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-- Paper by Mr. Zack Cooper --

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THE VERY ENGLISH EXPERIENCE WITH COMPETITION: LESSONS FROM BRITAIN'S NATIONAL HEALTH SERVICE

Paper by Mr. Zack Cooper*

1. Introduction

1. Over the last decade, there has been a wave of market-based health care reforms across Europe and North America. These reforms have been prompted by a combination of rising demand for health care services, increasing expectations for quality, and significant pressure to slow the growth of health care spending. Often, at the core of these market-based reforms have been efforts to expand patient choice and introduce competition between health care providers.
2. Despite the growing interest in the potential of competition to stimulate providers to improve their performance, the empirical evidence on the effect of competition is ambiguous (Gaynor and Town, 2011). This ambiguity stems, in part, from the difficulty of empirically establishing the causal effect of competition on hospital performance. To test the effect of competition, in an ideal world, researchers would want to design a randomized control trial and expose some hospitals, at random, to competition and compare their performance to a group of ‘control’ hospitals that were left in monopoly markets. However, this sort of large-scale research design would clearly be inappropriate.
3. However, recent reforms in the English National Health Service (NHS) provide an ideal opportunity to examine the effect of competition on quality, productivity and equity. In 2006, the Blair Government in England introduced substantial reforms to the NHS, which gave patients a choice over where they received care and prompted public hospitals to compete with each other, and eventually with private sector providers, to deliver care to publicly funded patients (Cooper et al., 2011). These dramatic reforms injected competition into a health system that historically contained few financial incentives for hospitals. More than that, these reforms, from an empiricist’s perspective, provide an ideal opportunity to assess the impact of hospital competition. Indeed, in the five years since these reforms were introduced, a body of literature has developed, which has assessed the impact of competition on quality, productivity, hospital management performance and equity (Cooper et al., 2009, Bloom et al., 2010, Cookson et al., 2010, Cooper et al., 2011, Gaynor et al., 2010, Gaynor et al., 2011, Cookson et al., 2009).
4. This paper examines the English experience implementing with introducing competition into the English National Health Service and reviews the evidence that these reforms have had on equity, hospital efficiency and hospital quality. More than that, this paper uses English experience to serve as a vehicle for examining the institutional elements necessary to support hospital competition and exploring the policy options for promoting productive competition that raises hospital quality without undermining equity.
5. On balance, the introduction of competition in the English NHS has been successful. Empirical evidence suggests that the introduction of competition in the NHS has led to reductions in death rates,

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improvements in hospital quality, management and productivity and has not harmed equity (Bloom et al., 2010, Cooper et al., 2011, Cooper et al., 2009, Gaynor et al., 2010, Gaynor et al., 2011). However, as with all policies, there remains room for improvement. Prospectively, as with other countries that are going down the road of using hospital competition to stimulate providers to improve their performance, policy-makers in England need to continue to promote publication of meaningful, risk adjusted data on hospital performance, expand the role of agents in assisting patients making choices, and continue to refine the payment system for hospitals to encourage clinical improvements, innovation and productivity gains.

6. There is a great irony to the NHS reforms. In many ways, it was the centralized policy environment in England that allowed the government to succeed with their market-based reforms. It was the centralization that created an environment where policy-makers could build an edifice of other policies to support competition in the NHS. These competition supporting policies included central policies that rewarded hospitals running surpluses, efforts to publish information on providers' performance on a centrally run website, and rewarding general practitioners to serve as patients' agents and assist them making choices. This is a lesson from England that should not be lost.

7. This paper will be structured as follows. The first section will examine the reforms introduced in England and examine the arguments made in the UK for and against these reforms. The second section will examine the evidence on the effect of these reforms including examining whether patients were willing to exercise choice and if hospital competition created incentives for providers to improve their performance. The third section of this paper will examine the ways that these English reforms could be improved and will draw out lessons that the British experience suggests for other countries interested in increasing the role for competition in their hospital sector.

2. The NHS Reforms, The Government's Argument for Change, and the Criticisms of Competition in the NHS

2.1. *Competition and Hospital Markets*

8. There is stunning variation in hospital performance. The NHS Atlas documented widespread, unexplained variation in the quality of services across England (Right Care Team, 2011). In the US, there is evidence that, within hospitals and across states, there is frequently almost no correlation between spending and outcomes (Orszag, 2007). In short, there are many good health care providers, but there are also plenty of bad providers who deliver outcomes that fall far short with respect to quality and productivity. As a result, the basic question for policy-makers in the US, the UK and abroad is how to reduce this variation in performance and improve the quality and productivity of care delivered.

9. The value of competition is best considered by contrasting it with the drawbacks of monopoly. In the absence of competition, a lone provider has few financial incentives for attracting patients or improving quality. In this monopoly environment, policy-makers need to rely on central control (performance management) or providers' altruistic motivations to create incentives for providers to improve performance. In contrast, at its core, the perfectly competitive market, in the long run, will lead to both allocative and productive efficiency. According to basic micro-economic theory, competition will create financial incentives for firms to raise quality and reduce prices. However, few markets resemble perfectly competitive markets with a large number of buyers and sellers, identical products, free entry and exit, perfect information, low transaction costs and no positive or negative externalities. Indeed, this is particularly true for health care.

10. Health care has been a sector long considered to significantly diverge from highly stylized, perfectly competitive markets (Arrow, 1963). Health care is marked by substantial information asymmetries between doctors and patients. The services, surgeries for example, are highly differentiated.

Indeed, within many systems, hospitals are not-for profit and there are extensive government barriers to entry and political constraints on exit. As a result, the impact of competition under these conditions becomes more ambiguous.

11. However, nearly every real world market departs from the tight constraints of perfect competition. At root, it is not a question of whether or not hospital competition diverges from traditional perfect competition, but rather a question of whether several basic conditions necessary to support competition can exist in the market for hospital care. These include:

- Hospital staff, including senior management, must be responsive to financial incentives;
- Patients must be interested in making choices;
- Patients must have alternative providers that they can access;
- There must be information in the market to inform patients' and purchasers' choices;
- Patients must be responsive to quality signals.

12. Gaynor (2006) has suggested that the expected impact of competition in hospital markets very much depends on how prices are determined. In markets with price competition, where hospitals can set their own prices, increasing the number of competitors (competition) could be predicted to improve or harm clinical quality depending on the preferences of the marginal consumer. In short, because hospital quality is often so difficult to measure and observe, competition on prices and quality in the hospital sector may very well lead to reductions in prices and quality if consumers are more able to observe price than they are quality.

13. In contrast, the impact of quality competition in hospital markets where prices are fixed by a regulator is unambiguous (Gaynor, 2006). In these markets, as long as the reimbursement rate is higher than hospitals' marginal costs, increased competition should improve hospital quality. Facing competition in these markets, hospitals will, in the long run, increase quality until their profits approach zero. In other sectors, there are concerns that regulated prices will lead to excessive quality. However, in a health care setting, gains in quality are generally so valuable (i.e. by reducing death) that improvements in quality are generally viewed as improvements in overall social welfare (Gaynor and Town, 2011).

2.2. *The English NHS Reforms*

14. From 1997 to 2010, the English National Health Service (NHS) went through a period of profound flux. During their thirteen years in office, the Labour government dramatically increased spending on the health service and introduced several waves of substantive reforms across the NHS. The 1997-2010 period in the English NHS was marked by several substantive shifts in policy. More than anything else, the most momentous change during this period was a shift in thinking of senior policy-makers and the Prime Minister himself, all of whom, over time, came to believe that incentives, rather than pure altruism, were vital to improving the performance of the NHS.

15. More specifically, in the early days of the government, there was a consensus that relying largely on the public service ethos – trusting in doctors' altruistic motivations – was enough to improve hospital performance (Le Grand, 1999). However, after watching performance stagnate and increasing funding, which was not paired with incentives, fail to deliver significant improvements, the government came to the conclusion that more direct incentive structures had ultimately to play a key role in English health policy (Stevens, 2004).

16. From mid-2000 until 2010, the Blair government replaced the trust model of delivery with a series of policies that wed information on performance with financial and non-financial incentives for providers. These information and incentives reforms began with a performance management program for secondary care providers, directed from the center and heavily reliant on doling out heavy punishment for underperformers (Propper et al., 2010). The government also introduced a pay-for-performance scheme for primary care, making the income of general practitioners (GPs) partly contingent upon achieving a certain level of performance on range of clinical practice, patient experience and patient outcomes measures (Campbell et al., 2009). Finally, the government introduced patient choice and (fixed price) hospital competition in the market for secondary care for NHS funded patients, in an effort to prompt providers to compete on clinical performance (Klein, 2006b).

17. After distancing themselves from the regulated market introduced by the previous government, this return to using a quasi-market to drive performance represented a profound shift in policy. After initially piloting patient choice schemes across the country from 2002 through 2005, the policy became fully operational in 2006 (Department of Health, 2005a). The aim of the policy was to maintain incentives for hospitals to improve their quality and efficiency, but additionally also to separate the central government from the day-to-day running of the health service.

18. These market-based reforms were introduced on a rolling basis from 2002 through 2008. During this period, the government introduced a range of policies designed to foster a more competitive environment. This included introducing a new fixed-price, prospective payment system, modeled on the Medicare prospective payment system from the United States (Department of Health, 2011). This payment system, known as Payment by Results (PBR), paid hospitals a fee determined by the government, on the basis of patients' diagnoses, with adjustments for local economic wage rates, hospital characteristics and some elements of illness severity. In addition, the government encouraged new private providers to enter the market and gave hospitals additional fiscal and managerial autonomy (including the ability to retain surpluses). These pro-competition policies were set against a backdrop of regulatory reforms designed to guarantee minimum standards of hospital performance.

19. The key element of the NHS reforms was to give patients a formal choice over where they received secondary care. Together with a reimbursement system where money followed patients around the system, the introduction of choice created financial incentives for hospitals to compete for market share. Beginning in 2002, the government introduced choice pilot programs around the country and gave patients who were waiting for over a year for care (later lowered to nine months) the ability to go to an alternative provider with spare capacity. On January 1, 2006, the government required that all NHS patients referred for elective care be offered a choice of four or more providers (Department of Health, 2009a). This was the first point at which the new payment system and patient choice worked in tandem to create financial incentives for hospitals to attract patients. We regard this as the 'policy-on' date where public hospitals faced competition from other public providers in the context of a revenue system rewarding them for higher volume.

20. The introduction of patient choice was accompanied by the development of a paperless hospital referral system that allowed patients and their GPs to book hospital appointments online or over the phone. The main online interface for the referral system allowed patients and their referring physicians to search for nearby hospitals and included information on providers' performance and information on average waiting times at each facility.

21. Over time, policy-makers sought to allow patients to access care in the private sector in order to prompt public hospitals to compete with new private entrants. This push for more private provision that is funded by the NHS began with a centrally run program to create privately managed, specialty surgical centers, known as Independent Sector Treatment Centres (ISTCs). These facilities were focused on elective

care and were frequently co-located on the grounds of existing NHS facilities (Department of Health, 2005b). However, the ISTC program was fraught with problems and by mid-2006, there were only 21 ISTCs established to deliver care to NHS patients (Department of Health, 2006), and the program was eventually heavily curtailed.

22. Following the limited ISTC program, the government launched a more ambitious push to allow private providers to deliver care to NHS funded patients. This program allowed private providers in England who registered with the government quality regulator¹ to provide care to NHS funded patients. This meant that beginning on a limited basis in July 2007, and in full force from 2008 onwards, all of the 162 private hospitals in England offering elective secondary care with overnight beds were potentially accessible to NHS-funded patients at no charge, if the hospitals agreed to be paid based using standard NHS tariffs (Cooperation and Competition Panel, 2011).

2.3. *The Government's Argument for Reform*

23. The Government argued that hospital competition in a market with fixed prices would catalyze providers to become more efficient, more responsive to patients and improve the quality of care hospitals delivered. Along those lines, in a 2005 speech then Health Secretary Patricia Hewitt said:

“If a hospital fails to provide the service that people want and expect, some patients will choose to go elsewhere. And under payment by results – which we’ve started to introduce this year – money will follow the patient. All this creates very sharp incentive for hospitals to improve the quality of care they provide – and an equally sharp challenge to the medical profession to change old vested interests and protective practices if they are holding back patient care” (Hewitt, 2006).

24. The basic argument that underpinned the reforms was that if providers faced a real financial risk of not being chosen and there was increasingly available information available to inform patients’ choices (i.e. an increase in patients’ elasticity of demand), this combination would create a financial incentive for them to appeal to patients. In addition, the new fixed price reimbursement system would create further incentives for providers to increase their throughput and maximize their technical efficiency in order to generate additional profits.

25. The Government and its advisers also argued that, in addition to driving improvements in quality and efficiency, formalizing patient choice would make the NHS more equitable (Department of Health, 2003). Given the common perception that competition would lead to an equity/efficiency tradeoff, this was a bold claim. Nevertheless, the government consistently placed strong emphasis on the potential for choice to improve the quality of care delivered to the poor. To that end, former Health Secretary Alan Milburn said in 2003:

“For half a century, uniformity of provision has not guaranteed equality of outcome. Too often, even today, the poorest services are in the poorest communities. The hard fact is that for over fifty years it is poorer people and poorer communities who have lost out from poorly provided public services...Take choice, which the Left has mistakenly conceded to the Right. For too long choice in health care has only ever been available to those with the means to pay for it. Those with more money have been” (Milburn, 2003).

26. The same year, his successor as Health Secretary, John Reid, said:

¹ <http://www.cqc.org.uk/>

“These choices will be there for everybody...not just for a few who know their way around the system. Not just for those who know someone ‘in the loop’ – but for everybody with every referral. That’s why our approach to increasing choice and increasing equity go hand in hand. We can only improve equity by equalizing as far as possible the information and the capacity to choose” (Reid, 2003)

27. And finally, speaking about his party’s reforms in public services, Tony Blair said:

“People should not forget the current system is a two-tier system when those who can afford it go private...choice mechanisms enhance equity by exerting pressure on low-quality or incompetent providers. Competitive pressures and incentives drive up quality, efficiency, and responsiveness in the public sector. Choice leads to higher standards. The overriding principle is clear. We should give poorer patients...the same range of choice the rich have always enjoyed” (Blair, 2003).

28. The Health Secretaries’ argument was based on the idea that even in an NHS without formal choice for users, choice still existed, though it was vastly more prevalent for middle and upper class patients (Department of Health, 2003, Le Grand, 2006). They argued that choice in the pre-reform NHS was available for middle and upper class NHS users who had a greater capacity to: 1) negotiate with their GPs for more choices using a louder voice; 2) move to areas with better local services; and 3) opt out of public services and pay for care in the private sector (Cooper and Le Grand, 2008). This idea that informal choice was present and being exercised by the well-off was supported empirically by a 2006 study that found that prior to the introduction of formal choice in 2006, less wealthy traveled a shorter distance for care than wealthier patients, controlling for the location of patients and hospitals (Propper et al., 2006).

2.4. *Criticisms of the Government’s Market-Based Reforms*

29. However, just as the government argued that expanding patient choice and hospital competition would improve quality, efficiency and equity, critics opposed the reforms on roughly the same grounds. On the quality and efficiency front, critics argued that the market-based reforms would fragment the supply-side in England, raise transaction costs, and financially destabilize the incumbent NHS providers (Appleby and Dixon, 2004, Hunter, 2009). The three most common themes to this argument were 1) that patients would not be able to differentiate between providers based on clinical quality; 2) that the government would not be able to effectively regulate the competitive markets; and 3) that introducing private sector competitors would lead to cost increases and risk-segmentation as private providers would target the patients that appeared ex ante less costly to treat. (Appleby and Dixon, 2004, Hunter, 2009).

30. Speaking about market-based reforms, former Labour Health Secretary Frank Dobson said, “The whole concept of trying to raise standards by introducing competition between different parts of the NHS is stupid and damaging” (Dobson, 2005). The fact that he gave that quote only five years he had been Health Secretary himself in the same Government highlights just how far the government traveled from 1996 to 2007. Equally critical of the reforms, in an editorial that appeared in the British Medical Journal, Wollhandler and Himmelstein wrote, “market theorists argue that although competition increases administration, it should drive down total costs. Why hasn’t practice borne out this theory?” (Wollhandler and Himmelstein, 2007). They continue, “...only a dunce could believe that market based reform will improve efficiency or effectiveness. Why do politicians – who are anything but stupid – persist on this track?” (Wollhandler and Himmelstein, 2007).

31. Indeed, there were broader concerns that the market-based reforms were sullying the public service ethos of the NHS (Le Grand, 2007). This belief was summarized by David Marquand, who wrote,

The language of buyer and seller, producer and consumer does not belong in the public domain; nor do the relationships which this language implies. People are consumers only in the market domain; in the public domain they are citizens. Attempts to force these relationships into a market would undermine the service ethic, with is the true guarantor of quality in the public domain” (Marquand, 2004).

32. On the equity front, many believed that increasing patient choice and hospital competition would adversely impact the less well off. This harm to equity, they argued, would run directly against the founding principles of the health service. Here, critics argued that the reforms would accentuate differences in individuals’ capacity to make informed decisions and that the reforms would necessarily create winners and losers. To that end, Labour peer Roy Hattersley said, “[C]hoice is an obsession of the suburban middle classes. But when some families choose, the rest accept what is left. And the rest are always disadvantaged and dispossessed” (Hattersley, 2003).

33. Similarly, analysts from Kings Fund wrote, “while increased choice may put pressure on poorly performing providers to improve their services, there is no reason to think that this will ensure equal treatment for equal need. Hence extending choices puts at risk a key object of the NHS – equal access for equal need” (Appleby et al., 2003). And, in a scathing editorial in the Journal of Medical Ethics, Barr et al. wrote, “while adopting this policy program, new Labour has appended the claim that choice – and the market mechanisms this fill facilitate – will make the NHS fairer. This claim has not developed prospectively from an analysis of the causes of health care inequity, or even with a consistent normative definition of equity...As patient choice is rolled out in England, the equity impacts should be monitored by an independent body, so that the government may be held to account for its novel claim” (Barr et al., 2008).

34. The various doctors and nurses unions also attacked the reforms. The British Medical Association (BMA) led the charge against introducing choice and competition into the NHS and has taken every opportunity to argue against the reforms publicly. According to the BMA’s website, “the BMA has opposed the increased commercialization and competition imposed on the NHS in recent years and there is little evidence of any benefits to patients. It brings with it additional costs as well as disincentives for collaboration and cooperation” (British Medical Association, 2010). According to the Chairman of the BMA, “the BMA, like many other groups, has long been concerned that the costs and perverse incentives resulting from the market structure that has been imposed on the NHS. Many of the reforms of recent years threaten to erode the principles of free access, care based on need and risk-pooling” (Meldrum, 2010).

3. Evidence from the English Experience with Patient Choice and Provider Competition

35. Competition between hospitals in the English NHS took force in January 2006. As Nick Timmins, Public Policy Editor of the Financial Times wrote on December 31, 2005, the evening before the NHS reforms were introduced, “The arrival of ‘patient choice’ – the right to choose, initially from at least four hospitals, and by 2008 from any hospital prepared to meet NHS standards and prices – is a symbolic moment in the government’s endeavor to use market forces to drive up health service performance” (Timmins, 2005).

36. These reforms provide an ideal opportunity to examine the rollout of the reforms and answer questions about the effect of competition and the response of patients to being given the ability to choose their provider. Earlier, we mentioned the conditions necessary for competition to improve hospital performance. These included:

- Hospital staff, including senior management, must be responsive to financial incentives;

- Patients must be interested in making choices;
- Patients must have alternative providers that they can access;
- There must be information in the market to inform patients' and purchasers' choices;
- Patients must be responsive to quality signals.

37. In what follows, I will discuss how policy-makers in England addressed these conditions for productive competition.

3.1. Hospital staff, including senior management, being responsive to financial incentives

38. Nearly all hospitals offering care to NHS patients are publicly owned and not-for profit. Prior to 1992, NHS hospitals were centrally run and given annual budgets (Klein, 2006a). This encouraged hospitals to run deficits because an overspend in 1989 meant an increase in the size of the annual budget for 1990. Indeed, during this period, the central government clawed back surpluses from productive hospitals and used those funds to pay down the deficits in hospitals that ran a loss.

39. In the 1990s and early 2000s, NHS hospitals were remunerated using annual block contracts that paid facilities for delivering care a range of services to predefined populations (here the contracts often had no stipulations for the volume of care delivered) (Chalkley and Malcomson, 1998). While this form of contracting added an element of contestability – purchasing organizations could decide to no longer contract with a hospital – it still provided few incentives for quality or responsiveness. Crucially, during this period, hospitals were not allowed to retain surpluses.

40. In most recent NHS reforms, a crucial element for introducing competition was altering how hospitals were paid and allowing hospitals to retain surpluses. Indeed, to sharpen pressure on hospitals improve their financial performance; hospitals were judged by the central government (who had the power to remove hospital CEO) on their surpluses and deficits. When both for-profit and not-for-profit hospitals are allowed to retain surpluses, there is a growing body of research, which suggests that both forms of hospitals behave similarly with respect to pricing, market structure and the provision of uncompensated care (Capps et al., 2003, Dranove and Ludwick, 1999, Gaynor and Vogt, 2003). Indeed, even in the United States, which many view as the most pro-market health system in the world, only 19.9% of hospitals are for-profit.

3.2. Patients must be interested in making choices

41. There is strong evidence that patients in the English NHS want to have a choice about where they receive hospital care. Evidence from the British Social Attitudes Survey shows that when asked, 75% of the British public say they want the ability to select their hospital (Appleby and Phillips, 2009). This is echoed by findings from a recent report by the Kings Fund, which also found that 75% of patients said they supported having choice of their secondary care provider (Dixon et al., 2010). Indeed, patients are particularly positive about the ability to select their provider if they were previously dissatisfied with the performance of their provider (Barnet et al., 2008).

42. In addition, both the British Social Attitudes Survey and the work done by the Kings Fund found that it was generally the less wealthy and less educated patients who wanted choice more than the wealthy (Dixon et al., 2010). This is similar to evidence from the US, which suggests that less wealthy and minority parents generally want choice over their children's' school more than wealthy white parents (Bositis, 1999), as well as evidence reflecting the same pattern for school choice surveys in New Zealand

(Thomas and Oates, 2005). These results likely stem from the fact that upper class and educated parents and patients are likely already satisfied with the services that they currently receive (Le Grand, 2007).

43. In 2004, the British Government launched a series of patient choice pilots where patients waiting over six months for care were offered the ability to choose to attend an alternative provider with a shorter wait for care (Coulter et al., 2005). In the pilots, 83% of patients suggested that they would be open to going to a non-local provider and 63% of patients, when offered, decided to go to a non-local provider for care. In addition, consistent with results from Dixon et al. (2010) and Appleby and Phillips (2009), there was no difference in the uptake of choice according to social class, race, gender or education. However, it should be noted that in the pilots, the British government provided patients with “patient choice advisors” who were available to offer assistance and the government also subsidized transport costs.

44. Burge et al. (2004) looked at the factors that influenced patients’ choice of provider. They found that there was a strong anchoring effect and that patients often preferred to attend their nearest provider (Burge et al., 2004). However, they noted that when there were large differences in quality, patients were generally willing to travel longer distances for care (Burge et al., 2004). Evidence from the London Patient Choice Pilots suggests that hospital cleanliness and hospital waiting times were the two most influential factors over whether or not patients went to a non-local provider (Coulter et al., 2005). However, this finding likely reflects the fact that at the time of the pilots, waiting times and cleanliness were two issues that were constantly featured in the popular press. Additional evidence generated after the NHS reforms were introduced in 2006 suggests that over time, as waiting times in the NHS dropped, patients began to rank hospital quality as the strongest determinant of their hospital choice (Audit Commission and Health Care Commission, 2008). Other evidence highlights the impact that one’s previous experiences and the experience of family members strongly influence choice, perhaps above and beyond objective data on hospital quality (Dixon et al., 2010).

3.3. *Patients must have alternative providers that they can access*

45. While the reforms were being introduced, some expressed concern that introducing hospital competition would require significant spending to increase the number of alternatives for patients. However, it turned out that most patients in England had access to two or more hospitals and that, prior to the reforms, there was significant unused capacity. To that end, a 2005 study found that over 90% of people in England had two or more hospitals within a 60-minute travel time and that there was a large amount of spare capacity in the NHS (Damiani et al., 2005). Damiani et al. (2005) found that 98% of people in England have access to 100 unoccupied NHS beds within a 60-minute travel time, and 76% of people have access to up to 500 unoccupied beds. It is worth noting all this observed spare capacity existed at a time when the NHS was experiencing the longest waits in its history.

46. However, in addition to using the capacity that already existed, the government introduced new private providers, as discussed earlier. These independent sector treatment centers (ISTCs) were meant to expose traditional incumbent NHS providers to even more outsize competition. These ISTCs ended up being one of the most controversial and least successful elements of the reform package.

47. In order to induce private companies to enter the market for NHS care, the government had to guarantee minimum activity levels and some of the new treatment centers were paid, in advance, for a significant number of procedures that they ended up not completing. Later, the government funded NHS patients to attend private providers in England that had historically only treated privately funded patients. This liberalization of the market opened up significantly more spare capacity in the NHS and exposed incumbent hospitals to more competition.

48. In general, approximately 50% of patients in the mid-2000s were aware that they could choose their provider (Dixon et al., 2010). According to the Department of Health, the percentage of patients aware that they could choose rose from 29% in 2006 to 50% in 2009. Indeed, of patients offered a choice, 91% indicated that they went to the hospital that they wanted to attend, compared to 52% of those who were not offered a choice (Dixon et al., 2010). Here, older patients tended to be more informed about their ability to select a provider, and there was no significant differences in awareness by ethnicity, gender or education levels. Indeed, older patients, according to NHS data, were more likely to travel for care. According to patient feedback, 29% of patients', after 2006, reported receiving care at a non-local NHS provider. According to Dixon et al. (2010), between 5-14% of patients were

3.4. There must be information in the market to inform patients' and purchasers' choices;

49. In an effort to promote the use of information, the NHS created NHS choices (<http://www.nhs.uk/Pages/HomePage.aspx>), a website which presents information on the quality of NHS hospitals. At present, it includes information on hospitals' facilities, waiting times, activity rates, infection rates, mortality rates and readmissions rates. In addition, it includes comments and recommendations from individual patients. However, in a survey by Dixon et al., only 4% of patients offered a choice consulted this website. A similar Department of Health survey found that only 5% of patients consulted the website and 7% looked at printed information provided by their GPs (Department of Health, 2009b).

50. Patients indicated that a key source of information for their decisions on where to be treated was their own previous experience at the hospital and the experience of their family and friends. Here, 56% of patients indicated that they relied on their own previous experience with the hospital, 52% indicated that they were informed by their experience of family and friends and 50% used information gleamed from media reports (Dixon et al., 2010). Nevertheless, 60% of patients offered a choice indicated that the amount of information they received was 'about right'.

51. During this period, patients' general practitioners were meant to act as patients' agents and help to narrow information asymmetries and aid patients in the decision-making process. According to a recent King's Fund report, 40% of patients reported receiving advice from their GP and 35% received advice from family and friends (Dixon et al., 2010).

3.5. Patients must be responsive to quality signals

52. If competition in England materialized then patient flows in the needed to shift after choice in the NHS was introduced. Here, both Gaynor et al. (2010) and Cooper et al. (2010) demonstrate that hospital markets in England became more competitive (less concentrated) after the reforms took force in 2006. However, the real question is not just whether or not patient flows changed, but whether or not patients became more elastic to quality. Indeed, consistent with an increase in elasticity, Gaynor et al. (2010) illustrates that better hospitals tended to draw a higher number of patients after the reforms.

53. To that end, Gaynor et al. (2011) looked directly at whether patients elasticity with respect to quality increased. To do that, they investigated patients revealed preferences to determine whether patients became more responsive to quality and waiting times after they were given the ability to choose their provider in 2006. Gaynor et al. (2011) investigated patients' choice of where to undergo a coronary artery bypass graft (CABG) before and after choice was introduced. They found that while the average patient made similar choices before and after the reforms, sicker patients (defined as older and with more comorbidities) became significantly more responsive to quality from 2006 onwards. Likewise, they also found that English patients with lower incomes become significantly more responsive to waiting times after the reforms.

4. Empirical evidence on the impact of competition on quality, productivity and equity

54. Within the broader economics literature, it has been difficult to assess the impact of hospital competition on providers' performance. That is because, in the cross section, hospital market structure is likely heavily influenced by hospital quality. So, for example, better hospitals may deter other competitors from entering their market. However, the rollout of competition in the NHS provides an ideal environment to determine the causal effect of competition on hospital quality. Here, investigators can determine whether NHS hospitals located in more competitive areas prior to the reforms performed better after competition was introduced. The argument behind this research strategy is hospitals market structure before competition is unrelated to their performance, but it will also determine how sharply these hospitals feel pressure to compete after the reforms in England were introduced.

55. There are four studies that have looked directly at whether hospital competition in England prompted providers to improve their performance. Two studies looked directly at whether NHS hospitals facing more competition lowered their death rates after competition was introduced. Cooper et al. (2011) found that after competition was introduced, the death rates for patients with heart attacks declined more rapidly in competitive areas. Indeed, Cooper et al. (2011) found that an increase in the number of hospitals in a market by 2 was associated with a 6.7% relative reduction in heart death rates. In a related study, Gaynor et al. (2010) also looked at the impact of competition on hospital death rates in England. They too found that hospitals facing greater competition lowered their heart attack mortality rates and overall mortality rates and found that the magnitude of the effect was nearly identical to that which was measured by Cooper et al.

56. In a separate study, Bloom et al. (2010) assessed the impact that hospital competition in the NHS had on hospitals' management quality in 2007. They relied on a management survey of 182 hospitals covering 61% of the NHS and one year of data (Bloom et al., 2010). Bloom et al. (2010) have three principle findings. First higher management quality was associated with higher hospital survival rates from heart attacks and better financial balance sheets for hospitals. Second, they found that public hospitals in England had significantly lower management quality than their private sector competitors. Finally, after instrumenting for competition, Bloom et al. (2010) found that hospitals located in more competitive markets tended to have higher quality management. This study is vital because, in many ways, it provides the mechanism that is likely driving the improvements in mortality observed by Gaynor et al. and Cooper et al. That is, hospital competition in the English NHS led to an improvement in hospitals' management quality, which resulted in improvements in clinical care.

57. More recently, Cooper et al. (2012) investigated the impact of competition on the productivity of NHS hospitals. To measure hospital productivity, Cooper et al. looked at hospitals length of stay and focused on the rate at which hospitals performed elective surgery on the day that patients were admitted for care. In addition to looking at the impact of competition between public hospitals, Cooper et al. (2012) also looked at whether the opening of the market for NHS patients to private providers in 2008 also induced productivity gains. Cooper et al. observed that from 2006 onwards, each additional hospital was associated with a productivity gain of approximately 5%. In contrast, the entrance of private providers was not associated with any improvements. Instead, Cooper et al. (2012) found evidence that the entrance of private providers was associated with risk selection and that incumbent NHS hospitals located in areas with more private providers tended to treat an older, and less wealthy mix of patients after the NHS market was liberalized in 2008.

58. Prior to the introduction of choice and competition in the NHS, a number of analysts raised significant concerns that the reforms had the potential to adversely impact the equity of the NHS. However, there has been no evidence thus far that the NHS reforms harmed equity. Cookson et al. (2011) examined whether competition led to differences in the utilization rates of care across social classes.

Indeed, rather than finding that the increase in competition undermined equity, they actually found evidence that it may have been associated with small improvements in access for underserved populations. Their work is consistent with earlier evidence from Cooper et al. (2009) which found that from 1997 through 2007, the equity of the distribution of waiting times across social group improve substantially. They found that in 1997, lower income patients waited substantially longer for elective care than wealthier patient, but that by 2007, that variation had disappeared.

5. Learning from the English Experience and Steps Forward

59. In most respects, the NHS reforms in the mid-2000s have been remarkably successful. During that period, waiting times fell substantially, hospital quality improved and the NHS became more equitable. Indeed, more recent evidence suggests that hospital competition during that period led to improvements in hospitals' quality, productivity and management performance and it did so without harming equity. As a result, the English experience profound implications for other health systems.

60. However, the implications from the NHS reforms are not simply that competition is good and therefore that other should liberalize their markets or than the NHS should necessarily go further and faster. The NHS reforms, particularly when they are contrasted with evidence of competition failing to produce welfare gains elsewhere, illustrates that in order to have competition improve performance, it must occur in the presence of other concurrent policies. Indeed, in many ways, it was the high degree of centralization in England, which allowed policy-makers to put parallel policies in place that mitigated against some of undesirable consequences of competition and assure that competition led to positive gains.

5.1. *Information*

61. First, there was a concerted effort by the central government in England to publicly publish information on providers' performance. Indeed, as the NHS reforms were being rolled out, the NHS launched a website providing information and many aspects of clinical performance to inform patients' choices.

62. However, there is a large body of evidence that suggests that a large share of consumers do not use information on providers' performance to inform their choices. Indeed, in England, there is some evidence that patients rarely utilized to this webpage.

63. So why then did the information matter?

64. It mattered for two reasons. First, there is ample reason to believe that when information is published in a competitive environment, it will induce changes in behavior in hospital performance, irrespective of patients' responsiveness, so long as hospital CEOs and members of hospital boards have a fear that it might. Likewise, Gaynor et al. (2011) illustrate that a small share of patients were indeed responsive to quality. Given the huge pressure hospital CEOs were under at that time to maintain surpluses, even small losses in their share of elective activity would have sizeable implications for their financial balance sheets. As a result, it is likely that in this market, even a small share of well-informed patients was enough to induce changes in activity.

65. Second, as I shall discuss in more detail to follow, patients' general practitioners played an integral role in informing patients' choices and suggesting where they should receive care. As a result, even if patients remain uniformed, so long as performance information is public and general practitioners can use it to inform patients' choices, then this information could still be beneficial.

66. Prospectively, the NHS needs to continue to publish more information on providers' performance. This includes data above and beyond mortality rates, including patients' reported outcomes

(i.e. perceived health improvement), patient satisfaction and more detailed data on the outcomes for individual procedures. At present, most data is at a whole hospital level. Going forward, the NHS, and other systems should strive to publish data at a procedure level and illness level to inform choice.

5.2. Agency

67. A second crucial factor in the success of the NHS reforms was the role that GPs played in the referral process. Because each referral was generally made in the company of the GP, GPs' had tremendous power to influence patients' referrals. Indeed, this hypothesis is born out of survey work by Dixon et al. (2010) illustrating that GPs were one of the most important sources of information used to inform patients' choices. In the market for hospital care in England, GPs served as agents for patients, narrowing the typical information asymmetries that often exist in markets for health care services.

68. More than that, GPs often made the same referral for multiple patients which put them in a position to perceive quality *ex post* and use the information gleamed from previous patients to inform future patients. Elsewhere, Klein and Leffler (1981), Shapiro (1983) and Allen (1984), have found that even in markets with imperfect information, there is likely to be an equilibrium with optimal quality if consumers can perceive quality *ex post* and providers have an interest in attracting repeat business.

69. This too has important implications for other health systems experimenting with competition. Having an agent to help inform patients' choices is vital to creating meaningful incentives. In the face of substantial evidence that the majority of patients do not use information on providers' performance to inform their decisions, agents, like GPs, are crucial elements in ensuring that participants in the market are elastic to quality.

70. It is also vital to note that in England, GPs did not have the opportunity to gain financially from making certain referral decisions. This lack of a pecuniary interest on the part of GPs is vital to ensuring adequate levels of trust and a successful agency relationship. Prospectively, policy-makers in England are giving GPs budgets and making them de facto insurers. This change in policy substantially raises the risk that patients will lose trust their GPs' advice and it could undermine the agency relationship.

71. That said, there are other players in health care markets who should have a role shaping patients' choice sets and informing their decisions. Crucially, purchasers have the power to decide who is included in the patients' choice set and who they will reimburse. Here, purchasers have the power to use cost-sharing and financial incentives to 'tier and steer' patients. That is, they could create financial incentives to steer patients towards the most cost-effective providers or to providers who demonstrate that they use evidence-based guidelines for care.

5.3. Pricing

72. Third, it is also vital to note that competition in England operated in a market with fixed prices that were determined by a regulator. As mentioned earlier, empirical evidence tends to suggest that competition in fixed price markets is generally associated with improvements in quality whereas competition in markets with price competition may harm quality. Indeed, in the 1990s, England also experimented with price competition and allowed hospitals to compete for annual contracts with local purchasing bodies. Evidence from this period suggests that competition lowered prices but also harmed quality.

73. This is not to say that price competition has no role in health care. As outlined in Charlesworth and Cooper (2010), price competition has a place, but it must be introduced carefully. Crucially, before health systems and regulators start experimenting with price competition, they must ensure that there is sufficient information for patients and their agents to observe quality. Indeed, prospectively, there is

certainly scope for England to open the NHS up to price competition, but it should only occur for procedures where quality is easily observable and where the impact of potential reductions in quality are not fatal.

74. However, competition between hospitals in fixed price markets is not guaranteed to improve quality. Here, setting the tariff price is vital to ensuring that competition leads to quality gains. If regulators set prices below providers' marginal costs, competition will tend to reduce quality and lower the provision of services. Likewise, setting prices far too high will result in supernormal levels of quality and over provision. In England, regulators had access to data on hospital costs. This information was crucial for their rate setting. In other countries, like the Netherlands, price setting has typically occurred in negotiations between insurers and providers. These sorts of negotiations, which include hospital representatives, are also sensible since they also will be informed by inside information on hospital costs.

5.4. *Transaction Costs*

75. Forth, another crucial aspect of the NHS reforms was the referral software introduced by the government in tandem with the introduction of patient choice. This software facilitated paperless referrals and likely reduced the transaction costs associated with patient choice. In order to promote choice and make the market for hospitals as elastic to quality and as dynamic as possible, these sorts of policies are vital. If hospitals had the opportunity to raise the costs of switching for patients, then they would have an opportunity to effectively blunt their exposure to competition. Alongside electronic referral systems, a second tool to make hospital markets more dynamic is introducing electronic medical records. These records will facilitate more productive relationships between referring physicians and hospitals and also lower the transaction costs for switching hospitals and exercising choice.

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