

THE ROLE OF INFORMATION AND PATIENT CHOICE AS DRIVERS OF COMPETITION IN HEALTHCARE

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1. INTRODUCTION

The Competition Commission is about to embark on a full-scale market inquiry into the healthcare sector. The initiation of such an inquiry is in response to widespread concern regarding high (and escalating) healthcare costs, making private healthcare unaffordable for the vast majority of South Africans. One of the stated objectives of the Competition Commission's private healthcare enquiry is to '*evaluate how consumers access and assess information about private healthcare providers, and how they exercise choice*².'

The rationale for including information and choice dynamics as a consideration in a *competition* enquiry is clear given the role these have in driving competition in most markets. Information (and informed consumers) is an essential component of the operation of any well-functioning and efficient market.³ Information enables choice, allowing consumers to act as agents of competition by exerting pressure on firms to compare themselves to rivals and improve their product and service offerings. Conversely, when there is imperfect information, this can lessen competition between suppliers and result in poor outcomes for consumers in terms of price, quantity and quality.

¹ The authors of this paper are economists at Genesis Analytics. The views expressed herein are those of the authors and do not necessarily represent the views of Genesis Analytics.

² As stated in the draft terms of reference

³ See, for example Rothschild, M. (1973). Models of Market Organization with Imperfect Information: A Survey. *Journal of Political Economy*, 1282-1308. Akerlof, G. (1970). The market for 'lemons': quality, uncertainty and the market mechanism. *Quarterly journal of economics*, 488-500. Salop, S. and Stiglitz, J.E. (1977). Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion. *Review of Economic Studies*, 493-510. Stigler, G. (1961). The Economics of Information. *Journal of Political Economy*, 213-225. Stiglitz, J. (1989). Imperfect Information in the Product Market. In R. a. Schmalensee, *Handbook of Industrial Organization*. Amsterdam.

In the market for healthcare, it is well recognized that information problems and uncertainty abound⁴. In particular, patients are often unaware of the cost of healthcare ex-ante and do not know the value of healthcare received ex-post. This is due to the uncertainty on behalf of patients regarding the quality of the product as patients generally cannot test the product before consuming it (an experience good); and sometimes even after consuming it, consumers are unaware of its value (a credence good). This uncertainty is further complicated by the fact that the correlation between appropriateness of care and outcomes of care are often not perfectly related: appropriate care may yield poor outcomes and inappropriate care may yield good outcomes⁵. Physicians are also better informed than their patients and there are limits on consumers' ability to acquire information and their ability to process information.

These features of the healthcare market give rise to a number of outcomes that distort 'full-information' outcomes and make passive consumers of patients. Firstly, providers may have the incentive to exploit the asymmetric information by selling low quality services at high quality prices as consumers cannot judge the value of the healthcare service. Secondly, imperfect information can result in healthcare providers inducing demand for their services: giving consumers more (or less) treatment than they would want/need had they had full-information. Lastly, not knowing the prices ex-ante means that customers are unable to 'shop around' and select the best quality-adjusted price.

In essence, consumers face the problem of selecting a healthcare provider without full information on prices and quality of available healthcare providers⁶. It is argued that by increasing the information available to consumers, to facilitate their choice of healthcare provider, this promotes competition between providers, reallocating demand from low- to high-ranked providers. By imitating the discipline imposed in private markets, consumers can put downward pressure on prices, increasing the quality of services supplied.

⁴ This observation was first made by Arrow (1963) in his seminal paper where he discusses the information asymmetries between the physician and the agent and how imperfect information would result in market failure. Arrow, K. (1963). *Uncertainty and the Welfare Economics of Medical Care*. *American Economic Review*, 941-973.

⁵ OECD. (2004). *Enhancing Beneficial Competition in the Health Professions*. OECD.

⁶ This was a concern raised by the Department of Health. Dr Pillay (Deputy Director of the Department of Health) stated that patients need to start comparing hospitals in terms of their hotel qualities. He challenged hospital groups to make their costs and prices known. See http://www.fanews.co.za/article.asp?Healthcare~6,General~1124,South_Africans_ripped_off_by_health_care_costs-12339. A CDE report on reforming healthcare in South Africa recommends that price lists for medical services should be mandatory, as it is in Singapore. This would encourage individuals to shop around in non-emergency cases. *Reforming Healthcare in South Africa: What Role for the Private Sector*. 2011. Centre for Development and Enterprise. CDE research no 18.

However, whether consumers can be discriminating purchasers of healthcare services and effective agents of competition if provided the necessary information is up for examination:

“Indeed, the concept of transparency is a “hot” topic in health policy circles. There is considerable debate about whether a consumer can be a discriminating purchaser of health care services if provided the necessary price and quality information and the financial resources to make those purchasing decisions.”⁷

2. THE SHIFT TO INCREASING INFORMATION AND CHOICE

Whilst increasing information and thereby expanding the choice set of consumers with regards to their healthcare decisions might appear intuitive as a mechanism for driving competition, this is a departure from previous practice. The focus internationally, as well as in South Africa, has been on controlling access to the healthcare system and restricting choice in an attempt to reduce healthcare costs. Healthcare policy-makers⁸ and funders⁹ alike endeavour to contain healthcare costs through rationing. In South Africa, the most common form of rationing is in restricting choice and treatment to a network of service providers with whom a predetermined rate has been negotiated that is discounted in exchange for increased volumes of patients. Essentially consumers in this situation are passive, with their choice set restricted to that of choosing a funder, rather than the provider.

The criticism of this means of cost containment is that it not only restricts choice rather than making care better and more efficient, but that also *“subscribers’ choice of health plan is not the choice that really matters”* as it is not where value is created in the system¹⁰. Porter and Teisberg (2004) describe competition in healthcare in the United States as zero sum characterised by a) cost-shifting amongst patients, providers and funders rather than fundamental cost-reduction¹¹; b) the pursuit of greater bargaining power rather than efforts to provide better care (they argue that the quality and efficiency gains from consolidation are limited); c) restricting choice and access to services instead of making care better and more efficient. On this point, they argue

⁷ Deloitte. (2007). Health Care Price Transparency: A Strategic Perspective for State Government Leaders. Deloitte Center for Health Solutions.

⁸ These can be regulatory bodies, competition authorities, and national health systems.

⁹ For the purposes of this paper we will refer to financiers, third party payers, medical aid schemes and insurance companies all as ‘funders.’

¹⁰ For further discussion regarding what value-creation in the healthcare system involves see Porter, M.E., Teisberg, E. O. (2004). Redefining Competition in Health Care. Harvard Business Review. Available Online at: www.hbr.org (“Porter and Teisberg (2004)”).

¹¹ “Costs are shifted from the payer to the patient, from the health plan to the hospital, from the insured to the uninsured, and so on. Passing costs from one player to another, like a hot potato, creates no net value. Instead, gains for one participant come at the expense of others – and frequently with added administrative costs.” Porter and Teisberg (2004) page 3

that funders make money by refusing to pay for services and by limiting subscribers' and healthcare providers' choices. They restrict patient's access to medical innovations or limit the services that are covered.

The late 1990s in the United States was characterised by the '*managed care backlash*¹², with providers complaining that their clinical judgments were second-guessed, the doctor-patient relationship undermined and consumers complaining about the restriction of choice, limited access to necessary medical care and the lowering of quality. As a result, less restrictive forms of managed care have emerged in recent years. What is clear is that both patients and healthcare providers value choice and that restrictions on service providers compromise patients' choice and this ultimately has a negative impact on freedom of choice and consumer wellbeing. There is support in the literature that choice per se is a good thing – that there is intrinsic value to having choice. In fact, a restriction of choice leads to a reduction in consumer utility. Gaynor and Ma (1996) show that selective contracting reduces consumer welfare.¹³ An industry survey by Old Mutual Actuarial Consultants in 2010¹⁴ found that 60% of medical scheme members surveyed had a negative attitude to DSP arrangements for the following reasons: 31% wanted 'freedom of choice', 13% wanted 'to see own doctor', and 9% found it 'inconvenient'. A report by the King's Fund has found that 75% of patients surveyed thought that choice was either 'very important' or 'important'¹⁵.

Given the managed care backlash, concerns of quality, consumers' preference for choice and ever rising healthcare costs, a number of countries have been adopting measures to increase choice through providing information to consumers.

3. HOW CONSUMERS MAKE DECISIONS AND IMPLICATIONS FOR COMPETITION

Underpinning models of consumer choice is an assumption that patients will engage in 'shopping' in a way broadly similar to that in other markets. That is, consumers will actively seek and can assess comparative information on quality and other attributes, and will use this information to systematically select those providers that best match their preferences (in terms of cost and quality). But recent contributions from the fields of behavioural economics and decision theory suggest otherwise. There is evidence

¹² See the report by the Federal Trade Commission and the Department of Justice (2004). *Improving Health Care: A Dose of Competition*. page 6 for a discussion

¹³ Gaynor, M and Ma, C (1996). *Insurance, Vertical Restraints, and Competition*, Carnegie Mellon University.

¹⁴ 2010 OMAC Healthcare Survey, OMAC Actuaries and Consultants. Available online at:

<http://www.bhfglobal.com/files/bhf/OMACHealthcareSurvey.pdf>

¹⁵ Dixon, A., Robertson, R., Appleby, J., Burge, P., Devlin, N., Magee, H. (2010). *Patient Choice: How patients choose and how providers respond*. Kings Fund.

to suggest that consumers in healthcare markets may not act rationally. Frank (2004) claims that in healthcare in particular the '*decision making context is ripe for the types of situational influences on economic choices that are the focus of behavioural economics*¹⁶.'

Consumers currently largely make their decisions regarding their choice of healthcare provider based on factors such as location, convenience (e.g. short waiting times), cost (e.g. the proportion of the cost that would be covered by funders versus out of pocket), recommendations from family and friends, and referrals from healthcare providers. Given that healthcare decisions regarding quality are fundamentally governed by uncertainty, in order to assess the quality of the healthcare provider, consumers rely on partial information as a substitute for direct information. Partial information, as a signal of quality, is available in the form of past experiences, reputation, price, recommendations from friends, relatives and healthcare providers.

Whilst partial information in some cases can help ameliorate the market failure that is the result of asymmetric information, in other cases, coupled with behavioural irrationalities, it can weaken efficient decision-making with the implication that quality signals from improved market sources of information may not yield strong demand responses.

Referrals as a signal of quality: Consumers rely heavily on healthcare providers, family and friends in order to make healthcare decisions. This is reflected in a survey on consumerism in healthcare in the US¹⁷ which indicated that 70% of consumers relied on family and friends and 65% relied on their physicians to make healthcare decisions. The channel through which a consumer reaches a healthcare provider is important as informed referrals or recommendations can play a role in ameliorating the market failure caused by the absence of full information. Informed referrals on quality care will result in repeat sales and satisfied consumers, increasing demand for high quality providers and therefore increase fees for high-quality providers. However, although referrals and recommendations from less informed friends and relatives might provide accurate information on the cost of a particular provider, they might be less reliable in reporting on the dimension of healthcare quality that matters to the patient's health – i.e. the more technical aspects of care¹⁸. Rather, family and friends

¹⁶ Frank, R. (2004). *Behavioural Economics and Health Economics*. NBER Working Paper No.10881. ("Frank (2004)")

¹⁷ Kaiser Family Foundation (2000). National Survey on Americans as Health Care Consumers: An update on the role of quality information. Menlo Park, California.

¹⁸ Technical aspects include how well medical science and knowledge are applied to the diagnosis and treatment of the medical problem (see Haas-Wilson, D. (1994). *The relationship between the dimensions of health care quality and price: the case of eye care*. *Medical Care*, 175-182.) ("Haas-Wilson(1994)")

would, in the main, report on the aspect of care least related to their health outcome – the personal interaction with the healthcare provider¹⁹. Therefore, based on recommendations from family and friends, consumers may be more likely to make tradeoffs between interpersonal aspect of quality and price rather than between technical quality and price, thus obstructing the formation of efficient markets²⁰.

In addition, consumers' tendency to rely on **availability heuristics** and the **law of small numbers** when making decisions limits the impact that increased sources of information can have in driving competitive outcomes.

- Availability heuristics is the notion that "*if you can think of it, it must be important.*" As Frank (2004) points out, personal testimonials will always be more available than any data reporting system, and as such the importance of personal testimonials will be elevated despite the fact that the personal reports patients will rely on will most likely be based on the interpersonal aspects of care that might not actually directly affect their health outcome. As corroborated in the Kings Fund report (2010), despite rating quality as important in making a choice, consumers do not make use of 'hard' information on the performance of hospitals but instead rely on 'soft' knowledge and the recommendation of their GP²¹. Further, the Kaiser Family Foundation survey reported that 76% of consumers say they would choose a surgeon that they are familiar with over one that was more highly rated by experts such as state government or accrediting organizations.
- Frank (2004) also points out that the formation of priors might be distorted by the 'law of small numbers bias' whereby consumers (or GPs or specialists making referrals) will base their healthcare provider decision on a relatively small number of experiences versus a large representative sample that a public reporting body would provide and that, further, they will have confidence in this decision. This is supported by survey results conducted by the Kaiser Family Foundation whereby consumers are relatively confident about their choice: 79% of consumers said they had enough information to make the right

¹⁹ This includes whether a physician was '*respectful, attentive, clear in explaining clinical issues and operated a clean and efficient office.*' Frank, R. (2004).

²⁰ There is some empirical support for this. Haas-Wilson (1994) using a data set from the market for ophthalmic services shows that: Firstly, patient satisfaction is related to interpersonal quality but independent of the technical quality; Secondly, technical quality is not related to interpersonal quality therefore consumers cannot use their evaluations of interpersonal quality as signals of the level of technical quality; Lastly, interpersonal quality is positively correlated with price and technical quality is unrelated to price. Thus consumers appear to make more informed tradeoffs between price and interpersonal quality than between price and technical quality.

²¹ Dixon, A., Robertson, R., Appleby, J., Burge, P., Devlin, N., Magee, H. (2010). *Patient Choice: How patients choose and how providers respond.* Kings Fund.

choice of doctor and up to 81% felt that they had enough information to make the right decision regarding their treatment options.

Reputation as a signal of quality: The anticompetitive effect resulting from asymmetric information assumes that healthcare providers do not establish reputations as high quality or low quality sellers. Yet, increasing information about providers' qualities in the form of *informed* referrals may partly ameliorate the market failure due to asymmetric information²². To a lesser extent, from repeated interactions, patients uncertain of healthcare providers' quality can come to learn about the quality of particular providers without actually observing quality. In addition, these patients can come to trust providers who have served them well and consequently these providers will form a reputation of high quality. Whilst trust is a natural consequence of patients' inability to assess the true quality of a healthcare provider²³, trust distorts rational decision-making (as consumers are reluctant to switch providers or not take the advice of a trusted physician) and can lead to adverse market equilibrium.²⁴ Rabin and Schrag (1999) effectively term the influence a trusting relationship has on decision-making as '**confirmatory bias**²⁵'. This is the tendency to accept evidence that confirms our beliefs and to reject evidence that contradicts them. Confirmatory bias also tends to lead to overconfidence and they show that even an infinite amount of information does not overcome the effects of confirmatory bias.

Prices as a signal of quality: A signal of quality is often (incorrectly) deemed as price: i.e. that higher cost care is better care. Since price variation often results from separate contract negotiations between insurers and providers, it is not necessarily correlated with quality, burden of illness, or cost²⁶. As such price does not necessarily provide an accurate signal of quality and can in fact lead to adverse outcomes²⁷. The

²² Whilst, there is some theoretical support for the potential role of reputation formation in correcting market failure due to asymmetric information (see Wolinsky (1983), Shapiro (1983) and Klein and Leffler (1981)), there are few empirical studies that have assessed the impact of information about provider's reputations on health care markets. One example is an econometric study of the impact of provider-specific information on providers' fee-setting behaviour in the market for psychotherapy (See Haas-Wilson (1990)). The results indicate that information on reputation ameliorates market failure in that social workers with established reputations for high-quality care charge higher prices.

²³ Arrow (1963) notes that there is '*an element of trust in the relation*' between a physician and patient stemming from the patient's inability to assess the true quality of and effort exerted by the physician. Arrow, K. (1963). *Uncertainty and the Welfare Economics of Medical Care*. *American Economic Review*, 941-973.

²⁴ Frank (2004). See also McGuire 1983 for the implications of trust in the market for physicians. The economic consequences of trust result in a market equilibrium where there are too many incompetent physicians in practice. McGuire, T. (1983). *Patients' trust and the quality of physicians*. *Economic Inquiry*, 203-222.

²⁵ Rabin, M. and Schrag, J. (1999). *First Impressions Matter: A model of confirmatory bias*. Quarterly Journal of Economics, 37-82.

²⁶ Thomas Reuters. (2012). White Paper: *Save \$36 billion in U.S. Healthcare spending through price transparency*. ("Thomas Reuters (2012)") See for example Massachusetts Attorney General. Examination of Health Care Cost Trends and Cost Drivers. Report for Annual Public Hearing. 2011. Available at <http://www.mass.gov/ago/docs/healthcare/2011-hcctd-full.pdf>

²⁷ Dranove and Satterthwaite (1992) show that increasing price information when consumers are uncertain about quality can decrease welfare as consumers perceive high price as a signal of high quality. Dranove, D., Satterthwaite, M. (1992). Monopolistic Competition when price and quality are not perfectly observable. *Rand Journal of Economics*, 518-534.

lack of correlation between price and quality implies that price dispersion is not reflecting the desired price/quality tradeoff and thus price is not fulfilling its signaling role properly. The implication of this is that price transparency has little value in itself without the requisite quality assurances so that consumers can identify the lowest quality-adjusted price.

Whilst partial information, in the form of informed referrals and the establishment of a reputation, can sometimes play a role in combating the lack of direct quality information and the market failure associated with asymmetric information, coupled with some of the behavioural factors it can result in imperfect market outcomes.

4. RESPONSES TO GREATER INFORMATION TRANSPARENCY

The transparency movement is in its infancy in the United States, the United Kingdom and elsewhere. A key assumption of the consumerism movement in healthcare is that patients will be able to use price and quality information to choose cost-effective care, but as we have shown, this might be limited by consumers' irrational decision-making tendencies. Empirically, there are very few studies that have determined whether consumers are accessing price/quality information or whether, more importantly, they are in fact acting on the information.

We document below firstly the initiatives taking place in the United States and the United Kingdom to increase the availability of information, and the survey evidence on whether consumers are reporting accessing and using this information. We then briefly assess some empirical research as to whether consumers are altering their decision-making behaviour in response to price and quality information in ways that improves healthcare outcomes. Finally we assess the supply-side response to public reporting of information.

4.1. SURVEY EVIDENCE OF INFORMATION AVAILABILITY AND USE IN THE US AND THE UK

The health sector in the United States in recent years has been characterized by expanded public availability of information on provider performance and the associated costs. This movement has been born on the back of rising health costs (which cannot be explained by improvements in quality), extreme price variation for similar procedures, the increased number of consumers with healthcare plans containing high-levels of cost-sharing and an assertive, choice-orientated consumer. Consequently, developments in information systems that help healthcare consumers

compare healthcare providers on the basis of price and quality have proliferated in recent times²⁸. The media, internet and state government have all been utilised to boost this healthcare consumerism²⁹.

The particular concern in the US is the extreme variation in price for similar procedures. As such, an additional focus in the US is on the role price transparency can play in reducing the wide variation in medical prices for similar procedures and thus reducing overall healthcare expenditure. Thomas Reuters analyzed the variation in prices for 300 'shoppable' procedures (high-volume procedures that consumers would plan for and schedule in advance) and determined a \$36bn cost saving by lowering all services above the median price to the median³⁰.

However, despite this new emphasis on consumerism, on the whole there still appears to be either low levels of information available or consumers are failing to access it and use it.

- The Kaiser Family Foundation conducted a survey³¹ in 2008 assessing Americans' response to quality and cost information and revealed that only 22% had seen information comparing the quality of health insurance plans, 20% for hospitals and fewer than 12% said they have seen information comparing the quality of doctors. Just 6% reported having heard of the government website that compares hospitals on quality of care ratings³² and 64% of respondents reported that they had difficulty in finding information comparing the cost of different treatments and procedures offered by different doctors and hospitals. In terms of use, only 7% reported having seen and used information comparing hospitals and 6% for doctors in the past year to make healthcare related decisions.
- The Employee Benefit Research Institute (EBRI) and Commonwealth Fund Consumerism in Health Care Survey (2005)³³ found that 14-16% of insured individuals have information from their health plan on quality of care provided by their doctors and hospitals; and 12-16% had cost-of-care information for their

²⁸ Currently 34 states require reporting of hospital charges or reimbursement rates and another seven have established a forum for voluntary price reporting. More than 30 states are pursuing legislation to increase price transparency in healthcare. Under the Affordable Health Care Act, hospitals will publish their prices for common procedures in 2014.

²⁹ One example of an internet site is the Healthcare Blue Book which is a free consumer guide to help consumers of health care determine fair prices in the area of healthcare services. It also lists state resources for information on provider quality of care. The Blue Book price is based on the typical fee that providers located in the area of the consumer accept as payments from insurance companies.

³⁰ Thomas Reuters. (2012).

³¹ *Update on Consumers' views of patient safety and quality information.* (2008). The Kaiser Family Foundation – Available online at: www.kff.org/kaiserpolls/upload/7819.pdf

³² www.HospitalCompare.gov

³³ Survey results reported in: Collins, S and Davis, K. (2006). *Transparency in Health Care: The time has come.* The Commonwealth Fund. ("The Commonwealth Fund (2006)")

doctors and hospitals. Only half of those with the information had tried using it. Approximately 66% of physicians say they rarely or never have information on the quality of care rendered by the physicians to whom they refer patients.

- A survey conducted by the California Healthcare Foundation in 2007 reported that only 23% of Californians were aware of rating information on hospitals and only 1% was using the information to select a hospital for planned procedures.³⁴
- The American College of Physician Executives Survey (2007) sought out information from physicians and asked them questions on the topic of price transparency. 48% of respondents said they would provide price information to patients if they asked, but only 9% provide price lists to all patients and only 5% post prices on websites. Physicians also find it hard to find out what the cost of care to their patients would be.

In the UK, the Office of Fair Trading (2011) conducted patient interviews and GP surveys to assess the level of information transparency in the Private Healthcare sector. They concluded that there remains a lack of '*accessible, standardized and comparable information*'.³⁵ In particular, healthcare consumers felt that they did not have enough information to make informed decisions regarding consultant and health care facility choices and only a small minority of GPs felt that their information needs regarding healthcare facilities' performance, medical and clinical outcomes, and consultant performance were being met. Similarly, only a minority of GPs felt that their information needs regarding the prices of healthcare facilities and consultants were being met.

Currently private healthcare facilities provide quality information to different audiences (doctors, insurers and patients) based on patient satisfaction surveys and clinical performance indicators³⁶. However, the considerable variability in the way information is presented has hindered the ability of consumers to compare private healthcare facilities and make informed decisions. The NHS, in comparison, has attempted to mitigate this issue by providing a standardized display of key quality indicators across all NHS facilities. This is the 'NHS Choices' website which relies on the Hospital Episode Statistics database. In addition, there are third party comparative information

³⁴ Sarasohn-Kahn J. "*From Here to Maternity: Birth of an online marketing campaign.*" California Healthcare Foundation, October 2009. Quoted in Thomas Reuters (2012).

³⁵ Office of Fair Trading. (2011). *Private Health Market Study: Report on the market study and proposed decision to make a market investigation reference.*

³⁶ For example, infection rates or unplanned returns to theatre

providers on healthcare options (such as Dr Foster).³⁷ There is currently underway an initiative called the Hellenic Project that is attempting to provide a uniform system for standardized, comparable quality information akin to the HES database but for private healthcare facilities.

In terms of pricing information, funded patients are generally not concerned about prices. Although pricing of different treatments at a private healthcare facility are upfront and transparent, self-pay patients reported that they do not have enough cost information about private healthcare facilities to compare them in an informed way given the package nature of the pricing.

4.2. RESEARCH ON THE CONSUMER RESPONSE TO INFORMATION

Although policymakers have increasingly turned to provider quality report cards as a tool to improve health care quality, of the existing studies, whilst there is an observed response in some specific settings, there is inconclusive evidence on whether quality report cards are economically important in terms of influencing consumer choices and whether they are generalizable to other healthcare contexts. Most studies find that patients are passive consumers of physician services³⁸, unable to understand the information and thus unable to process it and use it; and they still tend to rely on referrals from family, friends and doctors.

A large proportion of the published empirical literature on the impact of public availability of quality information on consumer response and provider performance has used the data stemming from a Coronary Artery Bypass Graft (“CABG”) surgery experiment in Pennsylvania and New York. Since 1990 and 1992, the New York Department of Health and the Pennsylvania Health Care Cost Containment Council has published cardiac care report cards on risk-adjusted mortality rates of patients receiving CABG surgery at the level of the surgery providers and the hospitals. The quality report cards were expected to result in a demand response involving patients choosing higher quality providers and avoiding low quality providers. There is evidence that this is the case. Wang *et al.* (2011)³⁹ found evidence that the probability of patients (regardless of severity of illness) receiving CABG surgery from low-performing surgeons is significantly lower and that surgical volume was negatively

³⁷ Dr Foster produces report cards for every NHS hospital based on a traffic light system display and risk adjusted indicators measuring performance across a number of clinical activities.

³⁸ For example, Harris (2003) examines the process by which patients search for and choose physicians. Amongst other relevant factors, she looks at the effect of quality information on the choice of physician and finds evidence for patients as passive consumers of physician services. Harris, K. (2003). *How do patients choose physicians? Evidence from a national survey of enrollees in employment-related health plans*. Health Services Research, 711-732.

³⁹ Wang *et al.* (2011). “Do bad report cards have consequences? Impacts of publicly reported provider quality information on the CABG market in Pennsylvania”. *Journal of Health Economics* 30(392-407)

related to a surgeon receiving a poor rating. Dranove *et al.* (2003) find evidence of better matching between patients and providers as teaching hospitals (an indication of higher quality) experienced a greater share of severely ill patients.

Bundorf *et al.* (2009) estimate the responsiveness of consumers' choice of fertility clinic to the public disclosure of information about clinics' birth rates. They find that consumers do respond to quality report cards when choosing among providers of Assisted Reproductive Therapies as highly ranked clinics gained market share after public reporting on birth rates was initiated. The magnitude of the response is economically important and thus has the potential to influence provider behaviour to improve their scores. However, they dismiss this evidence as being generalizable to other more complex medical treatments for a number of reasons⁴⁰.

Werner *et al.* (2012) examine the relationship between quality report card scores on post-acute care at nursing homes and patient choice of nursing home. They conclude that although there is a positive response, the magnitude of consumer response to information is minimal⁴¹.

Whilst the above studies suggest that report cards can, under the right conditions, influence a patient's choice of healthcare provider, a study published in 2008 which conducted a systematic review of the empirical studies on consumer response to quality report cards⁴² concluded that there was an inconsistent association between public reporting and selection of hospitals and individual providers⁴³. Another study from 2008 that reviews the literature concludes that consumers are responsive to initiatives that provide quality information as they choose better performing providers.

⁴⁰ Firstly, they attribute some of this positive result, relative to other results, to the informative and easy to understand performance measure for fertility clinics (i.e. birth rates). Secondly, to the fact that information presented in the report card for fertility clinics might carry more weight than information from other sources (i.e. physician referrals which play a big role in cardiovascular care). Thirdly, consumers who desire ART are on a whole younger, wealthier and more highly educated than average and thus represent more active consumers. And finally, because it is an elective procedure, consumers have longer to seek out information on quality.

⁴¹ There are a number of reasons why the response is small. Firstly, the nature of post-acute nursing care requires urgency and therefore it might prevent a full information search. Secondly, patients for post-acute nursing care are generally older and sicker and therefore are not as receptive to quality information that a younger population might be. Lastly, the measure for quality on the nursing homes might not be capturing information that is meaningful to consumers.

⁴² For examples of some of the studies the report muted response see: The Mennemeyer, Morrisey, and Howard (1997) who examine how the release of publicly reported hospital mortality rates affected hospital utilization. They found a small, significant effect. Also, Harris (2003) examines the process by which patients search for and choose physicians. Amongst other relevant factors, she looks at the effect of quality information on the choice of physician and finds evidence for patients as passive consumers of physician services. Another study on report cards in New York and California concluded that for hospital reported to be either high-quality or low-quality outliers "volume effects were modest, transient, and largely limited to white Medicare patients in New York." P, Romano and Zhou, H(2004). *Do Well-Publicized Risk-Adjusted Outcomes Reports Affect Hospital Volume?* 42 Med. Care 367. Finally a 2006 study on the New York CABG surgery report cards concluded that the report cards did not affect market share. Jha, K and Epstein, A (2006) *The Predictive Accuracy of the New York State Coronary Artery Bypass Surgery Report-Card System*. 25 Health Affairs. 844. Also see for a summary: Madison.(2009). *The Law and Policy of Health Care Quality Reporting*. Campbell Law Review. Vol 31. Issue 2.

⁴³ Constance H. Fung *et al.*, (2008) *Systematic Review: The Evidence that Publishing Patient Care Performance Data Improves Quality of Care*. 148 Annals Internal Medicine 111, 113.

However, they also state that the effect of quality information on choice is apparent for only a relatively small group of consumers⁴⁴. As such, the DOJ paper states that "*Although information on quality is becoming more available, the benefits and costs of information-driven strategies are disputed.*"⁴⁵

The literature has identified a number of reasons why consumers might not be responding as expected to quality information.

- First, consumers might mistrust the quality measure and not value it⁴⁶. It is fundamentally difficult to measure quality and determine which aspects of quality are meaningful to consumers. Sometimes those dimensions of quality that are meaningful to consumers, such as interpersonal skills of providers, are not necessarily the most beneficial in terms of their health outcome.
- Second, even if patients had access to all the relevant information, it has been shown that there are limits to patients' ability to process and understand the measures of quality. Much quality data is not within the limits of consumers' ability to process and consequently make informed decisions. Hibbard and Jewett (1997) conclude that "*if consumers do not understand information, they are more likely to dismiss it as unimportant*"⁴⁷. The evidence also suggests that having an abundance of information does not translate into informed choices⁴⁸.
- Finally, there might be other factors that are more important to a patient's decision-making such as location and convenience. People largely base their physician or hospital choice on location. For very ill people there might not be time to review information and if a person is to be in hospital for a long period of time then a hospital close to family and support networks might be chosen over quality information.

Even with the proliferation of price information transparency in the last few years, it appears that price transparency initiatives (mainly in the US) have had little effect in reducing price variation⁴⁹ and prices overall⁵⁰. It is not clear whether consumers are

⁴⁴ J, Kolstad and M,Chernew. 2008. *Consumer decision making in the market for health insurance and health care services*. Medical Care Research and Review, 66(1): 28S-52S.

⁴⁵ DOJ, page 21, Chapter 1

⁴⁶ See Rosenthal (1997) "Weak Association between hospital mortality rates for individual diagnoses: implications for profiling hospital quality." *American Journal of Public Health*. pp. 429-433

⁴⁷ Hibbard, J., and Jewett, J. (1997). Why quality report cards help consumers. *Health Affairs*, 218-228. (page 226)

⁴⁸ Hibbard, JH and Peters, E. (2003). Supporting informed consumer health care decisions: data presentation approaches that facilitates the use of information in choice. *Annual Review of Public Health*, 413-433.

⁴⁹ A study on New Hampshire's early experience in a price transparency initiative found no decrease in price variation one year after the release of price information for 30 procedures. See Rosenthal, M and Sinaiko, A. (2011). *Increased Price Transparency in Health Care - Challenges and Potential Effects*. *New England Journal of Medicine*, 891 ("Rosenthal and Sinaiko (2011)")

using price information in their decision-making process and shopping around in response to greater price information. It is possible however to identify a number of reasons as to why consumers' response to price information in healthcare might differ from their response to price information in other markets⁵¹:

- Firstly, many consumers are insured and thus insulated from prices – they thus have little incentive to price shop and choose the lower cost provider. In promoting consumerism, the starting point is that consumers need to have a vested interest in shopping for lower prices i.e. are price sensitive. As the DOJ terms it, most consumers are '*rationaly ignorant*' of the price of medical services they receive because they are insulated by their insurance.⁵² This has changed in recent times as consumers have become responsible for a greater share of their costs. The age of consumerism has arisen as a result of the movement in Medical Savings Accounts and more out-of-pocket expenses which incentivise consumers to shop around for prices. However, the degree of coverage will continue to predict the degree of price-shopping. In South Africa, hospital-based benefits are insured limiting consumer price sensitivity to any in-hospital procedures.
- Secondly, in most cases, consumers care more about the quality of healthcare than the cost. Further, because quality is difficult to ascertain, cost is often used as a proxy for quality and thus the consumer response might result in prices increasing and not decreasing.
- Third, the cost of healthcare is complex as consumers generally do not know what combination of services they will require in advance. What consumers want to know is the total out-of-pocket cost from the beginning of treatment to the end of treatment for their particular bouquet of services. However, this is often difficult to pinpoint given the complexity of the different negotiated rates amongst funders, service providers and pharmaceuticals. Different funders can negotiate different rates for the same service with hospitals depending upon their leverage with providers in the service area.

⁵⁰ A Congressional Research Service report (2008) recounted a California price transparency initiative that has had a negligible or no observable effect on hospital prices. Austin, A., Gravelle, J. (2008). *Does price transparency improve market efficiency? Implications of Empirical evidence in other markets for the health sector.* Congressional Research Service: Report for Congress. ("**Austin and Gravelle (2008)**")

⁵¹ See for example Rosenthal, M and Sinaiko, A. (2011) and Austin, A., Gravelle, J. (2008).

⁵² A report by the Federal Trade Commission and the Department of Justice (2004). *Improving Health Care: A Dose of Competition.* page 18

- Fourth, price shopping is more effective for those procedures that are more homogenous and rely less on reputation/skill. Price plays more of a role for services that consumers regard as not being characterized by much variation in clinical quality. These would be routine, high-volume, elective procedures that consumers would plan for and schedule in advance⁵³. A report, from the Deloitte Centre for Health Solutions, corroborates this stating that price transparency will increase price sensitivity around routine services (physician visits, tests) that fall under deductibility thresholds; whereas consumer price sensitivity will not play a large role in major purchasing decisions (e.g. major surgical procedures).⁵⁴
- Fifth, price information is only valuable if a consumer has the time to price shop, for example, in the case of a hip replacement versus a procedure related to a heart attack which requires immediate action.

4.3. PROVIDER RESPONSES TO INFORMATION

Empirically, there are very few studies that have examined the supply side response to information transparency initiatives in healthcare markets. Thus there are very few studies that have determined whether healthcare providers are accessing price/quality information or whether they are in fact acting on the information by improving quality. There is however anecdotal evidence that providers in the CABG market in New York took steps to boost quality after the publication of report cards by inducing poorly-rated hospitals to change patterns of care and enable highly-rated physicians and hospitals to increase their market share⁵⁵. In response to the data, cardiac surgeons pursued process improvements and hospital groups revoked the privileges of cardiac surgeons who had low volumes and high mortality rates. After four years of published data, New York has the lowest risk-adjusted mortality following by-pass surgery of any state in the country.⁵⁶ However, these positive findings need to be qualified with some of the adverse supplier responses.

⁵³ These might include common tests (cholesterol and immunizations), pharmaceutical drugs, and preventative services such as colonoscopies and mammograms.

⁵⁴ Deloitte Center for Health Solutions. 2007. *Health Care Price Transparency: A Strategic Perspective for State Government Leaders*.

⁵⁵ Dranove, D. Mclellan, M., Satterwaite, M. (2003). *Is more information better? The effects of 'report cards' on health care providers*. Journal of Political Economy, 555-588. ("Dranove et al. (2003)"). See also Kolstad (2012) who demonstrates that the impact of information provided to suppliers in the CABG market had an effect on quality improvement that was four times larger than the surgeon's response to profit incentives due to surgeons caring intrinsically about supplying high quality. Kolstad (2012). *Information and intrinsic motivation: Evidence from surgeon report cards*. Mimeo, University of Pennsylvania.

⁵⁶ Porter and Teisberg (2004)

Public disclosure of quality information can provide a number of theoretically perverse incentives to the providers to game the system, such as patient selection or dumping and upcoding, as well as making it unattractive for risk-averse or low-performing physicians to practice in the area that is subject to public reporting.

Selection or patient dumping: Providers might select only the healthier patients for procedures where there is public reporting. This is because risk-adjusted measures of quality⁵⁷ are generally not perfect. Sicker patients raise the probability of a poorer rating for the provider and therefore to decreases in demand and reputation for the provider. Therefore any risk-averse provider would be incentivized to choose healthier patients whose ‘true’ probability of dying is lower than the expected risk-adjusted mortality probability. Further, risk-adjustment measures only adjust for observable characteristics of patients, however, there might be unobservable characteristics to analysts that are observable to providers that allow them to select patients who are healthier and will have better outcomes and consequently enhance a provider’s ranking and reputation. In addition, poor performing providers might engage in selection in order to try pool with high quality providers. Low quality providers are incentivized to select healthier patients making it more difficult for report cards to distinguish between them and their high-quality counterparts.

- Empirically, there is some evidence of selection stemming from the CABG study. Survey results, corroborated by empirical studies⁵⁸, on the CABG study showed that after the introduction of report cards 63% of cardiac surgeons reported only accepting healthier candidates. Further, 59% of cardiologists confirmed that it was more difficult to place severely ill candidates for CABG.⁵⁹
- On the other hand, Bundorf *et al.* (2009) in the fertility clinic report card paper, suggest that selection effects in this particular context are muted as the risk-adjusted measure (which is age in the case of fertility) is well-understood by consumers and taken into account⁶⁰.

⁵⁷ Risk-adjusted measures of quality attempt to adjust health outcomes for differences in patient characteristics to reflect the complexity or severity of the patients’ initial conditions.

⁵⁸ Dranove *et al.* (2003) find a selection effect in the CABG experiment as report cards led to a decline in the illness severity of patients receiving CABG. The authors assert that report cards make physicians more risk adverse and avoided the sicker patients.

⁵⁹ Schneider and Epstein (1996). *Influence of cardiac-surgery performance reports on referral practices and access to care*. New England Journal of Medicine (p. 251-256) quoted in Dranove *et al.* (2003).

⁶⁰ It is well understood that Clinics can improve their measured performance either by improving quality or selecting good prognosis (or younger) patients. Consumers were aware of this and as a result market shares for clinics with a disproportionate share of young, relatively easy-to-treat patient decreased after public reporting. However, whether clinics can select patients on unobservable characteristics that are not publicly reported is important to consider.

Upcoding: Potentially, public quality reporting on a certain procedure might induce a provider to up-code a procedure to another related procedure or diagnosis that does not undergo public quality reporting and thus change the ratings of the provider in a way that favours their rating. For example, a study on the CABG report cards when they were first introduced in New York found a significant increase in the prevalence of five comorbidities, which accounted for 41% of the decrease in risk-adjusted mortality of the CABG procedures.⁶¹

Physician exit: Public reporting might change a healthcare provider's willingness to offer the healthcare service at all (without the requisite compensation). For example, two studies on the CABG market in New York found that 27 low-volume, high mortality surgeons exited the New York market or switched to performing other surgery.⁶² Whilst the exit of poor-performing providers is in fact the outcome sought through this competitive process, a perverse outcome occurs when *risk-averse* providers exit the market or switch to other services that do not have quality reporting. This phenomenon may be exacerbated over the long run with fewer high-performing, risk-averse providers entering the profession.

There are not many studies concerning healthcare providers' response to greater **price** information transparency. One exception is the survey conducted by the American College of Physician Executives (2007) which reported that only 7% of the doctors surveyed said their organization had reduced prices in response to price shopping. As per the healthcare provider's response to quality, there might be a perverse response by providers to increased levels of price transparency.

- Firstly, Rosenthal and Sinaiko (2011) argue, for example, that if there were a weak consumer response to price information, lower-priced providers might raise their rates and thus raise the overall price level. The extent to which this might occur is unknown as the ability to increase prices relies on the degree of market power that the provider has. An example that is cited in Ginsburg (2007) is that of Blue Cross of California, an insurer, who posted its preferred provider organization enrollees ratings of the costliness of hospitals with simple dollars signs depicting high cost from low cost hospitals. However, it discontinued this system firstly because enrollees did not utilise the system,

⁶¹ Green and Winfield (1995) quoted in Wang *et al.* (2011). "Do bad report cards have consequences? Impacts of publicly reported provider quality information on the CABG market in Pennsylvania. *Journal of Health Economics* 30(392-407)

⁶² Chassin (2002) and Hannan *et al.* (1995) quoted in Wang *et al.* (2011). "Do bad report cards have consequences? Impacts of publicly reported provider quality information on the CABG market in Pennsylvania. *Journal of Health Economics* 30(392-407)

and secondly, because lower cost hospitals were pressuring for price increases.⁶³

- Secondly, doctors could also potentially start competing on price to the detriment of quality, for example by squeezing in more patients (lowering consultation time) in order to retain the same total income.
- Thirdly, it is the potential for price collusion that has been the concern of antitrust authorities. Ginsburg (2007) identifies collusion as a potential adverse outcome of increased price transparency. Informational spill-overs from transparent pricing might facilitate collusion among health providers and raise prices. *“When markets are highly concentrated – the case in many hospital markets – posting of prices negotiated between providers and managed care plans could in fact lead to higher rather than lower prices⁶⁴.”* Antitrust experts in the States believe that it is the ability of providers to offer secret discounts to insurers that keep prices down. However, Ginsburg states that antitrust issues must be viewed as a cautionary warning and not an argument against price transparency per se.

5. CONCLUSIONS AND CONSIDERATIONS

The theoretical rationale for increasing price and quality information transparency in healthcare is clear. By assisting consumers in making informed choices regarding their healthcare needs could create incentives that induce providers to improve their performance, lower prices, and even reward high performing providers.

However, there are mixed results and opinions regarding the efficacy of public dissemination of price and quality information as it is not clear that consumers are realistically best placed to transform healthcare, even if they had access to all relevant information. Frank (2004) concludes that improved information transparency will not yield the desired results unless some other institution is able to outweigh the decision-making tendencies that healthcare consumers display. In fact, it is unclear whether new information sources will ever completely displace the current pattern of consumer decision-making that relies on familiarity, trust, family and friends, and physician recommendations.

⁶³ Jeffrey Kamil, medical director of Blue Cross of California quoted in Ginsburg (2007). *Shopping for Price in Medical care*. Health Affairs, w208-w216.

⁶⁴Ginsburg (2007). *Shopping for Price in Medical care*. Health Affairs, w208-w216. (w214)

“No Internet site will ever replace the intangibles of the doctor-patient relationship. Data crunching will never eliminate the vast gray areas where technology, medical judgment, and patient preference intersect”⁶⁵.

For these reasons, prior to launching any initiative to provide information to consumers, careful consideration would be required to ensure that measures of quality and price information are effectively designed and pitched. Consumer-driven healthcare on its own requires a large investment in terms of collection, dissemination, and in ensuring that the information is meaningful to the recipients. Despite this, the OFT considers that the short term investment necessary to establish robust indicators of clinical performance, will be recouped by the improvements in choice, competition and standards over the longer term⁶⁶.

Furthermore, whilst this paper has predominantly considered the case where consumers are the recipients of information, an information transparency initiative would also have to consider who within the healthcare system is best incentivised to receive and use the information and act as agents of competition. Some argue, for example, that quality reports should be directed at decision makers who have stronger economic incentives to understand and use it.⁶⁷ A report by the Commonwealth Fund reiterates this and also opposes the belief that consumers are the appropriate leverage point for reducing health care costs through price transparency as they do not have powerful enough market positions⁶⁸.

Decision-makers/recipients of information can be final consumers or agents acting on their behalf. Where consumers are not best placed as the recipients of information, funders, and to a lesser extent, healthcare providers can drive the process. The OFT (2011) recommends conveying information indirectly through funders and healthcare providers to consumers: the formulation and publication of outcome and process measures (especially for routine, elective treatments) can be *“made available to patients’ GPs, Private Medical Insurance providers, Private Healthcare providers and*

⁶⁵ Millenson, M. (2000). *Opinion: Medicine's Next Big Opportunity*. The Industry Standard.

⁶⁶ Office of Fair Trading. (2011). *Private Health Market Study: Report on the market study and proposed decision to make a market investigation reference*. page 62

⁶⁷ Mennemeyer, T., Morrissey, A., Howard, Z. (1997). *Death and Reputation: How consumers acted upon HCFA Mortality information*. *Inquiry*, 117-128.

⁶⁸ The Commonwealth Fund report argues that *“It is unreasonable to expect that information on prices, total bills (or total cost to patients and insurers), and quality will cause the health care market to perform like markets for other goods and services. Health care is not a homogenous commodity. Patients will never have as much information about the care they need as the physicians who care for them.”* The Commonwealth Fund (2006)

*other relevant bodies (for example, Dr Foster) which can then be interpreted and conveyed to patients indirectly.*⁶⁹

- Healthcare providers, such as specialists, hospitals and GPs, might be the most appropriate agents of choice and can more accurately inform patients, given prices, what would be the best value as they are best placed to understand the intricacies of quality (and in particular, the technical aspects). Further, these healthcare providers are probably more likely to improve performance if they have access to quality information against which they can benchmark themselves. This is consistent with the goal of greater price and quality information transparency which is to induce providers to either decrease their price and/or increase quality. There are however some issues with this. Potentially specialists and GPs might suffer from confirmatory bias and find it difficult to dislodge entrenched patterns of referral given quality information. Further, placing the obligation on GPs and specialists of acquiring and assimilating information in order to inform their patients requires great effort on the healthcare providers' behalf. This effort is unobservable and hence can be prone to the same problems that plague the current principal-agent relationship.
- Some commentators argue that funders are in fact probably best placed to exercise informed choices and support health care consumers in price shopping for care as they can analyse complex price data⁷⁰. Plans have information on their provider network and out-of-network providers and therefore can even communicate out-of-pocket costs and balance-billing estimates. However whilst funders might be best placed to direct consumers given cost information, there is the perception that funders place less emphasis on quality, and instead focused more on using the information available to them to manage utilisation and demand and thereby contain costs. As such, there is a mismatch in incentives between the funder, whose objective is to minimize costs, and the patient whose objective is to maximise value, but often without consideration of cost (especially if they are fully insulated from costs). However, this is not necessarily the case going forward. Funders recognize that limiting quality to reduce costs is short-sighted (e.g. the implication is often sicker patients in the future). Rather the focus must be on

69 Office of Fair Trading. (2011). Private Health Market Study: Report on the market study and proposed decision to make a market *investigation reference*, page 128

⁷⁰ See for example Ginsburg, P. (2007). Shopping for Price in Medical care. *Health Affairs*, w208-w216.

interventions that ensure patients get the right level of care the first time round, through properly coordinating their care, providing them with the best possible care, the most advanced treatments and the most experienced doctors. It is argued that it is at this level of specific diseases and conditions where the most value can be created within the system⁷¹. Whether cost-savings generated by funders are passed through to the consumer in lower premiums would ultimately depend on the level of competition at the funder level.

In conclusion, the debate regarding the shifting role of consumers, providers and funders in driving value in the healthcare system is interesting. International experience, as well as local, would indicate that choice is important to consumers. Whether by exercising choice consumers are able to generate competition and increase value remains to be seen. Yet economists have long pointed out that markets need only a minority of consumers to carefully compare value for providers to feel substantial pressure to improve their value equation. As such, it is sufficient that some consumers exercise informed choice (or even that others exercise informed choice on their behalf). Thus, even small 'nudges' of 'consumer' response in the right direction might be adequate to drive value competition in healthcare.

⁷¹ See Porter and Teisberg (2004)