and one shows all forms of alcohol to be harmful. Of 10 cohort studies, only one shows a consistent significant benefit for all forms of alcohol. Ecological studies are least prone to confounding by sick non-drinkers and are the least supportive of the theory that alcohol may protect against heart disease.

We question the wisdom of publishing these papers without giving any form of public health advice. They will be perceived by the public as giving a signal to consume more alcohol.

LUKE WHITAKER
Research statistician
HELEN WARD
Senior lecturer

Department of Epidemiology and Public Health,
Imperial College School of Medicine at St Mary's,
London W2 1PG

- 1 Royal College of Physicians. *The medical consequences of alcohol abuse: a great and growing evil*. London: Tavistock, 1987.
- 2 Rimm EB, Klatsky A, Grobbee D, Stampfer MJ. Review of moderate alcohol consumption and reduced risk of coronary heart disease: is the effect due to beer, wine, or spirits? *BMJ* 1996;312:731-6. (23 March.)
- 3 Hein HO, Suadicani P, Gyntelberg F. Alcohol consumption, serum low density lipoprotein cholesterol concentration, and risk of ischaemic heart disease: six year follow up in the Copenhagen male study. *BMJ* 1996;312:736-41. (23 March.)

Authors' reply

EDITOR,—The proposal that alcohol has a protective effect on the risk of ischaemic heart disease no longer has the charm of novelty. Frontline research should now attempt to identify those people who benefit from drinking alcohol and those who do not.

We investigated the interplay between alcohol consumption, serum low density lipoprotein cholesterol concentration, and risk of ischaemic heart disease. The strength of the association between alcohol and risk was highly dependent on the low density lipoprotein cholesterol concentration: the higher the concentration the stronger the inverse association. There was no association among men with a low low density lipoprotein cholesterol concentration (defined as those with concentrations in the lowest fifth, < 3.63 mmol/l).

For obvious reasons, studies on alcohol and risk must be natural experiments. Accordingly, it is not possible to conclude whether associations are causal. Suggestive of causality are a set of criteria accounted for in our study, such as temporality, strength of association, and biological plausibility.^{1,2}

The possibility of bias also has to be considered. Non-drinkers were older than drinkers. In regression analyses we took into account the possibility of a non-linear relation between age and risk. Including age as a continuous variable, a dichotomous variable, or several five year age group dummy variables had no influence on the results. Non-drinking was not simply a proxy for old age, suggesting increased risk. A bias caused by "sick non-starters" seems unlikely. We excluded all men with overt cardiovascular disease at the baseline, and relevant electrocardiographic changes were equally distributed among drinkers and abstainers. We discussed other potentially biasing factors in our paper and a previous one.³

The *BMJ* is not a health magazine for the public. In our paper we did not attempt to deviate from the hypothesis advanced. We did not discuss the well known potential risks and side effects of alcohol consumption since public health advice was not the issue. In a liberal society with a free press it is generally not possible to prevent the public from misinterpreting scientific results.

In his editorial Ian R White claims that our hypothesis has been tested before.⁴ No previous study has analysed the interaction of alcohol, low

density lipoprotein cholesterol concentration, and risk, presenting data on the association between alcohol and risk stratified by different levels of lipid concentrations. Another claim is that our findings could be the result of chance. That is possible. We agree that the results of one epidemiological study can never stand alone.

H O HEIN
Associate professor
P SUADICANI
Senior researcher
F GYNTELBERG
Professor

Copenhagen Male Study,
Epidemiological Research Unit,
7122 Rigshospitalet,
DK-2200 Copenhagen N,
Denmark

- 1 Hill AB. The environment and disease: association or causation? *Proc R Soc Med* 1965;58:295-300.
- 2 Rothmann KJ. *Modern epidemiology*. Boston: Little, Brown, 1986.
- 3 Hein HO, Sørensen H, Suadicani P, Gyntelberg F. Alcohol consumption, Lewis phenotypes, and risk of ischaemic heart disease. *Lancet* 1993;341:392-6.
- 4 White IR. The cardioprotective effects of moderate alcohol consumption. *BMJ* 1996;312:1179-80. (11 May.)

Review of interventions should help to reduce inequalities in health

EDITOR,—Graham C M Watt¹ accuses us of being perverse in our review of interventions that health services could use to help reduce inequalities in health.² We made clear, as he does, that socioeconomic factors are likely to have more influence on variations in health status than are health services. That does not mean, however, that aspects of health services are not influential in widening inequalities or that the resources of the NHS cannot be used to help reduce them.

Our review and its subsequent extensions³ identified over 100 studies evaluating ways in which health services alone or in collaboration with other agencies could make some positive contribution in this area. For example, a rigorous study of intensive control of blood pressure showed that it was effective in reducing social class differences in mortality,⁴ and a variety of health, social, and nutritional interventions aimed at the general population or targeted at low income groups were shown to improve children's health.

Watt's other criticism—that "evidence based medicine from randomised controlled trials is least likely to emerge from areas of social deprivation"—is unclear. If he means that trials of treatments do not usually include deprived populations and so their results cannot be applied, this would imply denying these populations access to treatments of generally proved effectiveness, so increasing inequality. If he means that such trials are not appropriate for assessing methods for reducing inequalities in health, we would counter that a number of health care and social interventions have been evaluated with randomised controlled trials, which have provided important and reliable evidence that can be used by policymakers. For example, a trial of negative income tax showed a large and significant effect on birth weight.⁵ Our reviews, however, did not confine themselves to randomised controlled trials but systematically identified relevant experimental and quasiexperimental studies and summarised the results of major observational studies.^{2,3}

Watt makes the unstartling observation that we need to tackle social deprivation. If we concentrate solely on macro policy there is the danger that NHS decision makers will be let off the hook and social justice allowed to slip off their agenda. Our review provides a useful sum-

mary of potentially effective interventions that may fall within the scope of the NHS. While this approach might not have such political cachet as that adopted by Watt, we think that disadvantaged populations have a right to benefit from the application of the results.

VIKKI ENTWISTLE
Research fellow
IAN WATT
Senior research fellow

NHS Centre for Reviews and Dissemination,
University of York,
York YO1 5DD

- 1 Watt GCM. All together now: why social deprivation matters to everyone. *BMJ* 1996;312:1026-9. (20 April.)
- 2 NHS Centre for Reviews and Dissemination. *Review of the research on the effectiveness of health service interventions to reduce variations in health*. York: NHS Centre for Reviews and Dissemination, 1995. (CRD report 3.)
- 3 Arblaster L, Lambert M, Entwistle V, Forster M, Fullerton D, Sheldon TA, et al. A systematic review of the effectiveness of health service interventions aimed at reducing inequalities in health. *Journal of Health Services Research and Policy* 1996;1:93-103.
- 4 Stamler R, Hardy RJ, Payne GH, Tyroler HA, Tung B, Newman B, et al. Educational level and 5 year all cause mortality following health education of hypertensive patients. *Am J Public Health* 1983;73:153-61.
- 5 Kehner BH, Wolin CM. Impact of income maintenance on low birth weight: evidence from the Gary experiment. *Journal of Human Resources* 1980;14:434-62.

Time for a ban on landmines

Workload resulting from landmine injuries is huge burden on hospitals

EDITOR,—One aspect of the epidemic of antipersonnel landmines¹ that is often overlooked is the implication for the indigenous surgical services of the constant flow of injuries caused by the mines.² The countries affected are the ones least able to help themselves, with surgical provisions already stretched to the limit. Few figures exist on the epidemiology of landmine injuries and the workload these impose on local services, as most of the data have been gleaned from Red Cross hospitals dealing solely with war injuries.³

Last year, while working in Angola, I conducted an audit of the surgical admissions to Kuito General Hospital. Of 795 admissions over 10 months, 211 were due to war-type injuries inflicted on civilians. Landmine injuries accounted for 82 of these. Most of the rest were gunshot wounds. War injuries, whether caused by landmines or high velocity rounds, use a disproportionately large amount of surgical time and resources in comparison with civilian-type trauma.⁴ Each injury frequently requires two or three operations. The patients with war injuries who were admitted accounted for 42% of the general and orthopaedic operations carried out during the study period (268/643). The consequences of such an influx of patients for a British hospital are almost unthinkable.

Such a large burden of work detracts from the ability of local surgeons to care for patients with non-traumatic conditions. In addition, the resulting large population of young people with amputated limbs becomes an economic burden on the society as a whole: a one legged man cannot feed his family, and a one legged woman cannot look after her children. In Kuito an average of six people a month lose their legs because of landmine injuries. Such an incidence would tax the resources of a district general hospital in Britain; the effect on Kuito is disastrous.

EDDIE CHALONER
Registrar in surgery

Royal London Hospital,
London E1 1BB

- 1 Pearn J. Landmines: time for an international ban. *BMJ* 1996;312:990-1. (20 April.)
- 2 Chaloner EJ, Mannion SJ. Anti-personnel mines: the global epidemic. *Ann R Coll Surg Engl* 1995;77:1-4.

- 3 Coupland RM. The effects of weapons: surgical challenge and medical dilemma. *J R Coll Surg Edinb* 1996;41:65-71.
- 4 Korver AJH. Amputees in a hospital of the International Red Cross. *Injury* 1993;9:607-9.

Doctors should actively support campaign to ban landmines

EDITOR,—Each year landmines kill and maim 26 000 people, many of them children. John Pearn's editorial calling for a ban on these indiscriminate weapons was published shortly before the third session of the review conference of the United Nations convention on inhumane weapons, which had the power to ban these weapons. The outcome of the session was, according to the UN's secretary general, Boutros Boutros-Ghali, "deeply disappointing"; a ban was not even an option. Commenting on the first of the three sessions of the review conference, Pearn says, "Last October, in Vienna, the United Nations failed to agree to ban landmines."¹ Presumably he now believes that the UN has failed again.

The problem is that the UN is only the sum of its parts, its parts being the governments of the member states. It is they who make the decisions, who bring about success or, as in the case of the review conference, resounding failure. It is no good railing at some distant body called the UN—we must also address our message to politicians at home and create the political will for change.

There is much to be done in Britain: the government may be ridding itself of some stockpiles, but it is also seeking to procure high technology replacements. These replacements are meant to self destruct within specific time limits, but indications are that up to a tenth fail to do so. The effect of this is to deny people the use of land they need for food and to put them at risk of injury and death.

The arguments are complex, involving definitions of antipersonnel mines, new technology, and much more that cannot be discussed here, although briefings are available from many organisations including my own. However, an increasing number of responsible countries, including Australia, Canada, and Germany, have set an example that is way ahead of the British government's pledge to "back the call for a complete ban."

The medical profession in many countries has been a key impetus behind the progress made towards a global ban. In Britain the BMA has taken a firm lead in calling on the government to ban landmines. Dr Mac Armstrong, the BMA's secretary, joined the United Kingdom Working Group on Landmines, which includes the United Kingdom Committee for Unicef, in presenting a petition to the prime minister. We hope that the medical establishment throughout Britain will put its voice behind the campaign to ban landmines, which will, we believe, be successful.

CAROLINE LEVEAUX
Liaison officer

Unicef,
United Kingdom Committee,
London WC2A 3NB

- 1 Pearn J. Landmines: time for an international ban. *BMJ* 1996;312:990-1. (20 April.)

GPs' prescribing behaviour may be affected by drug promotion

EDITOR,—David Armstrong and colleagues studied why doctors changed their prescribing behaviour over six months and found that multiple factors were involved.¹ We would add several points.

Firstly, it is surprising that the authors mention the role of drug promotion only in passing. Drug promotion is a powerful and effective tool^{2,3} that conveys subliminal messages, as is shown by one of the doctors in the study having stated, "I read it in several places but couldn't tell you where. The message has been pounded in over the last year...reading it again and again, so it must be true."¹ Secondly, several of the drug groups in which change occurred during the study are currently the focus of research that has received wide publicity in both commercial and non-commercial material sent to all general practitioners. Thirdly, quantitative methodologies are needed to differentiate between perceived and actual practice. This was highlighted by Lomas *et al*, who found that doctors said that they had changed their rate of caesarean section by about a third whereas only a 0.13% change in activity had occurred.⁴

Finally, this study highlights the importance of having an effective strategy for disseminating and implementing the findings of research in the NHS.⁵

PARAMJIT S GILL
Senior lecturer

Department of Primary Care and Population Sciences,
University College London and Royal Free Hospital Schools of
Medicine,
Whittington Hospital,
London N19 5NF

NICK FREEMANTLE
Research fellow

Department of Health Sciences and Clinical Evaluation,
University of York,
York YO1 5DD

LISA BERO
Assistant professor

Institute for Health Policy Studies,
Division of Clinical Pharmacy,
University of California,
San Francisco, CA 94109,
USA

FLORA HAAJER-RUSKAMP
Professor

Department of Health Sciences,
University of Groningen,
9713 AV Groningen,
Netherlands

MARJUKKA MARKELA
Head of research and development

Research and Development Centre for Welfare and Health
Services and Quality,
PO Box 220,
00531 Helsinki,
Finland

KAWEH P. BARJESTEH
Resident pharmacist

Group Health Cooperative of Puget Sound,
PO Box 20547,
Seattle, WA 98102-1547,
USA

- Armstrong D, Reyburn H, Jones R. A study of general practitioner's reasons for changing their prescribing behaviour. *BMJ* 1996;312:949-52. (13 April.)
- Avorn J, Chen M, Hartley R. Scientific vs commercial sources of influence on the prescribing behavior of physicians. *Am J Med* 1982;73:4-8.
- Chen MM, Landefeld CS. Physicians' behavior and their interactions with drug companies. *JAMA* 1994;271:684-9.
- Lomas J, Anderson GM, Domnick-Pierre K, Vayda E, Enkin MW, Hannah WJ. Do practice guidelines guide practice? *N Engl J Med* 1989;321:1306-11.
- Haines A, Jones R. Implementing findings of research. *BMJ* 1994;308:1488-92.

Junior Doctors Committee has achieved much recently

EDITOR,—In his latest attack on the Junior Doctors Committee, Christopher Wong raises several points that deserve a reply.¹ He vilifies the committee for inviting him to meetings where his views could have an influence on its policy. Oddly, he views this as the committee trying to shut him up. The reason he states for declining this invitation is that he attended such meetings "a few years ago," found them unrepresentative of his views, and decided to boycott them. To take such a stance and then, after many months

of voluntary exile, claim that the committee has not listened to him seems perverse.

Wong suggests that an alternative representative body should be set up—presumably one that agrees with his opinion. Those who find this suggestion attractive should consider that there are 29 000 very individual junior doctors, who hold a variety of opinions on the many issues that their representatives have to formulate into policy. Such policy is likely to find dissent with some of the electorate of any such body. A new representative body would not change this.

Secondly, it is nonsense for Wong to imply that he and like minded colleagues could not change the committee's policy from within the pre-existing structures. Change is impeded not by the structures themselves but by those who want it and are too apathetic or cynical to use the system available to them.

Thirdly, the committee is well aware of the tension between training requirements and controls on hours of work, which is one reason why it has called for a meeting of the original signatories of the new deal. Contrary to Wong's belief, the committee cannot effect change without the support of many others, including the colleges.

Lastly, this year the Junior Doctors Committee has overturned government plans to pay higher professional trainees in the busiest posts exactly the same as is paid to those doing no on call work, has overturned plans allowing trusts to set their own allowances for study leave, has fought off attempts to abolish automatic incremental pay rises, has achieved considerably higher rates of pay for those working busy on call rotas, and has obtained the highest annual pay award of any group of professionals in the health service. Is the committee really doing such a bad job at representing the interests of junior doctors?

SIMON SMITH
Chair

Junior Doctors Committee Communications Group,
London WC1H 9JP

- 1 Wong C. Junior doctors' hours. *BMJ* 1996;312:1042. (20 April.)

*We received five other letters commenting on Wong's letter; all disagreed with him. This correspondence is now closed.—EDITOR

BMA calls for evidence on ethical implications of new genetic technology

EDITOR,—Few fields of medicine are developing as rapidly as human genetics. With such developments come new dilemmas and challenges for those working in health care. The BMA has recently established a multiprofessional steering group to examine the ethical implications of new genetic technology and to provide practical guidance for health professionals who are not specialists in genetics but who are increasingly being asked to advise on the implications of this technology.

The steering group is anxious to gather as much information as possible on current practice and the practical ethical problems that arise, from health professionals, counsellors, social workers, and lawyers. The group would welcome evidence of good practice and unresolved issues from any of these sources or from others who have experience of these issues. Correspondence should be sent to the medical ethics department, BMA, BMA House, Tavistock Square, London WC1H 9JP.

RICHARD HOLLOWAY
Bishop of Edinburgh and chairman of steering group
Steering Group on Genetics,
BMA,
London WC1H 9JP