episode the International Committee of Journal Editors (the Vancouver group) drew up criteria for authorship, based on the concept that "each author should have participated sufficiently in the work to take public responsibility for the content."⁶

Editors, readers, funding agencies, and society generally expect someone to take responsibility for work that comes into the public domain: they want someone to defend it, to debate it, to admit mistakes if necessary. As Shapiro *et al* say, the signing of scientific papers by their authors "confers credit and denotes responsibility."⁴ The Vancouver guidelines try to define the activities that allow an author to take credit and satisfy readers' demands for responsibility. They suggest that authorship should be based only on substantial contributions to "(a) conception and design or analysis and interpretation of data; (b) drafting the article or revising it critically for important intellectual content, and (c) final approval of the version to be published."⁷ The guidelines explicitly reject fund raising, collecting data, and supervising the research group as justifications for authorship, though these and other contributions should be acknowledged. The guidelines do, however, make it clear that between them the authors must take responsibility for all aspects of the work: "any part of an article critical to its main conclusions must be the responsibility of at least one author."

The Vancouver guidelines say nothing about the opposite problem: that of the researcher who has contributed to the work but whose name is left off the paper. Arguments about who should be an author can often be acrimonious, and for this reason guidelines produced by the Swedish Medical Association and its journal recommend that researchers should decide who should be an author at the outset of the work and not when the paper is being written.

Although many journals have incorporated the Vancouver criteria into their guidance to authors, many authors ignore them. In Goodman's study only 32 authors out of 84 definitely fulfilled the Vancouver criteria for authorship and 19 possibly did so.³ Shapiro *et al* found that 62 of their 1176 authors had made no substantial contributions to six major tasks (conception, design, analysis and interpretation, and writing and revision plus collecting data and providing resources), while a further 206 contributed only by providing resources or collecting data.⁴ The cavalier approach to authorship suggested by these

findings is supported by our own experience at the *BMJ*. From the beginning of this year we have been asking authors of accepted papers to confirm that they meet the Vancouver criteria: this request has elicited remarkably few amendments to lists of authors. This silence contrasts with the large response to our conflict of interest statement⁸—which has clearly made people think about possible conflicts of interest in a new way.⁹

One lesson might be that a set of guidelines drawn up by editors will not influence the behaviour of authors. Indeed, one of the groups in the recently formed peer review research network¹⁰ is studying what authors think authorship should mean.^{*} Nevertheless, it would be surprising—and disturbing—if authors were to come up with criteria that did not acknowledge the importance of the activities at the heart of the Vancouver criteria: conception, design, analysis and interpretation of the work, and knowledge of how it is written up.

No one should dispute that readers have a right to expect authors to be able to vouch for their work, and there are other ways of acknowledging important contributions (such as the fund raising role of a head of department). Perhaps most importantly, those who have really done the work have an interest in seeing that their role is not devalued by the inclusion of many who have done little. Finally, the events at St George's Hospital should remind "authors" that signing their names to something they can't defend is not in their best interests either.

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Clinical guidelines in 1994

Let's be careful out there

Clinical guidelines based on the systematically analysed results of research and carefully introduced to doctors can improve clinical practice and outcomes. This is the main message of the current issue of *Effective Health Care*,¹ which is based largely on an update of Grimshaw and Russell's landmark review² and now covers 91 rigorous evaluations of the use of guidelines.

Most of the guidelines in Grimshaw and Russell's review were not based on systematically reviewed evidence; however, it is a reasonable assumption that guidelines that are accurately based on evidence of effective treatment will benefit patients more than guidelines developed in an ad hoc manner or through informal consensus. The patchy nature of evidence, even in the best researched

subjects in clinical practice, means that all guidelines in the conceivable future will be hybrid documents, with recommendations based on varying degrees of evidence and consensus. Good guidelines will clearly label recommendations according to strength of supporting evidence.

Effective Health Care highlights those factors that increase the likelihood that doctors will adhere to guidelines—for example, active educational interventions to make doctors aware of the content of guidelines and patient specific reminders to prompt doctors to use them. It challenges the notion that "ownership" by doctors is a prerequisite for adherence in practice. Using Hurwitz's incisive analysis of the legal background to guidelines,³ it is

reassuring about the medicolegal consequences (despite disturbing trends in the United States⁴).

The authors do not shy away from some difficulties with guidelines, such as the effort needed to develop recommendations based on evidence, our ignorance about the relative strength of different implementation strategies, are the paucity of research on which to make judgments about cost effectiveness.⁵ These are technical problems amenable to more research and sufficient investment in guidelines programmes nationally and locally. This bulletin projects a bright future for clinical guidelines, leaving a darker side unexplored.

Although the role of guidelines in the commissioning of health care is discussed, the connection between clinical guidelines and growing managerial interest in clinical practice is seen only as an opportunity and not as a problem. A related and equally awkward issue is the applicability of scientifically based knowledge (as represented in "valid" guidelines) in the encounter between doctors and individual patients.

Why are governments, health service commissioners, and health care insurance companies so interested in clinical guidelines? As Woolf points out, "Although everyone wants practice guidelines, only patients care exclusively about clinical outcomes."⁶ Governments and third party payers want tools for controlling the allocation of health care resources through containment or redirection of costs, although guidelines will not necessarily reduce overall costs⁷ even if they reduce unacceptable variations in practice.⁸ Guidelines are being put forward as a basis for shifting the purchase of health care away from activity towards protocols of care.⁹ Translating guidelines into protocols is problematic and is a method of enforcing guidelines that cuts across their voluntary adoption by doctors. Many American doctors have already been moved down this road with rigid protocols of managed care, which they have to follow for reimbursement.¹⁰

Can they bear the weight?

Can guidelines bear the weight of decisions about the allocation of resources? Even guidelines based on evidence are currently too weak to support this order of decision making,⁶ and their enforcement in practice misconstrues the nature of the scientific evidence underpinning them,¹¹ simultaneously obscuring political questions about priorities and patients' choice. Of course decisions by commissioners of health care need to be informed by the relative effectiveness of treatments. Guidelines are a source of this information, and commissioners have a role in encouraging their implementation in clinical practice, but in most clinical areas their translation into rigid, enforceable standards of quality would be foolish.¹²

If we remain cautious about clinical guidelines in the services of managerial control and resist their metamorphosis into standards and contracts can we otherwise relax about the spread of guidelines? Not quite. There is also a philosophical problem about guidelines, which is part of the "great debate" over individual judgment versus agreed standards.¹³ The problem has been raised by McCormick in a discussion of the role of judgment in clinical decision making¹⁴ and further articulated by Charlton in a discussion of limits to the application of research evi-

dence to the care of individual patients.¹⁵ There is a danger that the knowledge represented in clinical guidelines will be given priority and will squeeze out other modes of knowledge.

A trenchant exposition of these dangers comes from the United States, the birthplace both of guidelines based on evidence and of the assault on variation in medical practice.¹⁶ The critique is not based on the shortage of good clinical trials, particularly in primary care,¹⁷ or on the methodological problems of research into outcomes.¹⁸ It addresses the complex nature of medical (and nursing) knowledge.¹⁹ The 20th century project of transforming medicine from a craft into a science has given priority to objective, explicit understandings, which have undoubtedly made health care more effective. Yet clinical and moral knowledge of individual patients is often subjective and implicit.²⁰ This will remain the case, as will the intrinsic uncertainty of individual clinical decisions,²¹ no matter how many clinical trials are performed. These aspects of practice are not beyond research, but the methods are qualitative and do not fit the paradigm of "effectiveness" that generates clinical guidelines in their present form.²² Nor can the artistic or intuitive dimension of medicine be commissioned in a "package of care," although it could be overwhelmed by the discrete interventions and measurable outcomes that dominate current discussion in the health service.

We can be enthusiastic about guidelines based on evidence as tools for decision making at the coal face of clinical care. They give us access to knowledge, which can help us to practice more effectively. But we need to remain cautious about guidelines' role in commissioning of health care and recognise that explicit guidelines address only an aspect of good clinical practice.

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