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COMPETITION IN HOSPITAL SERVICES

-- Paper by Mr. Martin Gaynor --

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The attached document is submitted to Working Party No.2 of the Competition Committee FOR DISCUSSION under item III of the agenda at its forthcoming meeting on 13 February 2012.

Please contact Mr. Frank Maier-Rigaud if you have any questions regarding this document [phone number: +33 1 45 24 89 78 -- Email: frank.maier-rigaud@oecd.org].

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REFORM, COMPETITION, AND POLICY IN HOSPITAL MARKETS

Paper by Mr. Martin Gaynor[*]

1.   Introduction

1.1.   Health Care Costs, Quality

1.   Health care costs have been rising on a sustained basis over the past 30-plus years in Europe, Canada, and the United States (OECD, 2011). There has been growing concern about benefits generated by health care relative to the costs, and the ability to finance this sustained growth in spending. These concerns have been accentuated recently by the global economic situation and the realization that long term fiscal realities require substantial reductions in public spending. Somewhat more recently, starting in the late 1990s, there have been parallel concerns about the quality of care. Despite the substantial sums of money spent on health care, especially in the U.S., quality of care is uneven, with some glaring deficiencies, such as medical errors.

2.   The hospital sector is an area of major concern. This is generally where the sickest patients are treated, and accounts for a large share of the costs. Hospital inpatient care on average accounted for 29 percent of health spending in OECD countries in 2009 (OECD, 2011), and about 2.8 percent of GDP. In addition, hospital markets generally are served by a small number of firms, and are thus susceptible to the exercise of market power if competition is not maintained.

1.2.   Health Reforms

3.   As a consequence, cost control has emerged as a key issue for most developed countries' health systems. The development of most countries' health systems was initially guided by equity goals, not efficiency.[1] This led to common features such as universal coverage and no price rationing. However, health care spending has increased rapidly over time --- the percent of GDP devoted to health care has more than doubled in OECD countries since 1960. This has led to health system reforms aimed at combating the increase in health care costs. In addition, quality problems have recently emerged as another area of concern. While the problems confronting health systems have not changed in any fundamental way, the policy approaches have (Dixon and Poteliakhoff, 2012).

4.   Initially (1970s and 1980s), approaches to cost control were regulatory, e.g., fee reductions to health care providers and rationing access (especially to new technologies). These approaches did seem to slow the growth in costs, but only temporarily. As a consequence, continuing to contain costs would require continually tightening regulatory limits. Such an approach leads to the politically unattractive prospect of more visible and onerous rationing.

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[*]   Martin Gaynor, H. John Heinz III College, Carnegie Mellon University, Centre for Market and Public Organisation, University of Bristol, National Bureau of Economic Research, mgaynor@cmu.edu

[1]   The United States may be an exception.

5.   At present, market oriented approaches are being adopted or considered in a number of countries.[2] This has the attraction of reducing costs without public cuts in entitlements.

1.2.1.   United States

6.   The U.S. is the country with the most experience with competition in health care markets. It has always relied on markets to some extent, however, some key policy changes intensified the role of competition in hospital markets. First, in 1983, the Medicare program changed the way it paid hospitals. Previously hospitals had been paid on a retrospective cost-plus basis. From 1983 onwards hospitals were paid on a fixed price prospective basis (the Prospective Payment System, PPS, often referred to as ``DRG payment.''). As a consequence, hospitals now had an incentive to compete for patients (at least those with profitable conditions). Second, in the 1990s, U.S. states began allowing private health insurance companies to engage in selective contracting with health care providers. This change allowed insurers to engage in serious price negotiations with hospitals, leading to substantially tougher price competition. Antitrust enforcement agencies, however, lost 8 straight hospital merger cases during the 1990s, concurrent with a substantial amount of consolidation in the industry. The majority of urban areas in the U.S. are now highly concentrated.[3] The HHI for hospital markets rose by over 900 points from 1987 to 2006 (Gaynor and Town, 2012).

1.2.2.   England

7.   The English N.H.S. (not Scotland, Wales, or Northern Ireland) introduced a set of reforms in 2006 designed in introduce non-price competition among hospitals. The reforms had three moving parts. Hospitals went from negotiating reimbursement with local health authorities (PCTs) to ex ante fixed prices based on diagnosis (Payment by Results, PbR). It was also required that patients be given the choice of 5 hospitals. Hospitals designated as Foundation Trusts could keep their surpluses, and good performance allowed ordinary hospitals to achieve Foundation Trust status.

1.2.3.   The Netherlands

8.   The Netherlands has gradually been moving to allowing hospital prices to be market determined. Beginning in 2006 health insurers and hospitals were allowed to freely negotiate prices for an increasing subset of services (the "B-segment"), comprising approximately 1/3rd of services at present.

1.3.   Issues with Competition in Health Care

1.3.1.   Is Health Care Different?

9.   It is often alleged that health care is different from other goods, and as a consequence markets don't work in health care. In discussing this first let me enumerate the ways in which health care is different from a perfectly competition market. While there are few truly perfectly competitive markets in the real world, perfect competition does serve as the benchmark for market performance, so it's worth considering how health care compares.

10.   The conditions for a market to be perfectly competitive are as follows (Perloff, 2012).

- Homogeneous products

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[2]   For example, the U.K., France, the Netherlands, Germany, and Sweden.

[3]   Herfindahl-Hirschmann Index (HHI = sum of squared market shares) greater than 2,500.

- Large number of firms

- Free entry and exit

- No transaction costs

- Perfect information

- No externalities or public goods

11.   Hospital markets deviate from these conditions in several fundamental ways. First, the product is differentiated, not homogeneous. Hospitals differ in their characteristics, including location and quality of care. Second, hospital markets are oligopolies, characterized by a small number of firms. Third, entry and exit are costly, although technological advances have somewhat changed this. For example, many surgeries can now be performed on an outpatient basis at free standing independent surgery centers. Nonetheless, many procedures can only be performed on an inpatient basis. Constructing an entirely new inpatient facility is extremely costly. Exit is also costly, because of the specialized nature of the facility. Hospital facilities can be converted to other uses, but at a nontrivial cost. Fourth, there are transactions costs. Travel costs to obtain care can be substantial (one may also regard location as a product characteristic). Purchasing is often done by a third party (a private health insurer or a government agency) via negotiations, which can have nontrivial transactions costs. Fifth, one of the characteristic features of health care is imperfect information. There is asymmetric information between patients and providers and purchasers and providers along a number of key dimensions, for example appropriate treatment and provider effort. Last, while there are some externalities in health (e.g., infectious disease), most of what is bought and sold in hospital markets in developed countries is not subject to externalities nor does it have a substantial public good character (e.g., heart surgery).[4,5]

12.   The fact that health care markets do not conform to the theoretical conditions for perfect competition is not very significant. Very few real world markets come very close to these conditions. Indeed, many markets deviate from the conditions for perfect competition in ways that are similar to health care.

13.   The vast majority of products sold in modern economies are differentiated. Automobiles, ready-to-eat breakfast cereals, computers, restaurant meals, even retail gasoline are all differentiated (gasoline primarily via location). This is a common feature of many markets, and it poses issues for competition. However, much of modern industrial organization has been devoted to understanding the workings of such markets. While it is understood that product differentiation can soften competition, that doesn't mean that competition can't "work" in these markets (see, e.g., Tirole, 1988; Carlton and Perloff, 2005; Pepall et al., 2005).

14.   The same description also holds for oligopoly. Many markets in the economy are oligopolies. These include automobiles and ready-to-eat breakfast cereals, as mentioned above, plus other markets like airlines and personal care products like toothpaste, shampoo, etc. Again, having a small number of firms in a market presents challenges to competition, but in general we let markets serve as the mechanism for organizing exchange even when there are oligopolies.

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[4]   There will usually be pecuniary externalities, since care is financed via private insurance or public funding.

[5]   It is important to note that there may be externalities if individuals are concerned about others' health. In that case others' consumption of health care will constitute a (positive) externality.

15.   The issue of entry and exit costs is related. Oligopoly markets are typically characterized by high entry (and often) exit costs – that is why there are few firms serving these markets. Of course in some cases entry costs are high enough that only one firm serves a market. That amounts to a "natural monopoly." Economic theory indicates that (price) regulation is warranted in such a case.

16.   Transactions costs are also a pervasive feature of markets. All markets require some time expenditure in order to obtain goods, whether it's travel time or time spent on a website. Most retail goods are sold with posted prices, so beyond the time cost, transactions costs are typically low. For some good, like automobiles or houses, price is typically determined via negotiation. In these markets transactions prices can be significant. Nonetheless, there are few allegations that these markets are fundamentally flawed and should be replaced by another method of allocation.

17.   Economists agree that the defining feature of health care markets is imperfect information, specifically asymmetric information. Asymmetric information presents a significant challenge to the functioning of markets. Most of the concern with health care (as opposed to health insurance) is moral hazard. Health care providers (e.g., physicians) know more about the patient's problem, the technology of treatment, and their own effort, than does the patient. In short, physicians are selling an "expert service." Patients are buying both diagnosis and treatment. This puts the physician in a position to exploit the information asymmetry to their advantage, for example, recommending more profitable services or providing less effort. Health care, however, is not the only expert service. Automobile repair, plumbing, dentistry, and financial advising are all examples of expert services. Consumers in markets like this are often subject to exploitation by sellers (automobile repair is a canonical example). However, adjustments to the information asymmetry allow these markets to function, for example, seller reputations, warranties, 3rd party ratings of sellers, etc.

18.   There can be other effects of imperfect information. If few consumers are well informed, then sellers don't have to compete intensively with each other. For example, if few consumers have information about quality, then hospitals will not need to compete with each other over quality.

19.   As I mentioned previously, hospital services are mostly private goods, hence there are no significant externalities or public good aspects in these markets. As I also mentioned, individuals may have concerns over the health of others, which can be expressed as a positive externality of others' consumption of hospital care. If this is the case it will have the usual impact of an externality – in the case of a positive externality the market will produce too little of the good. I think it's more productive to talk about equity explicitly, as opposed to couching equity concerns as efficiency in the form of an externality.

1.3.2.   Conditions for Competition to Work

20.   In order for competition to work in hospital markets, what do we need? Some of the things we need correspond to factors discussed above, but there are some additional factors due to the institutional characteristics of hospital markets. The conditions that must hold for competition to work in hospital markets are as follows.

- "Enough" hospitals

- Incentives for hospitals to attract patients

- Demand responsiveness to differences across hospitals

- "Enough" information

21.   We know from economic theory that competition in oligopolistic markets gets tougher as the number of firms increases. In fact, competition can increase substantially even with only a small number of firms, e.g., moving from 1 firm to 2, or from 2 firms to 3. There is empirical evidence on this. Bresnahan and Reiss (1991) find evidence that competition increases substantially as the number of competitors increases for doctors, dentists, druggists, and tire dealers (they find no change for plumbers). Abraham et al. (2007) perform a similar analysis for hospitals. They find that hospital competition gets substantially tougher as more hospitals are in a market, up to 3 hospitals. As a consequence, even two hospitals in a market can be enough to have fairly tough competition.[6]

22.   In economics in general it is presumed that firms want to attract customers. Firms are profit maximizers and make money by selling their products. However, that is not necessarily the case in all health care systems. If hospitals' budgets are not directly related to their patient volume then they have little or no incentive to attract patients. It is necessary that hospitals' revenues increase with the number of patients, and that they retain (at least some) of those revenues.[7] For example, in the English NHS, hospitals are paid a fixed price based on the patient's HRG (a DRG like categorization). Assuming the price is above marginal cost, it is profitable for the hospital to treat the patient. However, unless the hospital can retain the profits generated by admitting the patient, there is no incentive do so. Another key factor is that Foundation Trusts keep their financial surpluses, and "ordinary" trusts are evaluated on the basis of their financial performance and have the ability to be designated Foundation Trusts if their performance is deemed sufficiently good.

23.   A key condition for making competition work is that demand is responsive to differences across hospitals in the key competitive variable(s). For example, if price is market determined, then demand must be responsive to price differences across hospitals – otherwise there is no reason for hospitals to compete on price. The same is true of quality, or any other characteristic. It will often be the case that quality is the key competitive variable, since price is administered, rather than market determined. It will not necessarily be the case that the patient is the only one involved in decision making, indeed, that may not even be desirable. Clearly demanders must be able to perceive differences across sellers and value them properly. This can be difficult for individual consumers in health care, with respect to say, quality, or even price.[8] Consumers may have difficulty gathering information themselves or evaluating information properly even if they have it. Patients' physicians can in principle act as their agents, however physicians may not have strong incentives to act on patients' behalf. A 3rd party, whether government or private, can help to provide information and decision assistance. A non-trivial difficulty here is measuring quality. A great deal of progress has been made in measuring health care quality, but the measures are still quite imperfect. Another alternative is more active patient steering, as occurred in managed care in the US. Hospitals have to compete to be included in provider networks, which can be on the basis of price or quality. Patients who wish to go to a provider outside the network pay substantially more. Managed care plans in the US did this on the basis of price, but in principle it could be done on the basis of quality as well.

24.   I have already discussed information above. However, it is not necessary for all consumers in a market to be well informed for information to be effective. It is sufficient that "enough" buyers be well informed and that sellers can't discriminate among well informed and poorly informed customers. If a sufficient number of buyers are well informed then sellers will have to respond as if everyone is well

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[6]   Of course competition will be tougher with more hospitals. Collusion is also more of a concern the fewer firms there are in a market.

[7]   This is sometimes referred to as "activity-based funding." See O'Reilly et al. (2012) for documentation on this in 5 European countries.

[8]   In many health systems patients bear little or none of the cost, or there are no price differences between hospitals due to administered pricing, so quality, not price is relevant.

informed. They can't shade quality or raise price because the well informed buyers will go elsewhere. Sellers also know that the other sellers know this and thus all sellers have strong incentives to provide high quality or low prices for fear that others will steal their customers. While buyer information is a significant issue, it is a less formidable obstacle to have a fraction of buyers well informed.

2. Evidence

2.1. Economic Theory

25. Economists, antitrust scholars, and the courts intuitively think that competition is a good thing. Indeed, this is the presumption of antitrust law. Economic theory, when there are differentiated products, however, is not so clear. In what follows, I briefly summarize the state of knowledge on this issue from economic theory. I divide this into situations where price is administered (e.g., set by a central authority) versus those where price is set by firms. These situations have very different results.

2.1.1. Administered Prices

26. Economic theory is fairly straightforward with regard to competition when there are administered prices. Since a regulator sets the prices firms compete over non-price dimensions to attract consumers. I will refer to this as "quality." If price is set above marginal cost, then attracting another patient is profitable for a hospital. In that case, hospitals will compete for patients. Competition will become more intense as the number of hospitals in a market increases, assuming that the demand faced by an individual hospital becomes more responsive to hospital quality.[9,10]

27. Another clear implication of the theory is that the level at which the administered price is set is critical. If the price is set below marginal cost then firms will reduce quality, or if they can't, try to avoid patients. If the price is set too high above marginal cost then the resulting level of quality will be too high.

28. In standard economic models competition of this sort (with price above marginal cost) can be inefficient. Firms steal demand from each other, rather than expanding total market demand, as a consequence, competition can lead to excessive levels of quality. In health care, however, the value that patients derive from consuming the same quantity of care can be dramatically enhanced by improved quality. As a consequence, it's less likely that such quality competition in wasteful, even if it only results in demand stealing.

2.1.2. Market Determined Prices

29. In the case where both prices and quality are market determined theory is unclear about the impacts of competition. There is no general result here – the results tend to be model specific. However, there are still some general insights available. The model developed by Dorfman and Steiner (1954) is very useful for this purpose. Their model is nominally about choice of price and advertising, but can also be interpreted as about price and quality. The model yields the following equation, known as the Dorfman-Steiner condition (z is quality, p is price, d is the marginal cost of quality, ε_z is the quality elasticity of demand, and ε_p is the price elasticity of demand).

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[9] If demand is responsive to quality differences across hospitals, then demand for any hospital will become more elastic as the number of hospitals increases, since consumers now have more choices. The assumption here is that hospitals become closer substitutes the more of them there are.

[10] See Gaynor (2006) or Gaynor and Town (2012) for a more complete exposition.

$$z = \frac{p}{d}\frac{\varepsilon_z}{\varepsilon_p}$$

30.   This says that quality will go up if the quality elasticity of demand increases or the price elasticity of demand declines, and vice versa. It also offers some other insights.

31.   Presume that there exist "optimal" values of the price and quality elasticities, that is, there exist unique values which induce the monopolist to choose the socially optimal price and quality. Then if market power over price increases, i.e., ε_p goes down, price will increase above the optimum. Quality will also increase. Alternatively, if the quality elasticity decreases, quality will fall to a sub-optimal level, even if the price elasticity is at its optimal value. If an increase in market power reduces both the price and quality elasticities, the effect on quality is unclear. Price will certainly rise. If the price and quality elasticities fall by the same proportion, so that their ratio is unchanged, price will still rise and as a consequence quality will also rise above its optimal level. If the ratio of the quality elasticity to the price elasticity falls by more than price increases, quality will fall below the optimal level.

32.   Dranove and Satterthwaite (1992) consider the effects of information on price and quality when consumers are imperfectly informed about both. They find that if consumers have better information about price than about quality, then this can lead to an equilibrium with sub-optimal quality. Intuitively, this is similar to what happens in the Dorfman–Steiner framework with an increase in the price elasticity of demand, with no increase in the quality elasticity. The price-cost margin will fall, leading to a decreased payoff to quality, and a decrease in the quality–price ratio.

33.   Kranton (2003) examines the impact of competition on quality when consumers have imperfect information about quality. A number of papers have considered the question of whether there is an equilibrium at which the socially optimal quality is produced in a market where consumers are imperfectly informed about quality (but not about price) (Allen, 1984, Klein and Leffler, 1981, Shapiro, 1983). These papers demonstrate that there is an equilibrium with optimal quality if consumers can learn about quality *ex post* and if firms care enough about (future) repeat business. In this equilibrium there is a "quality-assuring price" that is above marginal cost and supports the optimal quality. Kranton shows that this result does not necessarily hold if firms compete in price for market share (a feature that is absent from the prior models). If a firm can increase (and sustain) its market share by cutting price, then there cannot be an equilibrium at the socially optimal quality level. One may apply the intuition from the Dorfman and Steiner model to Kranton's result. The ability to increase market share via price cuts is analogous to a large price elasticity of demand in the Dorfman–Steiner model, which leads to a lower quality–price ratio. If the reference point is an equilibrium with optimal quality, as in Kranton's model, then the lower quality is suboptimal.

34.   Allard *et al.* (2005) explicitly consider competition in the physician services market. They consider a repeated game between physicians and patients. The patient's health is determined by observable medical care and physician effort. Physician effort is anything physicians do that affects patient health. It can be thought of as quality. The patient observes his health *ex post*, so physician effort is observable, but is non-contractible. In the static game physicians will supply sub-optimal effort. However, in the repeated game there is an equilibrium in which physicians supply optimal effort. This equilibrium obtains under certain conditions, in particular, if patient switching costs are not too high and there is an excess supply of physicians. If switching costs are high then effort will be suboptimal, but competition will result in effort levels above the minimum.[11] Again, there are parallels to the Dorfman and Steiner

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[11]   In addition, if there is uncertainty in the relationship between patient health and physician actions, then physicians face some risk of patients switching even if they have supplied optimal effort. In this case, the physicians will supply supra-optimal effort.

intuition. In the Allard *et al.* model optimal effort occurs when patient switching costs are not too high. This is similar to the quality elasticity of demand being sufficiently high in the Dorfman and Steiner model. Sub-optimal effort occurs when switching costs are high, analogous to a low quality elasticity of demand.

35.   While there are still no determinate conclusions from this framework, it does offer some useful guidance for thinking about issues of competition in health care markets. For example, if buyers in health care markets become better informed about quality, either through better information dissemination or increased emphasis on quality and medical errors then the quality elasticity of demand may increase. Quality will then increase. If the price elasticity remains unchanged this will increase price (since the increase in quality increased marginal cost), but price cost margins will remain unchanged. As an alternative example, the advent of managed care in the US in the 1990s is commonly thought to have increased the price elasticity of demand facing health care firms (hospitals in particular). This should have led to decreased prices, and indeed seems to have done so.[12] If there was no sufficiently countervailing increase in the quality elasticity, then quality should have fallen.[13]

2.2.   *Empirical Evidence[14]*

36.   There is a well established empirical literature on competition and prices in hospital markets. The empirical evidence in this area comes almost entirely from the US (there is one recent paper from the Netherlands). There is also a newer literature on hospital competition and quality. While the majority of the evidence here is also from the US, there is a rapidly growing literature with evidence from other countries, such as the UK and the Netherlands.

37.   In what follows, I first review the evidence on the impacts of competition on quality. I then discuss the evidence of the impact of competition on price. I also then review the evidence on costs/efficiencies from merger, and last, I review the small literature on vertical integration.

2.2.1.   *Quality*

38.   A number of research studies have examined the impacts of hospital consolidation on various measures of quality, although the most commonly used measure of quality is mortality (adjusted for patient severity of illness). The results in this literature are mixed, although the results are strongest for markets with administered prices (see Gaynor, 2006; Vogt and Town, 2006; Gaynor and Town, 2012, for surveys).

39.   The evidence from markets with administered prices is fairly clear – competition among hospitals leads to better quality. While not every single paper in the literature has this finding, this is the case for the majority of the studies, and the strongest studies. The evidence comes from the US Medicare program, the UK (English NHS), and the Netherlands.

40.   A number of studies have examined the impact of market concentration on patient mortality for Medicare patients. There are a variety of findings, but the strongest studies find that market concentration

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[12]   See Dranove and Satterthwaite (2000), Gaynor and Vogt (2000), Vogt and Town (2006), and Gaynor and Town (2012) for reviews of the evidence.

[13]   It is important to bear in mind here that if the starting point was one where hospitals possessed market power, then the model predicts that quality should have been at supra-optimal levels. Thus a decrease in quality could be welfare improving (assuming it did not fall below the optimal level).

[14]   I only refer here to papers published in English, due to my rudimentary knowledge of most other languages.

significantly increases mortality (Kessler and McClellan, 2000; Kessler and Geppert, 2005). Kessler and McClellan find that risk-adjusted one year mortality for Medicare heart attack (acute myocardial infarction, or AMI) patients is significantly higher in more concentrated markets. In particular, patients in the most concentrated markets had mortality probabilities 1.46 points higher than those in the least concentrated markets (this constitutes a 4.4% difference) as of 1991. This is an extremely large difference - it amounts to over 2,000 fewer (statistical) deaths in the least concentrated vs. most concentrated markets.

41.   The English National Health Service (NHS) adopted a set of reforms in 2006 that were intended to increase patient choice and hospital competition, and introduced regulated prices for hospitals based on patient diagnoses (analogous to the Medicare Prospective Payment System). Two recent studies examine the impacts of this reform (Cooper et al., 2010; Gaynor et al., 2010) and find that, following the reform, risk-adjusted mortality from heart attacks fell more at hospitals in less concentrated markets than at hospitals in more concentrated markets. Gaynor et al. (2010) also look at mortality from all causes and find that patients fared worse at hospitals in more consolidated markets.

42.   The results of studies which examine impacts of competition for privately insured patients are more mixed. A number of studies find that quality is positively affected by competition, a number find that it is negatively affected by competition, and some find no effect. As a consequence, there is no clear general impact of the impact of hospital consolidation on quality for privately insured patients that can be ascertained from the current research literature.

43.   A recent study by Cutler et al. (2010) examines not only the impacts of competition on quality, but also impacts on costs. Cutler et al. use the repeal of entry restricting regulation (hospital certificate of need regulation; CON) in Pennsylvania to examine the effect of entry of hospitals into the CABG surgery market. They find that entry led to increased quality, but that the gains from reduced mortality due to entry are approximately offset by the additional costs incurred by entering firms.

44.   A recent paper by Romano and Balan (2011) attempts to directly assess the impacts of hospital mergers on quality. Romano and Balan study the impact on quality of care of a consummated merger between two hospitals in the Chicago suburbs (Evanston Northwestern Hospital and Highland Park Hospital). This merger was the subject of an antitrust suit by the Federal Trade Commission, and the authors provided evidence on the case. They find no significant impact of the merger on many quality measures, but there is a significant negative impact on some and a few with positive impacts. They estimate that the merger led to heart attack, pneumonia, and stroke mortality going up at Evanston Northwestern Hospital, although not at Highland Park. There was some improvement in quality for some nursing-sensitive quality measures: the incidence of decubitis ulcers (bedsores) fell at both merged entities, as did infections at Evanston Northwestern. Conversely, the incidence of hip fractures rose at Evanston Northwestern. Last, they found increases in some measures of obstetric outcomes (birth trauma to the newborn, obstetric trauma to the mother), and decreases in some other measures. They conclude that overall there is no reason to infer that the merger had salutary effects on quality.

45.   Bijlsma et al. (2010) examine the impacts of hospital competition in the Netherlands on process indicators (e.g., share of operation cancellations on short notice and share of diagnoses within 5 days) and outcome indicators (e.g., mortality rates) of hospital quality. They find that competition explains differences in process indicators, but not outcome indicators, i.e., hospitals facing more competition did better on process, but no differently with regard to outcomes than hospitals in less competitive markets.

46.   Overall, the research evidence suggests that hospital consolidation can have a negative impact on quality in markets with regulated prices, like Medicare. However, the current research evidence where prices are market determined (the privately insured) does not indicate a clear impact of consolidation on quality in those markets in general.

2.2.2.   Prices

47.   There has been a lot of research on the impact of hospital market consolidation on prices paid by private payers, mostly in the US, because price is set administratively in most other systems. There is, however, some recent evidence from the Netherlands, which has allowed prices for some hospital services to be market determined. The overwhelming finding in the literature is that consolidation leads to higher prices (see Dranove and Satterthwaite, 2000; Gaynor and Vogt, 2000; Vogt and Town, 2006; Gaynor and Town, 2012, for reviews of the evidence).

48.   Examining the distribution of realized hospital prices (for the privately insured) alone is informative about the functioning of hospital markets. Ginsburg (2010) uses administrative claims data for 8 geographic areas from 4 large private insurers to construct inpatient hospital prices. He finds that there is significant variation both within and across regions in hospital prices. For example, San Francisco has the highest average hospital prices in 2008, with prices equal to 210% of the Medicare reimbursement rate. The lowest rate is Miami-South Florida with mean prices that are 147% of Medicare rates - the mean price in San Francisco is 43% higher than Miami. Within San Francisco, the interquartile range is 116% of the Medicare price. Of course, there are a number of possible reasons for this variation. Cost, quality and demand differences will generally imply price differences. However, it seems unlikely that there is enough variation across those factors to generate such wide variation in price.

49.   There are a number of different methods that have been used to estimate the impact of hospital consolidation on prices. The most direct approach compares price increases at merging hospitals with those at similar hospitals which did not merge (see Capps and Dranove, 2004; Dafny, 2009; Haas-Wilson and Garmon, 2011; Kemp and Severijnen, 2010; Krishnan, 2001; Spang et al., 2001; Sacher and Vita, 2001; Tenn, 2011; Thompson, 2011). The vast majority of these studies find price increases of at least 10 percent due to merger, with some estimates of price increases due to merger of 40 percent or greater.

50.   For example, Haas-Wilson and Garmon (2011) evaluate the Evanston Northwestern and Highland Park hospitals in the northern suburbs of Chicago. They find a price increase of 20 percent due to that merger. Tenn (2011) examines the merger of two hospitals in California: Summit and Alta Bates. He finds that prices at Summit hospital increased between 28 and 44 percent after the merger. Kemp and Severijnen (2010) estimate the impacts of two hospital mergers in the Netherlands on the price of hip surgery. For the merger that raised more serious concerns, between Ziekenhuis Gooi-Noord and Ziekenhuis Hilversum, they find price increases of 3.5 per cent for Ziekenhuis Gooi-Noord and 5.1 per cent for Ziekenhuis Hilversum due to their merger.

51.   Another source of information on the impacts of hospital consolidation comes from studies which examine the impact of hospital market concentration (measured as the HHI) on price. These studies don't examine the effects of mergers directly, but allow one to calculate the expected impact of a merger based on its impact on market concentration. Vogt and Town (2006) calculate the average estimated impact of a merger of two equal sized hospitals in a five hospital market (a "5 to 4" merger).[15] They find that such a merger is estimated to increase prices by 5 percent. Halbersma et al. (2010) find hospital prices are positively correlated with hospital concentration and negatively correlated with insurer concentration after the introduction of market-based health care reforms in the Netherlands in 2004.

52.   Last, a few research papers have estimated the impacts of hospital mergers using simulation. These papers estimate models of hospital competition, then use the estimated parameters of those models to simulate the impacts of mergers (Town and Vistnes, 2001; Capps et al., 2003; Gaynor and Vogt, 2003;

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[15]   This results in an 800 point increase in the HHI, from 2000 to 2,800. The average HHI rose by about this amount from 1997 to 2002, albeit from a higher base.

Brand et al., 2011). These papers find estimated impacts of mergers ranging from 5 to 53 percent increases in price. Town and Vistnes (2001) examine mergers among hospitals in Los Angeles and Orange Counties, California, where there are more than 120 hospitals between the two counties. They find that many of the mergers they examine would result in price increases of 5 percent or greater, in spite of the large number of hospitals in these counties. Capps et al. (2003) examine a 3 hospital merger in the southern suburbs of San Diego County, California, and find a price increase due to the merger of over 10 percent. Gaynor and Vogt (2003) find that a three-to-two hospital merger in San Luis Obispo, California (which was attempted, but blocked by the FTC) would have raised prices by over 50 percent. Brand et al. (2011) consider the recent proposed acquisition of Prince William hospital in Manassas, Virginia by Inova health system in Northern Virginia. They estimate that the acquisition would have led to price increases at Prince William hospital of anywhere from 19 to 33 percent.

53.   Overall, these studies consistently show that hospital consolidation raises prices, and by nontrivial amounts. Consolidated hospitals that are able to charge higher prices due to enhanced market power are able to do so on an ongoing basis, making this a permanent rather than a transitory problem.

2.2.3.   *Not-for-Profit/Public Firm Behavior*

54.   The hospital sector is characterized by the fact that in most countries the firms are either public or not-for-profit. In the US there is a mixture of firms with different ownership types. Not-for-profits are the most common, but there are substantial numbers of for-profit hospitals and public hospitals. One question that is relevant in this setting is whether not-for-profit hospitals behave any differently with regard to their competitive conduct.

55.   A number of studies (e.g., Keeler et al., 1999; Simpson and Shin, 1997; Dranove and Ludwick, 1999; Capps et al., 2003; Gaynor and Vogt, 2003) have addressed the issue of not-for-profit/for-profit differences in competitive conduct. Those studies do not find any significant differences in pricing behavior. In particular, the effects of consolidation on pricing do not appear to differ depending on whether a hospital is not-for-profit.

56.   A recent study by Capps et al. (2010) examines whether not-for-profit hospitals are more likely than for-profit hospitals to offer more charity care or unprofitable services in response to an increase in market power. The implication is, that if there were such a difference, not-for-profits would be spending their profits from market power on socially beneficial activities. Capps et al. examine 7 years of data on California hospitals and find no evidence of any such differences - not-for-profits do not engage in any more socially beneficial activities than do for-profits when they possess market power.

2.2.4.   *Costs*

57.   It is clear that mergers can result in efficiencies because of economies of scale, increased purchasing power, the ability to consolidate services, or the transfer of managerial techniques and skill to the acquired hospital. However, mergers also have the potential to increase costs. Larger systems imply larger bureaucracies. In addition, hospital costs are not necessarily exogenous to market structure. Hospitals that are able to bargain for higher prices may have the incentive to use the resulting profits for the benefit of physicians and hospital executives (e.g., through capital expenditures that benefit physicians or increases in executive compensation or perks). This is particularly likely if there is no residual claimant (as is the case for not-for-profit or public organizations) or monitoring by the residual claimant is costly. Thus, the analysis of cost impacts is central to understanding the impact of hospital mergers. The evidence presented above suggests that, on average, hospital mergers result in increases in price. Consequently if there are significant cost reductions associated with mergers they are not passed onto the purchasers of hospital services in the form of lower prices.

58.   A few studies do directly examine the impact of hospital mergers on costs. Dranove and Lindrooth (2003) examine mergers of previously independent hospitals that consolidate financial reporting and operate under a single license post-merger. They find that, on average, these hospitals experience post-merger cost decreases of 14 percent. System mergers in which the hospitals were not as fully integrated (as measured by the use of multiple licenses) did not realize cost savings. These findings suggest that integration of merging hospitals is necessary to achieve meaningful efficiencies. A recent study by Harrison (2010) finds that immediately following a merger costs declined, but eventually rose to pre-merger levels. This finding is difficult to reconcile with the view that mergers require significant upfront costs but have benefits accrue in later years. The circumstances in which mergers are most likely to result in meaningful cost decreases are those in which the merging facilities operate as a more fully integrated entity. To be clear, however, the presence of any cost savings does not mean that they are necessarily passed on to consumers.

59.   The UK government pursued an active policy of hospital mergers in the late 1990s to mid-2000s, arguing that such consolidations would bring improvements for patients. Between 1997 and 2006 in England around half the short term general hospitals were involved in a merger Gaynor et al. (2011) examine the impact of these hospital mergers on financial performance, productivity, waiting times and clinical quality and find little evidence that mergers achieved any gains other than a reduction in activity.

2.2.5.   Vertical Integration

60.   Vertical integration between hospitals and physicians or insurers and providers can in principle provide efficiencies by aligning incentives, allowing for better coordination of care and joint investments which enhance efficiency or the quality of care. At the same time, integration can potentially harm competition by foreclosing rivals from access to key inputs. An integrated system which has locked up all the orthopedists in town, for example, may make it difficult to impossible for another hospital to offer orthopedic services or for a freestanding ambulatory surgery center to enter the market and compete on orthopedic services. Separately, integration may eliminate competition among previously independent providers. For example, physicians who had previously been in competition all become members of the same firm once they integrate with a hospital system (or an insurer).

61.   There is very little evidence at present on the impact of vertical integration on market power. In part, that is because vertical integration has not been that common in health care. It was quite rare until the mid-1990s, and then declined rapidly thereafter. Integration between hospitals and physician practices peaked in 1996 at approximately 40% of all hospitals, and declined thereafter (Burns and Pauly, 2002; Ciliberto, 2005). This pattern was repeated with vertical integration of hospitals into the insurance market, although the extent of vertical integration was never as great as between hospitals and physicians (Burns and Pauly, 2002). This growth coincided with the growth of managed care, and in particular with the perceived growth in managed care organizations' negotiating power with hospitals. Burns et al. (2000) find that hospital-physician alliances increase with the number of HMOs in the market. They infer that providers may be integrating in order to achieve or enhance market power. More recently, Berenson et al. (2010) conducted 300 interviews with health care market participants, and report that increased bargaining power through joint negotiations listed as one of several reasons for hospital-physician alliances.

62.   Certain types of vertical relations in health care have been the subject of significant antitrust scrutiny exclusive dealing between physician practices and hospitals (usually for a specialized service, e.g., radiology, anesthesiology, or pathology), and most-favored-nations clauses between insurers and providers, which require the provider to give the insurer a rate as low as it gives to any buyer (see Gaynor and Haas-Wilson, 1998; Haas-Wilson, 2003, for reviews of vertical issues in health care).

63.   In spite of the interest in this topic, there is relatively little evidence on the effects of vertical restraints in health care. Ciliberto and Dranove (2005) and Cuellar and Gertler (2005) are the only two papers (of which I am aware) which examine the competitive impacts of vertical integration in health care. Both papers look at the effects of hospital-physician practice integration on hospital prices. The two studies find opposite results - Cuellar and Gertler find evidence consistent with anticompetitive effects of physician-hospital integration, while Ciliberto and Dranove find no such evidence.

64.   Research on effciencies from integration does not find much evidence of positive gains from integration. Burns and Muller (2008) review the empirical evidence on hospital-physician relationships. They find little evidence of an impact of integration on costs, quality, access or clinical integration. Madison (2004) investigates the relationship between hospital-physician affiliations and patient treatments, expenditures, and outcomes using data on Medicare heart attack patients. She finds little evidence of any impacts of hospital-physician relationships.

3.   Summary and Conclusions

3.1.   *What do we know about competition in hospital services?*

65.   In summary, it is clear that hospital competition leads to lower prices, and to higher quality when prices are fixed by administrative fiat. The research does not find evidence of efficiencies due to merger. It is less clear what the impact of competition on quality is when price is market determined.

66.   The evidence thus far is supportive of competition improving quality when prices are set administratively. For this to happen hospitals have to have an incentive to try to attract more patients and patients, or someone choosing on their behalf, has to be able to observe and respond to hospital differences in quality.

67.   When price is market determined, the evidence also supports competition reducing prices. This is important, but it is less clear what the impacts are on quality. As stated above, hospitals must have strong incentives to try to attract more patients, and patients (or someone choosing for them), must observe prices and respond.

68.   Thus, there are important conditions for competition to work. The market must not be so concentrated that hospitals don't have to work to attract patients. Hospital payment must provide them with strong incentives to attract patients. There must be sufficient information in the market that it is possible to observe relevant differences across hospitals (quality, price) and respond. Last, consumers have to be responsive to quality or price in order to drive hospitals to compete. This may be through their own direct choices, or with a 3rd party playing a role in assisting choice.

3.2.   *Role for government*

3.2.1.   *Competition authority (antitrust)*

69.   If markets are going to be employed for the organization and delivery of hospital care, then competition is important for adequate performance in these markets. As a consequence, competition policy looms large, and monitoring and enforcement are critical. This is particularly important in some countries where there has been a great deal of consolidation in hospital markets. It's important to emphasize that competition policy is still vital for the effective functioning of hospital markets, even if price is set administratively. As reviewed above, hospital competition can have substantial effects on quality under administered prices. A competition authority thus plays an important role in assuring the quality of care in such a setting.

a) Hospital Market Structure Trends

70.   Table 1 presents numbers for the US population-weighted Herfindahl-Hirschmann Index (HHI) for selected years from 1987 to 2006.[16] Two things are clear from this table. U.S. hospital markets are highly concentrated and have become even more concentrated over time. Figure 1 displays the trends in the hospital HHI, the number of within market hospital mergers and acquisitions, and the percentage of the population enrolled in an HMO from 1990-2006. From the table and figure it is easily seen that hospital markets have become significantly more concentrated. In 1987, the mean HHI was 2,340 and by 2006 the HHI was 3,161 - an increase of over 900 points. In 1992, the mean hospital concentration levels (2,440) were (barely) below the recently updated Federal merger guidelines' (FTC/DOJ, 1992) cut-off point for classifying a market as "Highly Concentrated" (HHI ≥ 2,500), but by 2006 the mean concentration level (3,261) rose to well above this threshold. Town et al. (2006) note that mergers and acquisitions are the primary reason for the increase in hospital concentration over this period.

Table 1.   Hospital Market Concentration, U.S., 1987-2006[a]

Year	Mean HHI[b]	Change[c]
1987	2,340	—
1992	2,440	100
1997	2,983	543
2002	3,236	253
2006	3,261	25

[a] Source: American Hospital Association. Data are for U.S. Metropolitan Statistical Areas with population < 3 million.
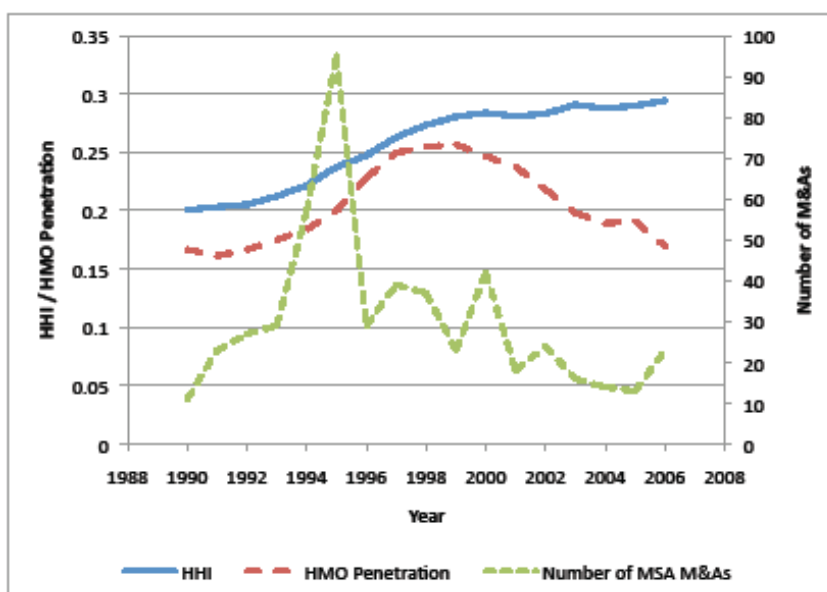[b] Herfindahl-Hirschmann Index. Means weighted by MSA population.
[c] Total change from the previous year in the table.

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[16]   The HHI is the sum of squared market shares in the market. It is the most commonly used measure of market structure. We present population weighted, averages for Metropolitan Statistical Areas (MSA)(based on admissions). We limit the sample of MSA to those with a population less than 3 million in 1990. We do this because it is likely that in MSAs with more than 3 million, there are multiple hospital markets and the HHI of that MSA is likely mismeasured.

Figure 1. Trends in Hospital Concentration, M&A Activity and HMO Penetration: 1990-2006
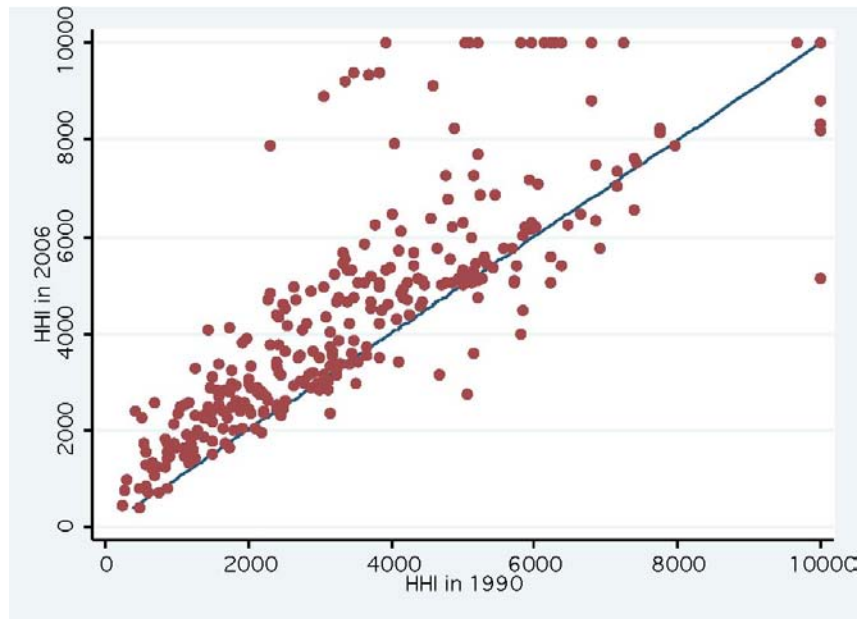

71.   While hospital markets are highly concentrated on average, there is also wide variation in concentration. Figure 2 shows a scatterplot of the MSA level market concentration in 1990 and in 2006. This figure displays two phenomena. First, it shows the distribution of HHIs across MSAs. Most MSAs are "Highly Concentrated." In 2006, of the 332 MSAs in the U.S., 250 had HHIs greater than 2,500. Second, it is clear from Figure 2 that the increase in hospital concentration was a broad phenomenon – the vast majority of MSAs became more concentrated over this period. Particularly striking is the number of moderately concentrated MSAs in 1990 that by 2006 had become highly concentrated. By 2006, most health insurers now had to negotiate with hospital systems in highly concentrated markets, which likely reduced their bargaining clout.[17]

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[17]   Changes in Health Care Financing and Organization (http://www.hschange.com/index.cgi?func=pubs&what=5&order=date) present a number of market-by-market case studies that highlight the increase in hospital bargaining leverage over the last several decades.

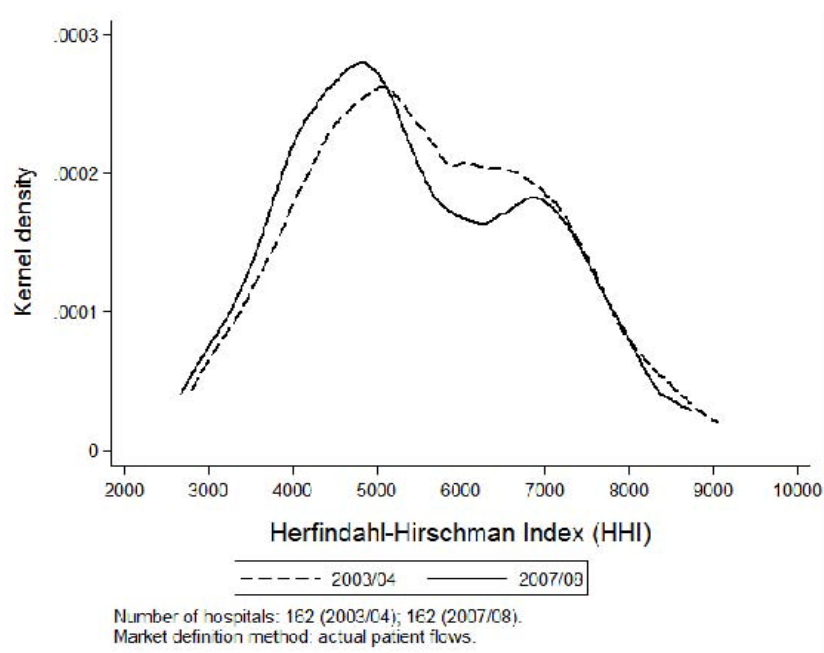**Figure 2.   Scatterplot of MSA HHI in 1990 and HHI in 2006**

72.   The trend toward increasing concentration in hospital markets is not confined to the U.S. Tables 2 and 3 provide information on market structure levels and trends in England and the Netherlands. We see that the trends in these countries are very similar to the U.S. - the total number of hospitals in both countries declined substantially over time. For England there are HHIs for local hospital markets for a number of years. Those reflect substantial concentration, although declining slightly over time. Figure 3 illustrates the change in the distribution of the HHI between 2003/04 and 2007/08 (fiscal years). It can be seen that there is a shift of the distribution from more concentrated to less concentrated markets. Most of the shift is in the middle of the distribution, as opposed to the tails. The decline in the hospital HHI in England documented here is most likely due to pro-competitive reforms of the English National Health Service that occurred in 2006 (see Gaynor et al., 2010).

Table 2.   Hospital Market Structure, England, National Health Service, 1997-2007

Year	# NHS Hospitals[a]	#Mergers	HHI	# Private Hospitals[b]
1997	227	26	—	—
1998	214	21	—	—
1999	202	17	—	—
2000	193	23	—	—
2001	188	25	—	—
2002	174	6	—	—
2003	171	0	5,573	—
2004	171	0	5,561	3
2005	171	3	5,513	21
2006	168	3	5,459	32
2007	167	0	5,461	—
Total	—	124	—	—

[a] Source: U.K. Department of Health. Hospitals with fewer than 5,000 consultant episodes per year are excluded.
[b] Independent Sector Treatment Centres. These are private hospitals with contracts with the NHS.

Figure 3. Kernel density estimates for the distribution of HHI (all elective services)

Number of hospitals: 162 (2003/04); 162 (2007/08).
Market definition method: actual patient flows.

73.   Table 3 provides information on the total number of hospitals and independent outpatient treatment centers in the Netherlands by year. There is a clear downward trend in the number of hospitals - there were 23 fewer hospitals in 2010 than in 1997. More recently, there has been a large increase in the number of independent outpatient treatment centers. The number grew from 37 in 2005 to 184 by 2010.

Table 3.   Hospital Market Structure, The Netherlands, 1997-2010[a]

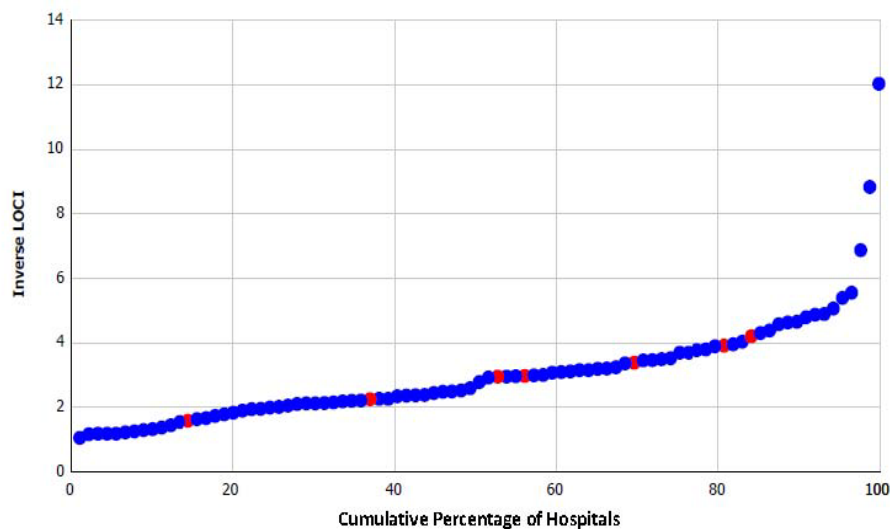| Year	# Hospitals[b]	Outpatient Treatment Centers[c]
1997	117	—
1998	117	—
1999	115	—
2000	111	—
2001	104	—
2002	102	—
2003	102	—
2004	101	—
2005	99	37
2006	98	57
2007	97	68
2008	97	89
2009	95	129
2010	94	184

[a] Source: Netherlands Healthcare Authority.
[b] Total # of hospitals, including general hospitals, specialty hospitals, and university medical centers. The vast majority are general hospitals.
[c] Independent Treatment Centers (ZBCs). These are freestanding outpatient treatment centers, not part of hospitals.

74.   Figure 4 shows the distribution of an alternative measure of market structure, LOCI (for Logit Competition Index),[18] for the Netherlands in 2010. LOCI is a measure of how much competition a firm faces in a differentiated products market. It varies between zero and one, where zero is pure monopoly and one is perfect competition. The graph shows the cumulative distribution of hospitals in the Netherlands by their values of the inverse of LOCI. As can be seen, approximately 20 percent of hospitals have values of inverse LOCI of 2 or below. A value of 2 implies the market isn't very competitive - for example a hospital in a duopoly that equally split the market with its rival would have a LOCI value of 1/2, i.e, an inverse LOCI of 2. One half of all hospitals have inverse LOCI values of 3 or less. This implies that half of Dutch hospitals operate in markets where they face competition from the equivalent of a triopoly or less.

Figure 4: Cumulative Distribution of LOCI, Netherlands, 2010

   b) Enforcement

75.   Clearly enforcement is critical in hospital markets. In practice, most of the concerns have been over hospital mergers. Since hospital markets are oligopolies, mergers can have substantial impacts on market structure, and consequently on conduct. The empirical evidence on hospital markets demonstrates that market structure can have large effects on price or quality. A number of papers have estimated the impact of actual hospital mergers on price. These studies generally find large and significant increases in hospital prices due to the merger (see Gaynor and Town, 2012 for a comprehensive review).

76.   For example, Tenn (2011) finds that the prices at Sutter hospital in California increased between 28 and 44 percent after its merger with Alta-Bates hospital (another local hospital), relative to the control group. Kemp and Severijnen (2010) estimate the impacts of two hospital mergers in the Netherlands on the price of hip surgery and find price increases of 3.5 per cent for Ziekenhuis Gooi-Noord and 5.1 per cent for Ziekenhuis Hilversum due to their merger (relative to the control hospitals). Gaynor and Vogt (2003) find price increases of over 50 percent in a simulation of a hospital merger (to monopoly).

77.   These impacts are not limited to price, but also affect quality. For example, Kessler and McClellan (2000) estimate that a move from the top quartile to the bottom quartile of the HHI in their

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[18]   This is a competition index for differentiated products Bertrand oligopoly with logit demand. See Akosa Antwi et al. (2006).

sample will lead to a 3.37 percentage point fall in the AMI death rate for the US Medicare population. Gaynor et al. (2010) find a similar effect of 2.26 percentage points for the English NHS.

78.   As a consequence, enforcement can have a profound impact by preventing hospital mergers that would lead to worsened quality or higher prices.

79.   Antitrust enforcement has been a serious problem in the US. The US antitrust enforcement agencies lost every single action they brought against hospital mergers in the 1990s (8 cases). As a consequence, consolidation was virtually unimpeded during this time, leading to massively concentrated hospital markets, as noted earlier. Fortunately this trend has recently been reversed, with the Federal Trade Commission winning a victory in a consummated merger case (FTC v. Evanston Northwestern Healthcare Corp.).[19] This has been followed by a merger which was dropped when challenged (Prince William and INOVA), and a consent decree.[20]

80.   There has not been nearly as much antitrust activity towards health care outside of the US. This is mostly due to health care systems in other countries being more centrally controlled and heavily regulated. However, a number of countries have pursued decentralization and competition in reforms of their health systems. The Netherlands, Germany, and the United Kingdom (England in particular) are notable in this regard. Varkevisser and Schut (2009) review antitrust policy towards hospital mergers in the Netherlands, Germany, and the US.

81.   The Netherlands has had a few antitrust matters arise over the past few years. They have had concerns about hospital mergers, as in the US, and also have had concerns about vertical restraints, including vertical integration, between insurers, hospitals, and doctors. As Canoy and Sauter (2009) note, there was an uptick in merger activity following market liberalization, and a consequent need for greater merger control. The NMa has reviewed nine hospital mergers. All were approved, although some were subject to extensive review. Netherlands).

82.   In 2009 the UK established an agency charged with oversight of competition in the NHS, following their reforms (in England) in 2006 designed to promote competition. The establishment of a new agency was necessary, because the conduct of NHS entities was exempt by fiat from oversight by the UK's competition authority (the Office of Fair Trading). The Cooperation and Competition Panel (CCP) is the agency that has been established for the oversight of competition in health care and has fairly broad authority to regulate mergers and general conduct. Since beginning operations in 2009, the CCP has reviewed over 50 merger cases and a number of conduct cases.

3.2.2.   Regulation

83.   Governments are heavily involved in regulating the health care sector. There are some particular aspects of regulation that are relevant here.

    a) Administered prices

84.   As mentioned previously, if prices are administered, the level at which the price is set has a profound impact on quality and competition. If price is set too low then quality will suffer. Conversely, it is possible to have an excessive level of quality if the price is set too high.

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[19]   Evanston Northwestern Healthcare Corp., FTC Docket No. 9315, Initial Decision (Oct. 20, 2005), available at http://www.ftc.gov/os/adjpro/d9315/051021idtextversion.pdf.

[20]   United States of America Federal Trade Commission Office of Administrative Law Judges, Docket No. 9346, In The Matter Of Promedica Health System, Inc., December 12, 2011

b) Selective contracting

85.   Selective contracting by private payers is a mechanism which helps to create an environment where competition among providers is possible. If payers contract with every provider in a market, then they have very little bargaining power. Policies that enhance the ability of payers to selectively contract with providers are important, but they will only be effective if there is sufficient choice among providers.

c) Information/"Transparency"

86.   Transparency, providing information about prices or quality to the public, is a policy that has received substantial attention. In principle, it seems as more information should be better. However, this is not necessarily the case. Making pricing information public can make it easier for firms to collude (this also may apply with regard to quality information).   In addition, it's not clear that heavily insured consumers have sufficient incentive to pay attention to price differences. Even consumers who have policies with a lot of cost sharing will not face much of the impacts of price differences if they obtain an expensive treatment. Expensive treatments put most consumers well beyond their deductibles and copays so that they bear little to none of any price differences across providers.[21] Of course, expensive treatments account for the majority of medical spending.

87.   Consumers should, in principle, be responsive to quality information, since they directly bear the consequences of better or worse quality. Providing clear and understandable information about products (providers' and insurers') so consumers can understand what they are obtaining can facilitate competition (again, conditional on sufficient alternatives). If consumers have little information or don't understand the information they have, they tend to rely on reputations, brand names, etc. This tends to decrease the responsiveness of demand to prices or other factors and enhances firms' market power.

88.   If there is patient cost-sharing, it is possible to use "tiering," that is consumers pay more of the costs of less desirable hospitals, where less desirable can mean either higher prices or lower quality.

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[21]   This doesn't mean that being insured against large losses is bad { it isn't. Consumers should be insured against large risks. It just means that it's not realistic to expect them to pay attention to prices in such a situation.

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