David Monk, Thomas McCarthy, Scott Thomas, and Lawrence Wu for their insightful comments and feedback.

[2] Physician agency is an overarching term that includes analysis of physician motives and behavior, their response to incentives, as well as an assessment of market power.

[3] Health care is characterized by the presence of information asymmetry in various interactions—such as those between patients and physicians, or between patients and insurers—where one party to the transaction has better information than the other. "Moral hazard" refers to the tendency of people to take on undue risk if they are shielded from the cost or consequences of such risk-taking.

In his research, Dr. Gaynor demonstrates that as long as insurance markets are robust and able to design policies that deal with moral hazard (through co-payments, for example), greater competition is socially beneficial even in the presence of moral hazard.[4] Even if competition were not socially optimal, Dr. Gaynor argues that the agencies can analyze a potentially harmful consolidation in these markets by demonstrating whether a situation creates or adds to monopoly power and, thus, presents a worse alternative.

Competition in Hospital Markets

Dr. Gaynor has authored a number of articles examining the nature of competition in hospital markets. These articles span a variety of issues such as the role played by not-for-profit firms in the hospital sector, appropriate market definition in analyses of hospital mergers, and the impact of such mergers on outcomes such as hospital prices and quality. Many of these studies are motivated by the significant structural shift seen in hospital markets over the past few decades. In particular, Dr. Gaynor has found that most hospital markets are highly concentrated and are becoming even more so over time.[5] Given what he believes to be the oligopolistic nature of many hospital markets, any form of further consolidation has the potential to have a significant impact on pricing and quality outcomes, highlighting the need for vigilant and effective antitrust policy.[6]

Dr. Gaynor's research has touched upon issues that have been at the center of discussions about competition and antitrust. For example, in the aftermath of extensive hospital consolidation in the 1990s, one fundamental question that arose in examining these transactions was whether the transaction ought to be analyzed differently if it involves a not-for-profit hospital.[7] Because not-for-profit hospitals have an explicit community-oriented mission, courts have historically been asked to accept the notion that these hospitals will not exercise market power to raise prices in the aftermath of a merger. To date, most courts have resisted that assertion. Dr. Gaynor addressed this question in his research by specifying and analyzing a model of hospital conduct with a specific view towards understanding differences in the behavior of for-profit vs. not-for-profit hospitals. His research explains that for-profit and not-for-profit hospitals are more similar than one might think when it comes to issues related to competition and market power.

For example, Dr. Gaynor has used hospital discharge data to estimate a model of hospital choice, where consumers choose from a set of hospitals based on attributes like the reputation of the hospital, the geographic distance of the hospital from the patient's residence and the

[4] *See* Martin S. Gaynor, Deborah Haas-Wilson, & William B. Vogt, *Are Invisible Hands Good Hands? Moral Hazard, Competition, and the Second-Best in Health Care Markets*, 108 J. POL. ECON. 992 (2000).

[5] *See* Martin S. Gaynor & Robert J. Town, *Competition in Health Care Markets*, *in* 2 HANDBOOK OF HEALTH ECON. (Mark V. Pauly, Thomas G. McGuire, & Pedro Pita Barros eds., 2012).

[6] In a study examining the effect of entry on competition, Dr. Gaynor finds that entry of a hospital into a market leads to a significant increase in competitive intensity and that most of the effect comes from entry of the second and third hospital into the market, implying that consolidation that leads to the formation of a duopoly or a monopoly could harm competition. *See* Jean Abraham, Martin S. Gaynor, & William B. Vogt., *Entry and Competition in Local Hospital Markets*, 55 J. INDUS. ECON. 265 (2007).

[7] Not-for-profit hospitals make up nearly 80% of all general acute care hospitals in the U.S.

price charged by the hospital.[8] Hospitals are assumed to maximize profits and compete by setting prices in a differentiated oligopoly setting. The model also makes a distinction between for-profit and not-for-profit hospitals in terms of the latter having an objective of maximizing quantity (access) in addition to profits. Like many models of hospital competition, the estimates from Dr. Gaynor's model reveal that hospitals are highly spatially differentiated, i.e., hospitals that are geographically close to each other are viewed as strong substitutes by patients. When these estimates of consumer choice parameters are used to simulate the impact of a hypothetical hospital merger in California, the model predicts that the merger would cause hospital prices to increase substantially irrespective of the ownership status of the merging hospitals.[9] Thus, this result suggests that not-for-profit hospitals will exercise market power should they possess it, and that they do not differ from for-profit hospitals in this regard.

Dr. Gaynor has also weighed in on the issue of market definition. For example, Dr. Gaynor has discussed various ways of defining hospital markets when reviewing hospital mergers.[10] Market definition often plays a key role in antitrust even though the current *Horizontal Merger Guidelines* allow for greater flexibility in identifying market power through actual competitive effects and not based simply on market shares. Dr. Gaynor has been a strong proponent of the view that defining geographic markets in hospital mergers based solely on patient flows might be misleading because the use of this analysis in differentiated product markets does not have sufficient grounding in economic theory.

To illustrate this point, Dr. Gaynor's article compares geographic markets constructed using patient flow-based methods (like the Elzinga-Hogarty test and Critical Loss Analysis) to those obtained using the estimates generated by the model specified above. Since the model allows for calculating the change in demand (and profitability) resulting from an increase in prices at a hospital after a merger, one can iteratively use the estimates to identify the smallest market (i.e., set of hospitals) for which a small price increase would be profitable.[11] On comparing geographic markets constructed in these various ways, Dr. Gaynor finds that patient-flow based methods lead to much broader geographic markets, especially in areas with a greater density of hospitals.

[8] *See* Martin S. Gaynor & William B. Vogt, *Competition Among Hospitals*, 34 RAND J. ECON. 764 (2003). Note that this model of hospital competition differs from the "two-stage" model of competition that has been adopted by the FTC to analyze recent hospital mergers. In the "two-stage" model, health plans and hospitals bargain over prices and network composition in the first stage and once hospital networks have been decided, consumers choose from a set of hospitals and are assumed to face the same out-of-pocket costs across all hospitals within this set. In other words, the price paid for the treatment does not factor directly into the patient's choice of hospital in the "two-stage" model. One way of reconciling the difference in this model vs. the "two-stage" model is to think of the price as reflecting the combined objectives of insurers and patients. Patients may not face any differences in price while choosing a hospital, but end up paying higher premiums if hospitals charge higher prices to insurers.

[9] It should be noted that the reliability of these models in predicting actual post-merger price increases is yet to be conclusively determined since Dr. Gaynor's analysis applied to a hypothetical merger.

[10] *See* Martin S. Gaynor, Samuel A. Kleiner, & William B. Vogt, *A Structural Approach to Market Definition with an Application to the Hospital Industry*, 61 J. INDUS. ECON. 243 (2013).

[11] This is an implementation of the SSNIP test.

Dr. Gaynor's work has also studied the bilateral exercise of market power in health care markets. A recent study examines the extent to which hospital prices are affected by the structure of both hospital and insurer markets.[12] Conceptually, the outcome of such negotiations is hard to predict if, as Dr. Gaynor believes, the markets on both sides are often oligopolistic. On examining the direct link between market structure and prices, this study finds that greater insurer concentration is associated with lower hospital prices.[13] However, a more concentrated insurer market could also lead to higher premiums for consumers, so the net welfare effects are ambiguous. More generally, because of this trade-off, Dr. Gaynor's view is that the notion of accepting mergers that foster countervailing market power, i.e., building market power on one side of the market (e.g. insurers) to counter market power on the other side (e.g. hospitals), may not always present a better option for consumers. The empirical evidence on this is quite limited, but theoretically consumers could be made worse off if such countervailing market power is exercised in the form of supply restrictions. In his opinion, a more appropriate response to dealing with monopoly or monopsony power on one side of the market is not to let the other side merge to monopoly—it is to mitigate the existing market power directly via regulation.

Quality is another important dimension of health care competition, and Dr. Gaynor's research recognizes the important role of quality in the competitive process.[14] The role of quality is particularly important because patients are often shielded by health insurance from the overall cost of treatments they choose.[15] Conceptually, in markets where prices are regulated (e.g. Medicare), greater competition should lead to higher levels of quality as this is the primary lever available to hospitals to attract patients.[16] Dr. Gaynor's recent research tests this hypothesis by examining changes in quality (measured primarily in the form of risk-adjusted mortality for patients undergoing treatment for heart attacks) in hospitals in the UK following the implementation of a reform that promoted competition among hospitals by giving consumers greater freedom to choose the hospital where they could receive care.[17] The estimates indicate that in the aftermath of the reform, quality increased to a greater extent in more competitive markets. This implies that even in hospital markets where prices are administered, competition policy has an important role to play in terms of assuring that

[12] *See* Asako S. Moriya, William B. Vogt, & Martin Gaynor, *Hospital Prices and Market Structure in the Hospital and Insurance Industries*, 5 HEALTH ECON., POL'Y, & L. 459 (2010).

[13] An increase in the concentration of hospitals drives up prices, but the association is not statistically significant.

[14] Economists distinguish between vertical and horizontal aspects of quality, where the former refers to product or service quality while the latter refers to product variety. For the sake of simplicity, this discussion can be thought to pertain to the vertical dimension, although the model is flexible enough to account for horizontal differentiation as well.

[15] Price may not be a factor at all for patients enrolled in programs like Medicare because providers received fixed prices for a particular diagnosis.

[16] This assumes that hospitals can make profits at the prices set by the regulator.

[17] *See* Martin S. Gaynor, Rodrigo Moreno-Serra, & Carol Propper, *Death by Market Power: Reform, Competition, and Patient Outcomes in the National Health Service*, 5 AM. ECON. J. ECON. POL'Y 134 (2013). The National Health Service (NHS) in the UK administers provider prices based on patient diagnosis, in a manner similar to Medicare.

the quality of care is preserved. However, it should be noted that many merging hospitals believe that greater scale or more infrastructure is needed to achieve higher levels of quality. This trend toward consolidation to achieve higher quality will likely be weighed against the possible loss of competitive pressures to push for quality improvements, as found in Dr. Gaynor's research.

The relationships between hospitals and insurers and between hospitals and providers have also been at the heart of a number of issues in health care antitrust. Driven in part by incentives contained in the Affordable Care Act, hospitals are engaging in vertical restructuring to an increasing extent, either through the employment of physicians, acquisition of other types of providers, or through merging or allying with insurance firms. Economic theory does not offer clear predictions on the competitive effects of these transactions—vertical integration can be efficiency enhancing through improved monitoring and coordination or it could be anticompetitive through foreclosure or by raising rivals' costs.[18] In thinking about these issues, Dr. Gaynor has taken the same approach as he has with other issues—he formulates an economic model of behavior, which allows him to draw various inferences and conclusions.

For example, in a recent publication, Dr. Gaynor lays out a framework for the mechanism through which insurer-hospital combinations could affect hospital prices paid by independent insurers.[19] The underlying intuition is that an insurer pays only marginal costs to the hospital with which it is integrated. As pointed out by Dr. Gaynor, this essentially lowers the amount the insurer is willing to pay other hospitals in the market because it incurs a lower cost by using its own hospitals should those negotiations break down, which under certain circumstances might threaten rival hospitals. Dr. Gaynor also shows that this integration might also drive up prices charged by the integrated hospital to independent insurers given that the marginal return from a price increase is higher for the integrated entity.[20] The empirical evidence on the competitive effects of vertical integration in health care is rather limited and inconclusive.

Organization of Physician Services

In addition to his work on hospital competition, Dr. Gaynor has made important contributions to the literature on the organization of physician services, especially medical group practices. His research to date has focused in particular on the economics of various compensation systems within these practices and their impact on group performance.[21] The idea underlying these models is that compensation structures that tie physicians' pay closely to their productivity can be used to elicit the optimal amount of effort required to generate high levels of performance. However, such schemes also expose physicians

[18] Vertical integration refers to complete ownership but vertical restraints could also arise through non-ownership agreements, like exclusive dealing.

[19] *See* Gaynor & Town, *supra* note 5.

[20] This follows from the assumption that higher prices charged by the integrated hospital to independent insurers leads to higher profits not just for the hospital but also for the insurer it is integrated with, given that the insurers rivals now face higher costs.

[21] *See* Martin S. Gaynor, *Issues in the Industrial Organization of the Market for Physician Services*, 3 J. ECON. & MGMT. STRAT. 211 (1994); Martin S. Gaynor & Paul J. Gertler, *Moral Hazard and Risk Spreading in Partnerships*, 26 RAND J. ECON. 591 (1995); Martin Gaynor, James B. Rebitzer & Lowell J. Taylor, *Physician Incentives in Health Maintenance Organizations*, 112 J. POL. ECON. 915 (2004).

to greater risk of income fluctuation due to, for example, a change in reimbursement policies by government payers, or a change in the malpractice environment.

To that end, most medical groups are set up as partnerships, which allow physicians to not only spread some of the fixed costs inherent in structuring a group practice but also spread risk by designing compensation arrangements that allow for revenue sharing. Dr. Gaynor has examined data on medical practice groups and finds that physicians who are more risk-averse belong to groups that engage in a greater degree of revenue sharing. He also finds that such revenue-sharing arrangements, however, also encourage free-riding among group members leading to lower levels of productivity overall. These findings are relevant in the current policy environment given the shift towards payment schemes that impose greater risk on physicians. The model predicts that such a movement will lead to reductions in physician effort, possibly adversely impacting any synergies generated from physician consolidation in this setting.

Antitrust Implications

Dr. Gaynor points to high and rising prices as one of the major ills plaguing the health care sector in the US. His research has identified consolidation among hospitals to be a key factor driving these price increases.[22] As Dr. Gaynor has described it, price increases resulting from consolidation are ultimately passed through to consumers in the form of higher health insurance premiums, or lower wages if higher premium costs are borne by employers. He views antitrust enforcement as an important part of health care policy that helps ensure that consolidation, if harmful, is kept in check so that a market-based health care system, such as the one we have in the US, remains effective. His vision for enforcement relies on continual monitoring of key indicators and structural developments in health care markets, which will determine the need for regulatory intervention when appropriate.

While Dr. Gaynor strongly argues in favor of using effective antitrust enforcement to deal with increased consolidation in health care markets, he also points to the need for regulators to allow and even encourage forms of integration that might be efficiency-enhancing. Antitrust policy also has a key role to play in encouraging innovation, in his view, by ensuring that disruptive competitors (such as Ambulatory Surgery Centers or retail clinics) are able to enter markets and compete with established players without being subject to foreclosure or other forms of competitive harm.

Not all forms of integration are efficiency-enhancing, however. Dr. Gaynor is rather skeptical of the gains generated by consolidation, especially in the case of hospital mergers.[23] Even vertical alignments like physician-hospital integration as in the case of the formation of Accountable Care Organizations ought not to be given a free pass in terms of antitrust oversight, in his opinion, because such entities are not guaranteed to

[22] While there is largely a consensus that hospital consolidation leads to higher price levels, the impact of consolidation on price growth is less clear. In a study investigating the determinants of hospital price growth in California, Dr. Gaynor finds that the highest rates of growth are seen in markets that were monopolies or had high concentration levels throughout the time period of the study, but the increase in prices is not significantly related to changes in local market concentration. *See* Y. Akosa Antwi, Martin Gaynor, & William B. Vogt., *A Bargain at Twice the Price? California Hospital Prices in the New Millenium*, 12 FORUM HEALTH ECON. & POL'Y 1 (2009).

[23] Dr. Gaynor also cites the lack of research evidence on the efficiencies generated by consolidation in physician and insurer markets.

generate cost savings and have the potential to harm competition by restricting entry.

Dr. Gaynor's appointment to the FTC's Bureau of Economics likely indicates that health care will continue to be an active area of antitrust intervention and enforcement going forward. This is especially true in the hospital sector where he finds that consolidation has led to the formation of many concentrated, narrow geographic markets. While defending merger cases with the FTC, the agency is likely to be more receptive to arguments based on efficiency gains from consolidation if these are backed up by concrete evidence (from previous transactions, for example). Defensible claims about quality competition are also warranted. The agency, however, will probably not be receptive to arguments based on the merger helping to build countervailing power. Methodology might also play a crucial role, with the FTC being likely to favor analyses and methods that have a solid grounding in economic theory and quantitative analysis.

Dr. Gaynor is a thoughtful, empirically-oriented economist who has the ability to ask the right questions and the willingness to listen to facts and economic arguments. He is also extremely knowledgeable about the functioning of health care markets. This makes him an appropriate person to have at the helm of the FTC's Bureau of Economics since he can help the agency think through what will, no doubt, be challenging issues in health care antitrust as the sector continues its restructuring efforts.