

Surgeon Report Cards and the Concept of Defensive Medicine

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1. Introduction

The performance records of cardiac surgeons have been disclosed publicly in several states in the USA, for example New York and Pennsylvania, since the early 1990s. In response to the growing interest in the quality of healthcare, such records have also begun to be disclosed in the UK, starting in 2004. Various studies seem to show that disclosure has, indeed, contributed to the improvement of the quality of healthcare.¹ However, at the same time, disclosure does have its critics.²

In this paper, I discuss what I call the ‘defensive medicine objection’ to the disclosure of performance data; that disclosure is not justified because it could cause surgeons to experience high levels of anxiety³, which might eventually lead to the practice of defensive medicine. Although this objection is often mentioned by ethicists and medical professionals⁴ it has never been carefully analysed or evaluated. The aim of this paper is to consider it in detail. I argue in favour of the objection; disclosure could, indeed, lead to the practice of defensive medicine if it is not conducted properly.⁵

This paper has the following structure. In Section 2 I discuss the anxiety that surgeons may experience regarding the disclosure of performance data. In Section 3 I introduce a traditional definition of defensive medicine. In Section 4 I argue that disclosure could encourage surgeons to perform a new form of defensive medicine, one that is not captured by the traditional definition. In Section 5 I undermine the claim that surgeons have no good reason to be anxious about disclosure. In Section 6 I consider a possible way of avoiding

defensive medicine. I argue that careful risk adjustments are necessary when performance data are disclosed. Section 7 concludes the discussion.

2. Surgeons' Anxiety

There are two main arguments for justifying the disclosure of performance data. According to the first, which might be called the 'right-based argument', patients have the right to know the skill of their surgeons. This argument seems to be underpinned by the doctrine of informed consent, which aims mainly at protecting patients' right to autonomy. According to the second, which might be called the 'utility-based argument', disclosure is necessary because it is beneficial to patients. Providing information about the risk involved in surgeries is certainly beneficial to patients and surgeons' performance data could be part of such information. In this paper I focus mainly on the utility-based argument.

Critics argue that the truth about the disclosure of performance data is diametrically opposed to that which is claimed by proponents of the utility-based argument. In the long run, they claim, the disclosure of performance data causes unnecessary anxiety among surgeons and encourages them to practise defensive medicine, which is surely *unbeneficial*, or even harmful, to patients.

That surgeons experience anxiety regarding the disclosure of performance data is widely recognised. For instance, Vass quotes from Bruce Keogh, the secretary of the Society of Cardiothoracic Surgeons of Great Britain and Ireland, as follows:

[S]urgeons were "not comfortable" with publishing individual performance results but accepted it as inevitable. "We have been collecting data on death rates for four years

already, and acting upon it, but are concerned that publishing data could lead to the practice of defensive surgery...” (Vass, 2002, p. 189)

Surgeons’ anxiety seems widespread also in the USA, where disclosure has already been practised for many years. Keogh *et al.* (2004) describe the phenomenon as follows:

[T]here is a feeling in the US cardiac surgery community that an unintended negative consequence of public disclosure is that surgeons may be protecting their results by avoiding higher risk cases if they feel that their results are drifting into a range that might attract unnecessary yet easily avoidable scrutiny. (p. 451)

Surgeons’ anxiety is not harmful *per se*. It is harmful because, as the above quotations show, it could motivate surgeons to practise in ways that are harmful to patients. Schneider and Epstein (1996) surveyed a randomly selected sample of 50% of Pennsylvania cardiologists and cardiac surgeons. 59% of the cardiologists expressed increased difficulty, since the advent of surgeon report cards, in finding surgeons willing to perform coronary-artery bypass graft surgery in severely ill patients who required it. This difficulty is supported by the fact that 63% of the cardiac surgeons reported that they were less willing to operate on such patients after report cards were introduced. According to Hannan *et al.* (1994), between 1989 and 1992 the risk-adjusted mortality rate for coronary artery bypass surgery in New York declined by 41%, from 4.17% to 2.45%. Omoigui *et al.* (1996) hypothesise that this decrease is due to the fact that some high-risk patients are obliged to migrate out of New York for surgery.⁶ While Peterson *et al.* (1998) criticises this hypothesis, it is undeniable that the disclosure of performance data has been causing a number of surgeons to experience significant levels of anxiety, both in the US and the UK.

3. Traditional Definition of Defensive Medicine

In order to determine whether or not the disclosure of performance data really motivates doctors to practise defensive medicine in a significant way, we need to understand the nature of defensive medicine. De Ville (1998) defines it as follows:

Defensive medicine: A clinical decision or action motivated in whole or in part by the desire to protect oneself from a malpractice suit or to serve as a reliable defence if such a suit occurs. (p. 570)

As this definition suggests, the practice of defensive medicine has been traditionally construed as an unwelcomed consequence of the increase in the number of medical malpractice suits. Here, the logic of physicians who practise defensive medicine is straightforward: they want to avoid being sued by their patients, so they simply prioritise their liability over other appropriate considerations.

It is widely recognised that there are two kinds of defensive medicine; positive defensive medicine and negative defensive medicine.

Positive defensive medicine: The unnecessary use of medical procedures in order to reduce physicians' exposure to malpractice risk.

The practice of positive defensive medicine involves an unnecessary use of additional medical procedures, such as diagnostic tests and X-rays. The term 'positive' refers to additional healthcare utilisation. Positive defensive medicine is problematic because it imposes additional time and financial costs on patients.

The practice of negative defensive medicine is often more harmful than that of positive defensive medicine.

Negative defensive medicine: The avoidance of high-risk patients or procedures in order to reduce physicians' exposure to malpractice risk.

The practice of negative defensive medicine involves an avoidance of high-risk patients or an avoidance of medical procedures primarily, but not solely, out of concern for malpractice liability. The term 'negative' refers to a reduction in healthcare utilisation. Negative defensive medicine is often more harmful than positive defensive medicine. A reduction in the use of medical procedures might initially appear to reduce time and financial cost. However, since the conditions are left untreated, there could be much greater costs in the long run. Moreover, it could impose significant physical and psychological risks on patients.

It is not entirely obvious, however, that the practice of defensive medicine is *always* harmful to patients. Some claim that surgeons' avoidance of high-risk patients could even be *beneficial* for patients in certain situations. I discuss this point in the next section.

4. New Definition of Defensive Medicine

As I explained above, defensive medicine has traditionally been defined in terms of physicians' attempts to avoid medical malpractice suits. However, the debate on the disclosure of performance data suggests that there is a new form of defensive medicine, one which arises from a different source: surgeons' anxiety regarding disclosure. In order to cover this new form we need to revise the traditional definition of defensive medicine in the previous section as follows:

Defensive medicine: A clinical decision or action that is motivated in whole or in part by the desire (i) to protect oneself from a malpractice suit, or (ii) to serve as a reliable

defence if such a suit occurs or (iii) to sustain or improve performance data accessible to others.

(iii) concerns the desire of surgeons to defend themselves against any unfavourable consequences of the disclosure of their performance data, which is independent of the increase of medical malpractice suits. Surgeons may have such a desire because if they practise normal medicine, their performance data might drift into a range that threatens their reputation regarding their surgical skills. Just as with their desire to avoid malpractice suits, their desire to sustain or improve that portion of their performance data that is accessible to others could lead to both positive and negative defensive medicine. Given that surgeons' performance data are collected continually, surgeons could well come to view every single act of surgery they perform as having the potential to either improve or worsen their performance data.

As I noted earlier, it is not obvious that the practice of defensive medicine is *always* harmful to patients. Some argue that it could not only be harmless, but even *beneficial* to patients.⁷ Consider cases in which procedures envisaged by patients are unfamiliar to their surgeons, or in which patients' conditions are so poor that they are likely to be harmed by their inexperienced surgeons. In these cases, patients would benefit if these surgeons avoid their patients out of anxiety and the procedures are carried out by better-performing surgeons instead.⁸

These cases seem to show convincingly that it is a mistake to think that the practice of defensive medicine is *always* harmful to patients. However, that does not entail immediately that the defensive medicine objection is unsound. First of all, it has not been shown that in these kinds of cases patients normally find better-performing surgeons. Given their critical conditions, some patients might not have enough time to find better surgeons. In such

situations, undergoing prompt surgery carried out by a less-experienced surgeon might be better than having belated surgery carried out by a better-performing surgeon or no surgery at all. Second, even if it has been shown that in these cases patients normally find better-performing surgeons it is not clear that these cases are so common that they outweigh harms caused by defensive medicine in other cases.

5. Is Surgeons' Anxiety Groundless?

The defensive medicine objection that I have discussed can be presented as an argument with the following structure:

- (1) The disclosure of performance data causes surgeons to experience significant levels of anxiety.
- (2) The anxiety that those surgeons experience encourages them to practise defensive medicine.

Therefore,

- (3) The disclosure of performance data encourages the practice of defensive medicine.

The argument is obviously valid. I assume, for the sake of argument, that both premisses (1) and (2) are, as a matter of fact, true. However, in the following I examine whether or not (1) *should* be true; that is, whether or not surgeons should really be anxious about disclosure. Suppose that the anxiety experienced by surgeons is groundless. It is then easy for us to eliminate the force of the argument; all we need to do is to persuade surgeons that they have, in fact, no need to be anxious. If we are successful in persuading them, then the truth-value of (1) changes from true to false and the argument turns out to be unsound.

Various empirical studies suggest that surgeons' anxiety, which could lead to the practice of defensive medicine, is often derived from their misunderstanding of relevant facts. According to some studies, for instance, surgeons' anxiety is caused by their false belief that medical malpractice suits are very common these days. Localio *et al.* (1991) performed research to determine the relationship between adverse events caused by negligence and medical malpractice claims against physicians and hospitals. They estimate, based on the records of more than 30,000 patients, that the ratio of adverse events caused by negligence to malpractice claims in New York is 7.6 to 1, which seems relatively small. They claim, moreover, that even this infrequency overstates the chances that a negligent adverse event will produce a claim, because most of the events for which claims were made in the sample did not meet their definition of adverse events due to negligence. They conclude, therefore, that patients' injuries caused by medical negligence are only infrequently compensated by medical malpractice suits.

De Ville (1998) explains a number of neglected reasons why many patients do not recognise the outcomes of medical malpractice as potential cause for bringing malpractice suits against the surgeons (pp. 572-573). First, patients who have been suffering from a pre-existing injury or illness often cannot distinguish the natural outcome of their injury or illness from those caused by medical malpractice. That is, many victims of medical malpractice do not initiate a malpractice suit simply because they do not recognise that they *are* victims in the first place. Second, even if they are aware of injury or illness caused by medical malpractice, many of them still do not initiate lawsuits because they do not possess sufficient knowledge of the legal system. That is, even if they are disposed to sue their physicians or hospitals they do not know how to do it. Third, even if they are aware of injury or illness caused by medical

malpractice and even if they do possess sufficient knowledge of the legal system, many of them still do not pursue legal remedies. For example, some patients have a religious or cultural commitment to avoid medical malpractice suits; or, to take another example, some patients live in rural communities that generally discourage personal injury suits.⁹

These observations seem to show that the practice of defensive medicine is often caused by physicians' excessive, irrational anxiety about being sued by their patients. However, unfortunately, this does not undermine the claim that *the disclosure of performance data* could lead to the practice of defensive medicine. For, as I explained above, a form of defensive medicine motivated by surgeons' anxiety about the disclosure is distinct from their anxiety about medical malpractice suits.

I have explained that both the increase of medical malpractice suits and the disclosure of performance data could result in surgeons' experiencing anxiety. However, the nature of disclosure is fundamentally different from that of medical malpractice suits. On the one hand, medical malpractice suits are always made by patients. Most patients are not medical professionals and, as I explained above, often they are not even aware of the existence of malpractice. On the other hand, however, surgeons' performance data are tracked constantly and professionally. As long as the tracking system is in order, surgeons' failures are always reflected in their record. In this sense, the disclosure of performance data could be a much more persistent source of anxiety in surgeons.

In the next section I consider another possible, and more promising, strategy to show that (1) need not to be true, which is to disclose performance data with risk adjustments so that surgeons would not be motivated to practise defensive medicine.

6. Necessity of Risk Adjustments

Consider two surgeons, X and Y , the former of whom is the more skilled. Y constantly avoids high-risk patients because he worries that his mortality rate will drift into a range that threatens his reputation regarding his surgical skills. Thanks to his avoidance of high-risk patients, Y maintains a fairly good performance record. By contrast, X accepts high-risk patients. Since X is skilful, she saves a number of high-risk patients whom surgeons like Y avoid on purpose. However, of course, X cannot save all of her patients. Given that X constantly operates on high-risk patients and that Y operates mainly on risk-free patients, X 's performance record appears less impressive than Dr. Y 's.

Obviously, this is not fair to X . Given that X is more skilful than Y , her performance data should look better than Y 's. In the above situation, Y 's performance record looks better merely because he adopts the most effective strategy in this system. In order to solve this problem we need to adopt a more appropriate way of presenting performance data.

There are two ways to present performance data: (1) present it without making any adjustments, and (2) present it with adjustments appropriate to the risks involved in particular cases. The USA adopts the latter. The UK adopted the former initially, but since April 2006 it has published surgeon-specific data, at least some of which are risk-adjusted.

In the UK, performance data for cardiac surgeons' have been collected for quite a long time, even though the data were not publicly accessible until 2004. From 2004 to 2006, the Society for Cardiothoracic Surgeons of Great Britain and Ireland (SCTS) released *unadjusted* mortality rates for isolated coronary artery bypass surgery and aortic valve surgery for all units in the UK on its website and in its 2000-2001 annual report. Fine *et al.* (2003) explain why the data were not risk-adjusted: 'While expressing reservations over the value of reporting

unadjusted or inadequately adjusted outcomes, the [SCTS] felt unable to proceed to full risk adjustment because of concerns about the quality and completeness of data on each patient within its national database' (p. 25).

The SCTS was right in thinking that the disclosure of incomplete or inadequately risk-adjusted data could be worse than that of unadjusted data. However, that does not mean that unadjusted data do not encourage surgeons to perform defensive medicine. The above example of Drs. *X* and *Y* shows that unadjusted performance data represent surgeons' skills inaccurately and encourage surgeons to perform defensive medicine. In order to avoid this problem, we need to structure the system so that the skills of the surgeons are always reflected correctly in their record. That is, we need to adjust surgeons' performance data appropriately before disclosing them.

In contrast to the UK, performance data have been risk-adjusted for a long time in the USA. Marshall *et al.* (2000) describe the system there as follows:

The New York cardiac surgery reporting system publishes hospital and surgeon specific risk-adjusted coronary artery bypass surgery (CABG) mortality data...Clinical and administrative databases are used to collect information on age, sex, type of coronary artery disease, presence of myocardial ischaemia, level of ventricular function, presence of other diagnoses, severity of atherosclerotic process, previous heart operations, and the degree of emergency of the operation. These data are used to construct a multivariate risk adjustment model to compare mortality rates among hospitals and individual surgeons...Similar work has been done in Pennsylvania, and other states are following this example. (p. 54)

Although the process of disclosure in the USA is much more elaborate than that in the UK, many surgeons in the USA are still dissatisfied with it. According to a survey by Schneider and Epstein (1996) of a randomly selected sample of 50% of Pennsylvania cardiologists and cardiac surgeons, 82% of the cardiologists and all the cardiac surgeons were aware of the disclosure of performance data. Many of them said that the most important limitations of the disclosure were the absence of indicators of quality other than mortality (cited by 78%), inadequate risk adjustment (cited by 79%), and the unreliability of data provided by hospitals and surgeons (cited by 53%). As this study suggests, there are two kinds of potential inaccuracy in performance data. The first is the absence of important factors that affect outcomes in medical practice. As Dranove (2002) says, given the complexity of healthcare, many of the essential relevant factors are known predominantly by healthcare providers, like surgeons themselves. Hence, there are a number of important factors that are not reflected in the performance data. The second is the presence of inadequate or unreliable information. As Keogh *et al.* (2004) remark, 'The improvement in mortality is easy to show. The avoidance of high risk surgery is less easy to show because of the subjective and immeasurable nature of the clinical decision making process in these complex patients' (p. 451). In order not to encourage surgeons to perform unbeneficial defensive medicine we need to disclose their performance data in such a way that the data correctly show important relevant factors in healthcare and eliminate inadequate and unreliable information.

I do not, here, make any attempt to state exactly how disclosure should be conducted. The issue of what sort of data collection and risk adjustment increases or reduces the anxiety experienced by surgeons is a purely empirical matter. However, I hope to have shown convincingly that, contrary to what many people think, the disclosure of performance data

could be harmful to patients in the long run. Of course it is impossible, and unnecessary, to satisfy *all* surgeons when we disclose their performance data. Nevertheless, it is important to conduct disclosure in such a way that it maximises both the number of doctors who are comfortable with it and the number of patients who find it beneficial.

7. Conclusion

I have argued mainly for three things in this paper. First, the disclosure of surgeons' performance data could lead to a new form of defensive medicine, one that is not captured by the traditional definition of defensive medicine. Second, this new form of defensive medicine is more persistent than the traditional form that arises from physicians' anxiety regarding medical malpractice suits. Third, in order to avoid defensive medicine it is necessary to make risk adjustments on surgeons' performance records, although exactly how the adjustments should be made requires further empirical studies.

Many people think that the disclosure of performance data can be justified easily, on the grounds that it is obviously beneficial to patients. Given the complication of medical practice, however, defending disclosure is not as easy as they think.¹⁰

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¹ Bentley and Nash, 1998; Longo *et al.*, 1997; Marshall and Brook, 2002; Rainwater *et al.*, 1998; Rosenthal *et al.*, 1998.

² For discussions of various objections to the disclosure of performance data, see Marshall *et al.*, 2000; Clarke and Oakley 2004.

³ In this paper, for the sake of simplicity, I take it that it is anxiety that motivates surgeons to practise defensive medicine. However, anxiety might not be the only possible motivation. For instance, some surgeons might be motivated to practise defensive medicine because of their *ambition* to decrease their mortality rates in their performance record, rather than their being anxious to increase them.

⁴ Dranove *et al.*, 2002; Neil *et al.*, 2004; Marshall *et al.*, 2000; Keogh *et al.*, 2004; Vass, 2002.

⁵ Notice that this is a conditional claim that if the disclosure is not conducted properly, then it could lead to the practice of defensive medicine. This does not entail that if it is conducted

properly, then it would not lead to the practice of defensive medicine; there might be many other factors that could encourage surgeons to practise defensive medicine.

⁶ How to explain the decline in the adjusted mortality rate remains controversial. Schneider and Epstein (1996) and Jollis and Romano (1998) argue that the decline is due to the inadequacy of risk adjustment. Ziegenfuss (1996) argues, on the other hand, that the decline is simply caused by the poor quality of the data.

⁷ See Chassin(2002) and Oakley (2007).

⁸ Thanks to Steve Clarke, Justin Oakley and an anonymous referee on this point.

⁹ It is also often said that many patients decide to initiate malpractice suits only because their physicians do not admit their faults.

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