

How do elderly patients decide where to go for major surgery? Telephone interview survey

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Abstract

Objective To learn how patients in Medicare, the US medical insurance programme that covers elderly patients, made decisions about where to undergo major surgery and how they would make future decisions.

Design National telephone interview study.

Setting United States.

Participants 510 randomly selected Medicare beneficiaries who had undergone an elective, high risk procedure about 3 years earlier—abdominal aneurysm repair (n = 103), heart valve replacement surgery (n = 96), or resection of the bladder (n = 119), lung (n = 128), or stomach (n = 64) for cancer. Response rates were 48% among eligible survivors and 68% among those able to participate.

Results Although all participants could choose where to have surgery, only 55% said there was an alternative hospital in their area where they could have gone. Overall, only 10% of respondents seriously considered going elsewhere for surgery. Few respondents (11%) looked for information to compare hospitals. Almost all respondents thought their hospital and surgeon had good reputations (94% and 88%, respectively), beliefs mostly determined by what their referring doctors said. When asked how much various factors would influence their advice to a friend about choosing where to go for major surgery, surgeon reputation was the most influential (78% said it would influence their advice “a lot”), followed by the hospital having “nationally recognised” surgeons (63%), and then various performance data (surgeon volume (58%), nurse:patient ratios (49%), number of operations carried out by the hospital (48%), and hospital operative mortality (45%). Forty per cent said they would act on mortality data, indicating that they would switch from their initial choice of hospital to a different one if its mortality was a percentage point lower (that is, 3% v 4%).

Conclusion Some respondents claimed they would switch hospital for elective surgery on the basis of mortality data. Since most respondents relied on their referring physician’s opinion to decide where to have surgery, surgical performance data ought to be accessible to referring physicians.

Introduction

There is growing interest in providing patients with surgical performance data to help them select the best surgeons and hospitals. However, it is not clear to what extent patients know about and value such information. Several studies have found minimal changes in hospital caseloads after the public reporting of mortality data.^{1–3} The usefulness of performance data to patients remains unknown.

We conducted a national survey of patients in the Medicare programme, the US federal government insurance programme that covers hospital costs for almost all US citizens aged 65 years and older, who had undergone an elective, high risk procedure. In addition to learning how the patients made their original decisions, we assessed whether they thought performance data would be relevant in their future decisions.

Methods

Sample selection

Our goal was to learn how patients choose where to go for major surgery and whether performance data are likely to affect this decision. We focused on elective procedures because choice of hospital or surgeon was theoretically possible. We interviewed a random sample of Medicare beneficiaries who had undergone one of five major elective operations (abdominal aneurysm repair, heart valve replacement, or resection of the bladder, lung, or stomach because of cancer). Our goal was to get 100 interviews for each operation (we chose this number to ensure a confidence interval of at most $\pm 10\%$).

We selected a random sample of 2114 beneficiaries (stratified within each type of surgery) who had a claim for one of the five elective operations in 2000 (eight of whom subsequently reported they had not had surgery and were considered ineligible). Of these, 1055 were alive in January 2004, and we were able to obtain contact information for 828. We attempted to interview the 785 patients who were not hospitalised or in a nursing home and who spoke English and were able to hear

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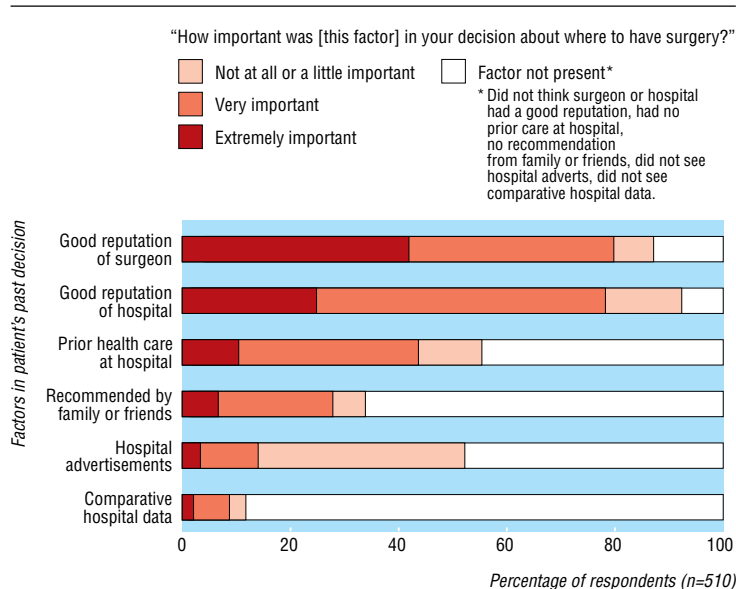


Fig 1 Importance of different factors in respondents' decisions about where to have major surgery

adequately, and, of the 751 who were able to participate, 510 completed the telephone interview.

The response rate was 48% among eligible survivors (510/1055) and 68% among those able to participate (510/751) and was similar across the five operations.

Interview protocol

The survey questionnaire, developed for the study (see bmj.com for details), had three sections. The first asked about experiences with major surgery, the second section focused on respondents' knowledge and reaction to surgical performance data, and the third section

asked for respondents' reactions to two scenarios—firstly, what advice they would give to a friend who needed major surgery and, secondly, their reactions to Medicare publishing a list of best hospitals for different operations.

Interviews were conducted from January through February 2004, with monitoring for quality control.

Statistical analysis

We weighted the results for the five operations to account for the different probabilities of selection into our sample and the slightly different response rates. The weighted results differed by only 1% or 2% from the unweighted results. Because the weighted results assume that non-respondents would answer questions similarly to respondents, we chose to present the unweighted results.

Results

Respondents had a mean age of 78 years (range 68-93), two thirds were men, and 91% were white. Most reported lower socioeconomic status and rated their health as fair or good.

How respondents made their surgery decision

Most respondents had had time to consider where to go for surgery, were aware of other hospitals in their area to choose between, and felt involved in the decision making process. Only 55% said there were other local hospitals where they could have gone. Overall, only 10% seriously considered going elsewhere for surgery (this percentage was the same for those who said there was another local hospital to go to). Few respondents (11%) looked for information to compare hospitals, most commonly turning to friends and family, their primary doctor, or the internet.

Most seemed to rely on hospital or surgeon reputation in deciding where to have surgery (fig 1). Other factors influencing patient decisions included having had prior care at the hospital (rated important by 42%) and the recommendations of family and friends (rated important by 28%). When asked why they thought their hospital had a good reputation, 64% of respondents said it was because of what their referring doctor had said, and 31% said so because of what family or friends had said.

How respondents would advise others

We asked respondents how much various factors would influence the advice they would give to a friend about where to go for major surgery (fig 2). Of these factors, surgeon reputation was rated the most influential (78% said it would influence their advice "a lot"), followed by the hospital having "nationally recognised" surgeons (63%). When we asked whether performance data could influence decisions, substantial proportions of the respondents said the following items would influence them "a lot"—surgeon's work volume (58%), nurse:patient ratios (49%), hospital work volume (48%), and hospital operative mortality (45%). Moreover, 40% of respondents said they would switch from their chosen hospital if the surgical mortality for another hospital was a percentage point lower (that is, 3% v 4%).

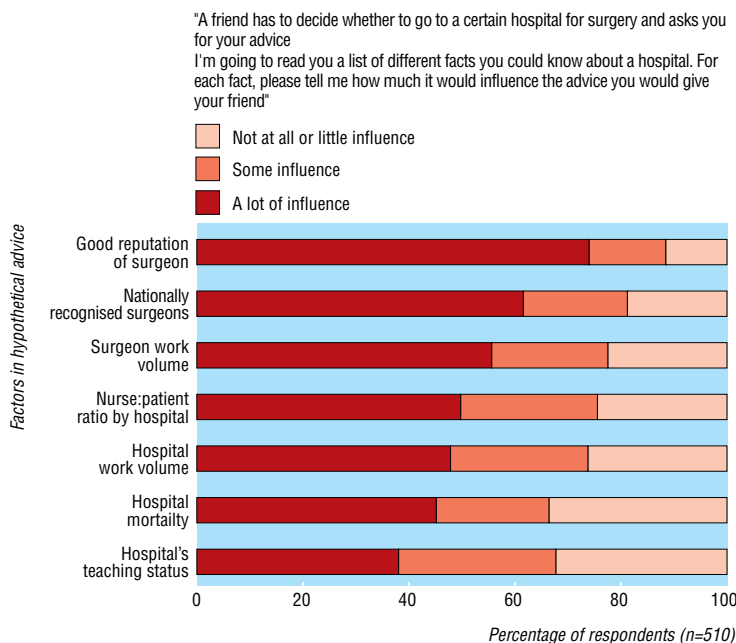


Fig 2 Importance of different factors in respondents' hypothetical advice to a friend due to have major surgery

Most respondents (80%) thought that the chance of surviving an operation was better at a high volume hospital than a low volume one, but only 11% had heard of volume standards (that is, that there is a minimum number of a certain operation a hospital needs to perform each year to do them well). After we explained this concept, 82% of respondents said they would recommend their friend go to a different hospital if their chosen hospital did not meet the appropriate standard.

To learn if, and how, respondents would like to learn about hospital performance data, we told them to imagine that Medicare planned to create a list of the best hospitals for various surgeries. Most respondents (71%) said they might consult such a list if it existed (49% said they would be “very likely” to). Only 2% said they would like to receive information about the best hospitals directly; 40% wanted such information only from their doctor; and 55% wanted it from their doctor and from other sources as well.

Discussion

Most respondents in our study said they relied primarily on the opinions of their referring physician or family and friends in choosing where to have surgery, rather than on surgical performance data. Few respondents seriously considered going to another hospital or looked for any kind of performance data. If patients are not using clinical performance data this could explain why attempts to direct patients to high quality hospitals and surgeons have had only minimal impact.²⁻⁵ Recently, a study in California of patients undergoing diskectomy found that hospitals with below average complication rates experienced only modest, transient increases in surgical caseloads as a result of a public reporting initiative.²

Limitations of study

Given our target population, achieving a good response was extremely challenging. Since our sample did not include patients who died within three years of having surgery, the views of the sickest patients may be under-represented. It seems unlikely, however, that the sickest patients would have looked harder for hospital performance information than the less sick. Systematic bias between respondents and non-respondents is still possible, but our respondents’ demographics closely matched those of all Medicare patients who had undergone the five surgical procedures considered (including those who did not survive the three years) (data not shown).

Recall bias is a risk in a survey of people’s recollections of decision making processes that occurred three years earlier. However, since the purpose of our questions was to draw on the insights of experienced patients, we think that the fact that they had had time to process and learn from what happened (and to reflect on what they might have done differently) is a strength of our study.

Implications of results

Although the respondents considered hospital performance data to be important, few looked for such information when deciding where to undergo high risk, elective surgery—a situation for which the data are particularly relevant. This finding is consistent with

What is already known on this topic

There is growing interest in providing patients with surgical performance data to help them select the highest quality surgeons and hospitals

However, publication of such performance data seems to have minimal impact

What this study adds

A survey of elderly US citizens who had undergone elective, high risk surgery found that most had relied on the opinion of their referring physician in choosing where to have surgery

Although few had looked for surgical performance data, they felt these data could influence their decision making—some saying they would switch hospitals to one with lower mortality figures

Respondents did not want such data on their own; they wanted to learn about the best hospitals from their doctor, highlighting the importance of making this information accessible to referring physicians

those of previous studies⁶⁻⁹: most patients agreed that performance information was important, but it had little influence on their decisions.

There are four possible explanations for why performance data have so little influence in practice. Firstly, patients may not be aware that such data are available. Secondly, patients might not have ready access to the data when they are needed. Thirdly, even if they accessed the data, some patients might not have understood the data¹⁰ or might not have believed them. The fourth (and most likely) reason that performance data had so little influence on our respondents is that many people, particularly those who are elderly,¹¹ rely heavily or completely on the judgment of their referring physician.^{12 13}

How to make better use of performance data

Some might interpret our results as evidence of the ineffectiveness of public reporting strategies. However, we think the problem lies in assuming that patients should be the primary target for surgical performance data. One alternative would be to have purchasers of health services take responsibility for ensuring that patients are referred to the best hospitals and surgeons. Instead, we think performance data should be directed at referring physicians. If patients generally decide where to have surgery according to their referring physician’s recommendation it is essential that referring doctors know how to choose well.

The little that is known about how referring physicians choose surgeons for their patients does not suggest that performance data play a central part. For referring physicians to be expected to identify the best surgeons for their patients, several issues must be addressed—ensuring the physicians appreciate the importance of performance data, making the relevant

data easily available, identifying the barriers that inhibit physicians from using these data, and helping physicians understand how to communicate performance data to patients.

LMS and SW are associate professors of medicine and community and family medicine, Dartmouth Medical School, Hanover, NH 03755, USA. They are the joint first authors of this paper, and the order of their names is arbitrary. We thank Emily Finlayson for her work on the pilot survey for this project, and H Gilbert Welch for helpful comments on earlier drafts of this manuscript.

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When I use a word

Bottled lightning

Minerva recently drew the attention of readers of the *BMJ* to a report of a symptom that patients have described as “brain shivers”—attributed to venlafaxine and other antidepressants and also after venlafaxine withdrawal.¹ Other terms that have been used to describe this symptom are “electric brain things,” “brain zaps,” and “brain flips.”

The author of the report traced the earliest use of the term “brain shivers” to 1999, but the symptom is not perhaps as new as that. It may be the same as the symptoms of electric shocks and fizzing in the head that others have described since the early 1980s. When Medawar and Herxheimer surveyed 1370 transcripts of Yellow Card reports of adverse events after withdrawal of paroxetine submitted to the Medicines and Healthcare products Regulatory Agency (MHRA) between 1990 and 2002 they discovered 56 cases of electric shock sensations in the head.² Similar cases were reported in 1998.³ But those who are familiar with the literature on monoamine oxidase inhibitors will recall that in 1980 the same symptom, in some cases relieved by pyridoxine,⁴ was described in patients taking phenelzine.⁵

Nevertheless, these symptoms are not well recognised by doctors. For example, if you search PubMed for the term “brain shivers” you won’t find it. And in some of the transcribed Yellow Card reports that Medawar and Herxheimer surveyed, the term “electric shock” was interpreted as if it meant paraesthesia or something to do with injury through exposure to mains electricity. When the Medicines Control Agency first surveyed 78 Yellow Card reports of symptoms that occurred after the withdrawal of paroxetine, they listed them as including dizziness, sweating, nausea, insomnia, tremor, and confusion.⁶ But among the earliest 78 Yellow Cards that they surveyed, Medawar and Herxheimer identified five reports of “electric shock” sensations—more than for insomnia (3 reports), tremor (3), or confusion (2).

If this symptom is to be recognised and recorded properly we need to give it a name that doctors will respect, and that means

one that is based on Latin or Greek. If the symptoms of electric shocks, fizzing, and brain shivers represent some kind of random discharge of nerve impulses in the brain, lightning would be an appropriate metaphor to use.

The words for lightning in different languages show an amazing range, even across those that are Indo-European in origin—for example, Blitz (German), lampo (Italian), lynglmit (Danish), and foudre (French). An alternative French word is éclair, like the cake, famously defined in *Chambers Dictionary* as being “long in shape and short in duration”; indeed, just like lightning. In Latin, lightning was fulgur or sometimes fulmen, from which we get effulgent and fulminant. And the classical Greek word was astrape, a word that was used to describe both lightning in the sky and metaphorical lightning in the eyes and as an epithet for Zeus.

I therefore suggest neuroastrapy, which simply means “nerve lightning” or perhaps encephalastrapy, brain lightning. We shall certainly need such a term when somebody does a placebo controlled trial of pyridoxine.

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