Positive and negative factors in defensive medicine: a questionnaire study of general practitioners

Nicholas Summerton

Abstract

***Objectives*—(*a*) To investigate defensive medical practices among general practitioners; (*b*) to compare any such practices with general practitioners' understanding of certain aspects of the terms of service and medical negligence and practitioners' concerns about the risk of being sued or having a complaint lodged.**

***Design*—Postal questionnaire survey. Each questionnaire was followed by a reminder.**

***Subjects*—500 systematically selected general practitioners on the membership list of the Medical Defence Union.**

***Main outcome measures*—Answers to questions on defensive medical practices, understanding of certain aspects of the terms of service and medical negligence, and concerns about the risk of being sued or having a complaint lodged.**

***Results*—300 general practitioners returned the questionnaire (response rate 60%). 294 (98%) claimed to have made some practice changes as a result of the possibility of a patient complaining. Of the defensive medical practices adopted, the most common (over half of doctors stating likely or very likely) seemed to be increased diagnostic testing, increased referrals, increased follow up, and more detailed patient explanations and note taking. Respondents practised defensive medicine as a possible consequence of concerns about the risks of being sued or having a complaint lodged. This association was particularly strong for negative defensive practices. Defensive medical practice did not correlate with any misunderstanding about the law of negligence or the general practitioners' terms of service.**

***Conclusions*—General practitioners are practising defensive medicine. Some defensive practices such as increased patient explanations or more detailed note taking are clearly beneficial. However, implementing the findings of the Wilson report may increase negative defensive medical practices.**

Introduction

The current system for regulating medical practice relies on several different deterrents. For the general practitioner most complaints will allege a breach of a doctor's terms and conditions of service as contained in schedule 2 of the National Health Service (General Medical Services) Regulations, 1992—the "terms of service." The family health services authority investigates any alleged failure by a general practitioner to comply with the terms of service and, if found in breach, a doctor may be subject to various penalties.[1] General practitioners are much less likely to be subject to a court action for negligence than are their hospital colleagues.

In May 1994 the Department of Health published the report of a review committee on NHS complaints procedures—the Wilson report.[2] This report suggests that the present system should become less adversarial, with complaints against general practitioners being handled in two stages—an initial in house procedure and a separate and less frequently used second stage based at the family health services authority.

However, unless implementation of the findings of the Wilson committee is preceded by a change in the culture of general practice towards encouraging suggestions for improvement rather than being fearful of complaints the consequences could be unfortunate. The reforms will encourage complaints and, though the general practitioner's terms of service or the tort of negligence might be thought to encourage good practice, the result could actually be an increase in defensive medical practices.

According to McQuade, defensive medicine may be defined as the "ordering of treatments, tests and procedures for the purpose of protecting the doctor from criticism rather than diagnosing or treating the patient."[3] Other workers have extended this definition to include the avoidance and the reduction of risk taking.[4]

The concept may also be subdivided into positive and negative aspects. Negative defensive practice occurs when the general practitioner performs in a way that goes against Dingwall's concept of socially and clinically ideal levels.[5] This may be taken to include such things as prescription of unnecessary drugs; increases in follow up, referral rate, and diagnostic testing, as well as avoidance of certain treatments and the removal of patients from the practitioner's list. In contrast, positive defensive medical practices are defined as quality improvements such as increased screening, development of audit or consumer satisfaction activities, and more detailed patient explanations or detailed note taking.

Tancredi and Barondess noted that despite the apparent growing importance of defensive medicine there was very little empirical evidence about the extent of defensive medical practices.[6] Most of the current concern arises as a result of a series of surveys conducted in the United States over the past 30 years. Within primary care little consideration seems to have been given to the existence of defensive medical practice. If as a result of adverse effects of either tort or the complaints procedures doctors are providing inappropriate care, then this has important implications. The possibility of defensive medicine has consequences for the public health not only in terms of the quality of individual care but also in relation to the utilisation of limited health resources.

The overall objective of this study was to examine defensive medical practice in primary care. A secondary objective was to compare such practices with general practitioners' understanding of certain aspects of the terms of service and medical negligence

Department of Public Health Medicine, Bradford Health Authority, Shipley, West Yorkshire BD18 3LD
Nicholas Summerton, *registrar*

BMJ 1995;310:27-9

and practitioners' concerns about the risk of being sued or having a complaint lodged.

Subjects and methods

With the complete general practitioner membership of the Medical Defence Union as the sampling frame, a systematic sample of 500 doctors was selected. The method entailed choosing every 40th name from an alphabetical listing of the general practitioners. I sent all the selected doctors a postal questionnaire and, two to three weeks later, a reminder letter. The questions asked about the likelihood of certain practice changes in response to the possibility of a patient complaining. Questions were also posed to assess the general practitioners' understanding of the concept of medical negligence or the terms of service. Finally, doctors were asked to indicate their level of worry about being sued or having a complaint lodged with the family health services authority.

The questionnaire had been modified after local piloting among a group of general practitioners in the Leeds and Kirklees areas. Results of the pilot suggested that the questionnaire exhibited face validity, and expert opinions were also supportive of the content. Repeating some questions that had already been successfully used elsewhere added to the validity of the questionnaire. The test-retest analysis indicated a high degree of reliability for the tool.[7] The questionnaire data were entered on to EpiInfo version 5·0 with a 10% double data entry check.[8] Internal validity checks were also performed. Specific associations between variables were examined by using odds ratios with 95% confidence intervals.

Results

Of the 500 questionnaires sent, 303 were returned. Three were excluded, as the replying doctors indicated that they were not working in general practice. The effective response rate was therefore 60% (300). Not all respondents completed every question and "n" values in parentheses reflect any incompleteness in answers.

Seventy three per cent (216) of the respondents were men (n=296), the mean age was 40·4 years (n=285), half were members of the Royal College of General Practitioners (n=295), half worked in urban practices (n=296), and the mean number of partners was 4·2 (n=285). Two hundred and sixty six replies identified the medical school where the doctor had trained. With the exception of Leicester and Aberdeen, all United Kingdom medical schools were represented. Replies were also received from doctors who had trained elsewhere in the world.

DEFENSIVE MEDICAL PRACTICE

In order for this survey to assess the likelihood of defensive medical practices respondents were required to answer 12 questions on the likelihood of specific practice changes in response to the possibility of a patient complaining. The number of changes adopted seemed to approximate to a normal distribution with a mean number of changes of 5·0 (SD 2·50). Only 2% of the sample claimed to have made no changes and 1·7% all 12 changes. Some changes were further defined as negative or positive defensive medical practice (see tables I and II). The mean numbers of negative and positive defensive practices were 3·27 (SD 2·00) and 2·69 (1·22) respectively.

PERCEPTIONS OF RISK

Half of all 300 respondents (151; 50·3%) sometimes worried about being sued, and 91 (30·3%) often worried about being sued. One hundred and fifty six respondents (52·0%) sometimes and 96 (32·0%) often worried about having a complaint lodged with the family health services authority.

TABLE I—*Negative defensive medical practice*

Possible practice changes	Percentage (No) of practitioners stating likely or very likely to the change
Increased referral rate (n=298)	63·8 (190)
Increased follow up (n=298)	63·4 (189)
Increased diagnostic testing (n=297)	59·6 (177)
Avoiding treatment of certain conditions in general practice (n=296)	41·9 (124)
Consideration of diagnostic testing where there is known element of risk (n=288)	40·3 (116)
Prescription of unnecessary drugs (n=297)	29·3 (87)
Removal of patients from list (n=296)	25·0 (74)

TABLE II—*Positive defensive medical practice*

Possible practice changes	Percentage (No) of practitioners stating likely or very likely to the change
More detailed note taking (n=298)	90·3 (269)
More detailed explanation of procedures to patients (n=298)	86·6 (258)
Increased screening in practice (n=298)	40·3 (120)
Development of audit within practice (n=298)	34·2 (102)
Development of consumer satisfaction activities—for example, patient participation groups (n=296)	16·9 (50)

CORRELATES OF DEFENSIVE PRACTICE

There was a high correlation between defensive medical practice and the worry about being sued (odds ratio=4·79; 95% confidence interval 1·88 to 12·94) and between defensive medical practice and the worry about a complaint being lodged with the family health services authority (odds ratio=6·64; 2·43 to 19·62). For negative defensive practices there was also a high correlation between the practices and the worry about being sued (odds ratio=3·52; 2·03 to 6·13) and between the practices and the worry about a complaint being lodged with the family health services authority (odds ratio=5·56; 2·80 to 11·21). For positive defensive practices there was a weaker correlation between the practices and the worry about being sued (odds ratio=2·87; 1·01 to 8·74) and between the practices and the worry about a complaint being lodged with the family health services authority (odds ratio=1·89; 1·12 to 3·19).

No significant relation existed between the extent of defensive practices and the understanding of the concept of negligence or the understanding of certain facets of the terms of service.

Discussion

The results of this survey indicate that doctors seem to have made significant practice changes as a result of the possibility of a patient complaining. Of the defensive medical practices adopted, the most common (over half of the doctors stating likely or very likely) seemed to be increased diagnostic testing, increased referral rate, increased follow up, more detailed patient explanations, and more detailed note taking. Over 30% of doctors often worried about being sued or having a complaint lodged against them. All defensive medical practices seem to be significantly associated with the practitioner's concerns about risk, but the association was strongest for negative defensive practices.

These are important findings but we should be wary about potential biases. Doctors may have made organisational changes in their practice for various reasons and, furthermore, it is well known that clinical

decision making is influenced by a multitude of diverse factors. Black takes the view that in relation to the increase in testing in recent years the ease of access and the use of autoanalysers may be the most important factors in influencing practice.[9]

The division into positive and negative defensive practices warrants further explanation. For example, in relation to "increased diagnostic testing" one doctor's defensive medicine may be another doctor's good practice. Diagnostic testing may reach a defensive level in different doctors at differing levels and thus, in this study, inquiring about specific tests was avoided.

Avoiding certain procedures in practice was used to indicate negative defensive practice. However, though this accords with definitions used elsewhere, Black has suggested that if risk avoidance leads to a concentration of services in the hands of fewer specialised doctors it could enhance rather than lower the quality of care.[9]

The response rate in the survey was 60%. This compares favourably with response rates in similar medicolegal surveys and accords with a recent review of general practice based research published in the *British Journal of General Practice*.[10] Some biases may have arisen both from the choice of the sampling frame and from response bias. For several reasons the Medical Defence Union might be more successful at recruiting from certain medical schools. Response bias was examined to some extent by comparing the general practitioners responding to the survey with known demographic variables among British general practitioners. The results indicate the generally representative nature of this study.[11]

Some defensive practices such as increased patient explanations or more detailed note taking are clearly beneficial. However, the existence of negative defensive medical practice is perhaps best viewed as a symptom of the fundamental problems inherent within the present judicial and quasijudicial regulatory systems. The reforms proposed by the Wilson committee will encourage complaints, and my results indicate that in the current climate there could be a significant rise in such negative defensive medical practices with adverse consequences for patient care.

Key messages

- Implementing the findings of the Wilson committee will encourage complaints in general practice
- Some defensive practices may be beneficial but others will have adverse effects on both patient care and resource allocation
- Some 98% of general practitioners claim to be making practice changes in response to the possibility of a patient complaining
- Defensive medical practices correlate with concerns about risks but not with a lack of understanding of the concept of negligence or the general practitioner's terms of service; such an association is particularly strong in the case of negative defensive practices

I acknowledge the help of Dr P Hoyte and the Medical Defence Union for help in distributing the questionnaire.

1 Medical Defence Union. *Complaints to family health services authorities.* London: Medical Defence Union, 1992.
2 Department of Health. *Being heard: the report of a review committee on National Health Service complaints procedures.* London: DoH, 1994. (Wilson report.)
3 McQuade JS. The medical malpractice crisis—reflections on the alleged causes and proposed cures: discussion paper. *J R Soc Med* 1991;84:408-11.
4 Hershey N. Quoted in McKinlay JB, ed. *Politics and law in health care policy.* New York: Milbank Memorial Fund, 1973.
5 Dingwall R. Quoted in Hoyte P. Medical negligence litigation. *Medical Law Review.* (In press.)
6 Tancredi LR, Barondess JA. The problem of defensive medicine. *Science* 1978;200:879-82.
7 Fleiss JL. *Statistical methods for rates and proportions.* London: Wiley, 1973.
8 Centers for Disease Control. *EpiInfo version 5·0.* Atlanta: CDC, 1990.
9 Black N. Medical litigation and the quality of care. *Lancet* 1990;335:35-7.
10 Sibbald B, Addington-Hall J, Brenneman D, Freeling P. Telephone versus postal surveys of general practitioners: methodological considerations. *Br J Gen Pract* 1994;44:297-300.
11 Fry J. *General practice—the facts.* Oxford: Radcliffe, 1993.

(Accepted 17 November 1994)

Antibiotics carried in general practitioners' emergency bags: four years on

See Editorial

M J Colbridge, G G Baily, E M Dunbar, E L C Ong

Infectious Diseases Unit, University of Newcastle Medical School, Newcastle General Hospital, Newcastle upon Tyne NE4 6BE
M J Colbridge, *registrar*
E L C Ong, *consultant*

Department of Infectious Diseases and Tropical Medicine, North Manchester General Hospital, Manchester M8 6RB
G G Baily, *senior registrar*
E M Dunbar, *consultant*

Correspondence to: Dr Ong.

BMJ 1995;310:29-30

In 1988 we found in a survey of 115 general practitioners that fewer than half of them carried parenteral penicillin in their emergency bags.[1] Since then there has been much publicity and education among doctors about the role of treating patients early with antibiotics to reduce mortality from bacterial meningitis.[2-4] We therefore carried out a similar survey in north west England, where the original survey was conducted, and in the north east to assess whether measures suggested since our first study had affected the range of antibiotics that general practitioners carry in their emergency bags.

Methods and results

During November and December 1992 we sent all registered general practitioners in north east and north west England (n=3724) a one page questionnaire containing lists of common antibiotics. They were asked to tick those antibiotics that they kept in their bags (questionnaire is available from ELCO). The survey was anonymous, and a stamped addressed envelope was enclosed. No reference was made to the use of early parenteral benzylpenicillin in meningococcal infection.

In all, 70.8% of the questionnaires were returned (69.1% from the north west and 73.0% from the north east). A total of 85.3% of general practitioners carried parenteral benzylpenicillin in their emergency bags (80.1% in the north west and 91.4% in the north east). The mean number of antibiotics carried by general practitioners was six (range 0-12) in the north east and five (0-10) in the north west. The most common antibiotic carried in the north west was oral erythromycin (86.4%) and in the north east was parenteral benzylpenicillin (91.4%). The two most commonly carried oral antibiotics in the north east were amoxycillin (89.3%) and erythromycin (86.7%). Overall, erythromycin was the commonest antibiotic (86.6%) carried, with amoxycillin (86.2%) the second commonest. The table shows the full results of the survey.

Comment

We are encouraged by the appreciable increase in the number of general practitioners who carried parenteral benzylpenicillin in their emergency bags compared