Thus while the efforts of the guideline development group are helpful in opening up the debate on evidence based decision making, they have to be handled with care. They should be the vehicle for achieving better value for money in health care.

D A FITZMAURICE
Lecturer
C P BRADLEY
Senior lecturer
R SALTER
Research associate
A E SLATER
Health economist

Department of General Practice,
University of Birmingham,
Medical School,
Birmingham B15 2TT

1 North of England Asthma Guidelines Development Group. North of England evidence based guidelines development project: summary version of evidence based guideline for the primary care management of asthma in adults. *BMJ* 1996;312:762-6. (23 March.)
2 Drepaul BA, Dayler DK, Qualtrough JE, Perry LJ, Reeve FBA, Charlton SC. Becotide or Becodisk? A controlled study in general practice. *Clinical Trials Journal* 1989;26:335-44.
3 Agertoft L, Pedersen S. Importance of the inhalation device on the effect of budesonide. *Arch Dis Child* 1993;69:130-3.
4 Van der Palen J, Klein JJ, Kerkhoff AHM, van Herwaarden CLA. Evaluation of the effectiveness of four different inhalers in patients with chronic obstructive pulmonary disease. *Thorax* 1995;50:1183-7.
5 Dowie J. The research practice gap and the role of decision analysis in closing it. *Health Care Analysis* 1996;1:1-14.

Evidence based general practice

Findings of study should prompt debate

EDITOR,—P Gill and colleagues' adaptation to a general practice setting[1] of a study originally designed to assess interventions in an acute hospital medical firm[2] encouraged me to apply their methodology to acute admissions (n=50) over four weeks in the paediatric department of a district general hospital. My finding that, by Gill and colleagues' criteria, two thirds of primary interventions in this setting were evidence based is perhaps less interesting than the flaws in their study that were highlighted by my attempt to emulate it.

Firstly, Gill and colleagues cite individual randomised controlled trials and state that they did not attempt to assess the methodological quality of the trials identified. In my study at least four diagnosis-intervention pairs could be supported or contraindicated depending on which of two conflicting randomised controlled trials one chose to quote. Differences in the date of publication were not great enough to dictate the choice; an accurate assessment of trial strength is vital in such cases. Ellis *et al*'s solution to this problem was to use overviews in addition to randomised controlled trials.[2]

Secondly, the treatments that fell into Gill and colleagues' category (ii)—"intervention based on convincing non-experimental evidence"—were decided by a consensus of practitioners. Because of the nature of interventions in the paediatric department that I studied, this was the criterion that I adopted. The inclusion criteria for this category were therefore vastly different from those of Ellis *et al*, whose category (ii) interventions, such as cardiopulmonary resuscitation, were those "whose face validity is so great that randomised trials were unanimously judged by the team to be both unnecessary and, if a placebo would have been involved, unethical."[2] The general practice study, like mine, therefore included within the authors' definition of evidence based interventions a large number of treatments that proponents of evidence based medicine would call non-evidence based.

Such studies are useful for assessing the scientific basis of treatment. When, however, randomised controlled trials are not examined for power and a consensus of practitioners is substituted for such trials in some cases, the finding that two thirds or more of interventions are evidence based is less a cause of satisfaction than a source of debate.

JOANNA CHIKWE
Second year clinical student

Oxford University,
St Peter's College,
Oxford OX1 2DL

1 Gill P, Dowell AC, Neal RD, Smith N, Heywood P, Wilson AK. Evidence based general practice: a retrospective study of interventions in one training practice. *BMJ* 1996;312:819-21. (30 March.)
2 Ellis J, Mulligan I, Rowe J, Sackett D. Inpatient general medicine is evidence based. *Lancet* 1995;12:407-9.

Studies using more sophisticated methods are needed

EDITOR,—P Gill and colleagues[1] to respond to the challenge posed by Ellis *et al*[2] to assess the extent to which evidence forms the basis of practice in settings other than acute hospitals. They comment on the challenges of identifying the evidence and express concerns about its generalisability and applicability. It is not clear from their methodology, however, whether they assessed the quality of the evidence they identified, though they comment generally on issues related to quality.

We think that several methodological issues are worth highlighting. As a result of the retrospective design of the study the authors assume that the diagnostic label recorded first in the patient's medical record was the primary reason for the patient's presentation. Is this a safe assumption? Many general practitioners have had the experience of patients expressing their main concern as they leave the consulting room. Also, the authors excluded 11 patients from their sample, for whom the "attempt to cure, alleviate, or care for the patient in respect of the primary diagnosis" was referral or investigation. Their reasons for this are not clear as these are valid interventions for which evidence of efficacy might be sought. The inclusion of follow up interventions in the sample may result in the inclusion of patients whose intervention is the result of decisions taken outside general practice.

Two points arise from the results. Firstly, the fact that 76% of the interventions were drug interventions compared with the 66% reported by Fry[3] casts further doubt on the representativeness of this sample. Also, although the authors report a similar proportion of evidence based interventions to that reported by Ellis *et al*,[2] a higher proportion of these (50% compared with 29%) were substantiated by convincing non-experimental evidence. This may reflect the fact that the interventions used in general practice are of a "low tech" nature and were often introduced before randomised controlled trials became commonly used. It means, however, that this evidence is qualitatively different from that in Ellis *et al*'s study and calls into question the appropriateness of using this paradigm in this setting. In our view, the place of evidence based practice in primary care is an important issue and needs further investigation with more sophisticated methodologies.

RICHARD MEAKIN
Senior lecturer in general practice
MARGARET LLOYD
Reader in general practice
SUE WARD
Academic registrar in general practice
Royal Free Hospital School of Medicine,
Department of Primary Care and Population Sciences,
London NW3 2PF

1 Gill P, Dowell AC, Neal RD, Smith N, Heywood P, Wilson AE. Evidence based general practice: a retrospective study of interventions in one training practice. *BMJ* 1996;312:819-21. (30 March.)
2 Ellis J, Mulligan I, Rowe J, Sackett DL. Inpatient general medicine is evidence based. *Lancet* 1995;346:407-10.
3 Fry J. *General practice: the facts*. Oxford: Radcliffe Medical Press, 1993.

Drug treatment in general practice in Japan is evidence based

EDITOR,—P Gill and colleagues report their study of the proportion of interventions in general practice that is evidence based.[1] We performed a similar study to evaluate the basis of such interventions in Japan and found that most (81%) are evidence based.

We estimated the proportion of drug treatments given to outpatients in general practice that was based on evidence from randomised controlled trials. The design was a retrospective review of case notes of patients treated between June and December 1995. Forty nine outpatients received 53 drugs prescribed by seven residents for 63 chronic diseases; 28 patients had hypertension. The setting was a training centre for general practice in Japan. New drug treatments, changes to treatment, and the addition of drugs to treatment were classed as subjective interventions. We classified levels of evidence supporting drugs as Ellis *et al* did[2]: (i) evidence from randomised controlled trials, (ii) convincing non-experimental evidence, and (iii) interventions without substantial evidence.

We classified groups (i) and (ii) as the "evidence group" and group (iii) as the "non-evidence group." Each drug was evaluated by discussion with senior doctors. In discussion we used literature retrieved from Medline and personal files of the senior doctors. As a result the evidence group comprised 43 (81%) of the drug treatments. Thirty two of the 53 drugs were antihypertensive agents (calcium channel antagonists, angiotensin converting enzyme inhibitors, and α adrenergic antagonists) and oral hypoglycaemic drugs. For these drugs there are no randomised controlled trials with a true end point. These drugs were classified as belonging to group (ii) on the basis of certain guidelines. If these drugs had been classified as belonging to group (iii) the evidence group would have comprised 11 (21%) of the drug treatments.

Our finding is similar to Gill and colleagues': in about 80% of cases we select drugs for chronic diseases in general practice on the basis of evidence from randomised controlled trials and guidelines. It was a problem that this evidence was not in Japanese.

KOKI TSURUOKA(resident), YUKO TSURUOKA(resident), MANABU YOSHIMURA(chief resident), KOYU IMAI(resident), SATOKO SEKIGUCHI(resident), JUNICHI MISE(lecturer), YASUHIRO ASAI(lecturer), NAOKI NAGO(lecturer), MASAHIRO IGARASHI(professor)

Department of Community and Family Medicine,
Jichi Medical School,
Minamikawachi,
Kawachi, Tochigi,
Japan

1 Gill P, Dowell AC, Neal RD, Smith N, Heywood P, Wilson AE. Evidence based general practice: a retrospective study of interventions in one training practice. *BMJ* 1996;312:819-21. (30 March.)
2 Ellis J, Mulligan I, Rowe J, Sackett DL. Inpatient general medicine is evidence based. *Lancet* 1995;346:407-10.

Author's reply

EDITOR,—Joanna Chikwe and Richard Meakin and colleagues share the concerns that my colleagues and I have about the quality of randomised controlled trials. I would draw their attention to two further points. Firstly, few randomised controlled trials have been carried out in general practice. Secondly, owing to