able influence on the health of populations, through biological channels that are just now beginning to be understood."[2]

Recent scientific advances show ways in which people's perceptions of their social environments can stimulate chemical and electrical responses in their body's endocrine, immune, and neural systems. These new studies lend credence to older ones that have emphasised the health promoting qualities of social support. A key determinant of health turns out to be the extent to which humans and other primates are able to rely on their own resources, or the support of others, to overcome the pressures associated with social and environmental factors.

Why, given that the importance of social and environmental determinants of the health of populations has been known for many years, has policy taken so little account of it? The short answer is that the combination of economic interests and political influence associated with the health care industry is so powerful that a predominantly biomedical system of beliefs dominates the development and practice of health policy.[3]

We have been indoctrinated into accepting the superiority of biomedical and disease oriented explanations of the determinants of health to the detriment of socioeconomic ones. For example, probably the dominant lay view in modern industrial societies is that the main causes of premature death are cancer and heart disease. The almost inaudible counterview is that the principal killers are the "lack of social support, poor education, and stagnant economies."[4] The result of the bias inherent in the prevailing system of beliefs is that enormous effort is put into researching and marketing such fripperies as cholesterol free crisps. On the other hand, serious study of ways of over-coming the stress associated with hierarchies in the workplace or of providing "companionship and support for the widowed elderly"[4] and other vulnerable social groups is neglected.

Arguing that social sciences should supplant medical ones would, however, be the worst kind of backward thinking. More multidisciplinary research and policy analysis are needed. At present a major bias exists in research funding. Most of the available resources go into the invention of new technologies even though their aggregate contribution to the population's health is modest. Relatively little effort goes into assessing the effectiveness of the existing health care system, and almost nothing is invested in looking at the non-medical influences on health. What's urgently needed is a more systematic programme of research to improve our understanding of the socioenvironmental determinants of health and of how to design public policies that will prevent or ameliorate poor health.

More generally, debate on health policy in countries such as Britain needs a new perspective. A sustained effort should be made to persuade not only politicians and patients but also those who earn their living in the health care industry that it makes economic and social sense to limit spending on health care to free resources for other policies that promote health. Investing in health remains a worthwhile objective, but it means much more than spending on the NHS.

KEN JUDGE
Director

King's Fund Institute,
London W2 4HT

1 Evans RG, Barer ML, Marmor TR, eds. *Why are some people healthy and others not? The determinants of health of populations.* New York: Aldine de Gruyter, 1994.
2 Evans RG. Introduction. In: Evans RG, Barer ML, Marmor TR, eds. *Why are some people healthy and others not? The determinants of health of populations.* New York: Aldine de Gruyter, 1994:23.
3 Marmor TR, Barer ML, Evans RG. *The determinants of a population's health: what can be done to improve a democratic nation's health status.* In: Evans RG, Barer ML, Marmor TR, eds. *Why are some people healthy and others not? The determinants of health populations.* New York: Aldine de Gruyter, 1994:217-30.
4 Lomas J, Contandriopoulos A-P. Regulating limits to medicine: towards harmony in public - and self-regulation. In: Evans RG, Barer ML, Marmor TR, eds. *Why are some people healthy and others not? The determinants of health of populations.* New York: Aldine de Gruyter, 1994: 253-83.

Liver biopsy: blind or guided?

Benefits of guided biopsy are clear only for focal lesions

Despite advances in imaging techniques and serological investigations percutaneous needle biopsy of the liver is still important in accurately diagnosing hepatic disease. The basic technique, described by Sherlock, has changed little over the past 50 years.[1] It is simple, cheap, and relatively safe and can be carried out at the bedside. In the past few years, however, ultrasonography has been increasingly used to guide the biopsy needle. A recent large survey of consultant gastroenterologists showed that 1 in 8 always used ultrasonography guidance for biopsies.[2] Some consultants now believe that ultrasonographically guided biopsies are so much safer that blind biopsy can no longer be defended. Before this policy is adopted uncritically, however, it is important to examine the current evidence concerning safety, diagnostic yield, and cost.

Percutaneous liver biopsy has a mortality of 0·01%-0·1%.[3,4] Death is usually due to bleeding or to biliary peritonitis as a result of puncture from the gall bladder. The incidence of bleeding is probably proportional to the incidence of formation of haematomas, which is not affected by the use of ultrasonographic guidance.[5] Although, intuitively, guided biopsy might be expected to reduce the risk of puncturing the gall bladder, no randomised controlled trial has been large enough to show reduced mortality with ultrasonography. Identifying deaths related to procedures is not easy. There is an overall mortality of 19% among patients within three months of biopsy, but most deaths are due to underlying disease.[6] Retrospective reviews may therefore fail to give a true indication of the risks of the procedure.

The 1991 national audit of liver biopsies reviewed 1504 biopsies, of which a third were guided by ultrasonography.[6] Two deaths definitely related to the procedure occurred, one each from bleeding and from biliary peritonitis. Both biopsies were carried out without ultrasonographic guidance. Surprisingly, postmortem examinations were not performed, but the second death might have been avoided had ultrasonography been used. Data were also collected on pain and bleeding after the biopsy. Pain was experienced by 25% of the patients who had non-guided biopsies and 22% of the patients who had guided biopsies. Serious bleeding occurred in 1·6% of non-guided cases and 2·5% of guided biopsies. These differences were not significant.

The largest single controlled trial is that of Papini and colleagues, who randomised 240 patients to guided or

non-guided biopsy.[7] They reported one complication (bleeding into the abdominal cavity) in the group that had guided biopsy and seven in the group that had non-guided biopsy. Four of the complications in the group that had non-guided biopsy, however, were asymptomatic and were disclosed only by follow up ultrasonography. The other problems were transient early hypotension in two patients and an ileus that spontaneously resolved in another.

Diagnostic yield was also assessed in the National Audit in 1991. Where ultrasonography before biopsy showed one or more focal lesions non-guided biopsy was successful in confirming the final diagnosis in only one third of patients, whereas guided biopsy confirmed the diagnosis in nearly two thirds of patients. The audit also suggested that if the clinical diagnosis before the biopsy was of cancer there was a greater chance of verifying this with a guided biopsy even if there was no focal lesion. For non-malignant diffuse disease there was no difference between the two procedures in the ability to confirm diagnoses.

Cost and convenience must also be considered. Guided biopsies need greater resources, both of equipment and of trained staff. The biopsy is usually done in a radiology department, which means that the patient would be waiting to return to a ward without being observed during the time when at least 60% of complications occur.[3] Doctors in some centres identify the optimal site of puncture by ultrasonography but perform the biopsy in the ward.

What recommendations can be made? In patients with diffuse non- malignant disease guided biopsy has no diagnostic advantage and there is no firm evidence that the procedure is safer. When malignancy is suspected before the biopsy is performed a guided biopsy should be considered. When a focal lesion has already been shown the biopsy should be guided. The ideal biopsy may be one that is performed in the ward by the gastroenterologist using ultrasonographic guidance. For most patients this is currently not an option owing to the lack of ultrasound machines and trained clinicians.

To establish firmer guidelines a randomised controlled trial of guided versus non-guided biopsy in patients with diffuse disease might be considered. Since the mortality is so low, however, a large number of biopsies—we estimate 10 000—would be needed to give sufficient statistical power. This is probably not feasible. Our recommended alternative is a national scheme for reporting mortality and morbidity after liver biopsy, perhaps as part of the national confidential inquiry into perioperative deaths.

GUY VAUTIER
Registrar in gastroenterology
BRIAN SCOTT
Consultant physician

Department of Medicine,
County Hospital,
Lincoln LN2 5QY

DAVID JENKINS
Reader in histopathology

Department of Histopathology,
University Hospital,
Nottingham NG7 2UH

1 Sherlock S. Aspiration liver biopsy, technique and diagnostic application. *Lancet* 1945;ii: 397-401.
2 Chuah SY, Moody GA, Wicks ACB, Mayberry JF. A nationwide survey of liver biopsy. Is there a need to increase resources, manpower and training? *Hepato-Gastroenterol* 1994;41:4-8.
3 Piccinino F, Sagnelli E, Pasquale G, Giusti G. Complications following percutaneous liver biopsy, a multicentre retrospective study on 68,276 biopsies. *J Hepatol* 1986;2:165-73.
4 McGill DB, Rakela J, Zinmeister AR, Ott BJ. A 21 year experience with major hemorrhage after percutaneous liver biopsy. *Gastroenterology* 1990;99:1396-400.
5 Sugano S, Sumino Y, Hatori T, Mizugami H, Kawafune T, Abei T. Incidence of ultrasound detected intrahepatic hematomas due to Tru-cut needle liver biopsy. *Dig Dis Sci* 1991;36: 1229-33.
6 Gilmore IT, Burroughs A, Murray-Lyon IM, Williams R, Jenkins D, Hopkins A. Indications, methods and outcome of percutaneous liver biopsy in England and Wales. An audit by the British Society of Gastroenterology and the Royal College of Physicians (London). *Gut* (in press).
7 Papini E, Pacella CM, Rossi Z, Bizzarri G, Fabbrini R, Nardi F, *et al.* A randomised trial of ultrasound guided anterior subcostal liver biopsy versus the conventional Menghini technique. *J Hepatol* 1991;13:291-7.

Gift authorship: a poisoned chalice?

Not usually, but it devalues the coinage of scientific publication

See pp 1459, 1482

The fruits of authorship are usually considered to be sweet. Authorship of a scientific paper leads to grants, jobs, and reputations. This explains why many people accept the "gift" of authorship on papers to which they have contributed nothing intellectually. And, as with all presents, the givers often derive something too. They may use authorship to repay kindnesses, in exchange for authorship of another paper, or—very commonly—to credit their head of department and in so doing gain a stamp of authority on their work. Last week's revelations questioning the scientific validity of papers in the *British Journal of Obstetrics and Gynaecology* (see p 0000)[1] show how the gift can turn sour. Perhaps this scandal will finally undermine gift authorship. At the very least it should make researchers think hard about the responsibilities that come with putting their names on papers.

The full details of the case, at St George's Hospital, London, have yet to emerge, but we know that an inquiry has found no evidence to support the findings of two papers written by Mr Malcolm Pearce and published in the August issue of the *British Journal of Obstetrics and Gynaecology*. Unfortunately the editor of the journal, Professor Geoffrey Chamberlain, is also a coauthor of one of the papers. We know nothing about Professor Chamberlain's role in the work, but he was quoted by a newspaper as saying, "The head of department's name is always put on reports out of politeness. I was not part of this work, but I have always trusted Mr Pearce."[2]

The fact that "everybody does it" does not make it right, but Professor Chamberlain is correct: heads of department often put their names on papers, irrespective of their input into the work. In this week's issue Goodman shows that in his study of 12 papers and their 84 authors six heads of department were included as authors without fulfilling any of the standard criteria for authorship (p 1482).[3] Similarly, Shapiro *et al* found in the United States that on 184 papers with four or more authors 11 heads of department were included, although they had contributed nothing to the work.[4]

Ironically, it was just such a predicament as Professor Chamberlain seems to find himself in that prompted the production of a standard set of criteria for authorship in 1985. In the early 1980s John Darsee falsified studies at Emory and Harvard Universities; many of the papers that were subsequently retracted included as coauthors prominent heads of department. These people had not fabricated data, but they had allowed their names to appear on work which they knew too little about.[5] Partly as a result of this