indication whatsoever of workload. A one in four rota on a special care baby unit, for example, can place an unacceptably high demand on the junior, whereas a one in one rota in, say, dermatology would be easy. It is, however, inevitable that if juniors are going to make any progress with their negotiations they will have to tolerate such simplistic solutions. I fear that the planned task forces will have time only to play a "numbers game" rather than to look at each post in detail.

What juniors really need is to be treated as human beings. In my experience, juniors whose boss takes an interest in them, sends them to bed when they have been up all night, teaches them, and gives them good careers advice will happily reward him or her by working all hours that God gives. What counselling I have been able to perform as clinical tutor in my hospital has given me insight into how juniors are treated, what sort of education they are receiving, and their service demands. If a comprehensive counselling service was implemented throughout the country it would, I believe, provide the key to ensuring reasonable terms and conditions of service.

In the recent white paper the government stated its commitment to strengthening the network of postgraduate deans and tutors for this very purpose. There will be a budget and the authority to draw up educational contracts, which should assure good training in all grades. Where training is denied or the conditions of service interfere with educational opportunity by resulting in sleep deprivation, fatigue, or inadequate off duty, or by failing to honour study or annual leave then the dean could see fit to recommend withdrawal of educational approval to the relevant college. Until now clinical tutors have been prevented from providing a comprehensive service as their duties are non-contractual and confined to their spare time. Negotiations for the award of sessional payments to clinical tutors are, however, progressing well; this will afford them the time to provide counselling. I sincerely hope that juniors will support this process where it is happening and let us know where it is not.

Many juniors probably do not know what a clinical tutor is or does—understandably, in view of the spare time nature of the job. I hope in due course that every junior will have met his or her clinical tutor within a few days of taking up the post and will see that tutor on a one to one basis from time to time throughout the training period. In addition to training needs, unacceptable service demands will be identified, and it is to be hoped that deans will influence those responsible to make appropriate changes. Such local finely tuned control should be more acceptable than what has been so skilfully but simplistically negotiated nationally.

K M PAGLIERO

National Association of Clinical Tutors,
London NW1 4LB

1 Beecham L. Juniors' work should be defined. *BMJ* 1991;**302**:853. (6 April.)

Information on GP referrals

SIR,—Mr John Warden refers to the need for further information on general practitioners' referral patterns and hints at the benefits that might accrue from this.[1] For such information to be made available, however, requires it to be gathered through a process that is acceptable and of benefit to all parties concerned, whether purchasing authorities, family health services authorities, or general practitioners themselves.

In South Tees we are exploring a mechanism that may enable such a process to be put into practice.[2] The way forward should initially be to establish a joint discussion group with appropriate membership from the parties concerned, principally the purchasing authority and general practitioners but also the family health services authorities and possibly information managers in provider units. This would then enable agreement on a pilot trial for a referrals system based on a small but representative number of agreeable practices, with a clearly defined scope, evolution plan, and financial arrangements.

A pilot scheme could then be initiated under the management of a working party or a directorate elected by them. This would include the establishment of detailed objectives, planning, and involvement of other potential information sources. Implementation of the pilot scheme should involve at least one large group practice—possibly a group practice fund holder, should any exist in the district—and preferably several other practices covering a spectrum in the health district.

The trial should address how to incorporate computerised and non-computerised general practices (including those that have no plans to computerise) and identify important external information sources and interfaces with them. Any scheme should also involve cooperation with the family health services authority on sharing of effort in gaining the referrals data and with provider units on exchange of outpatient information and charging against contract.

With a successful outcome this approach would form a sound method of introducing information systems to meet the needs of a purchasing authority in discharging its obligations to its resident population in a gradual and controlled way, which would maximise the chances of widespread acceptance and of mutual benefit.

IAN HOLTBY
SAM RAMAIAH

South Tees Health Authority,
Poole Hospital,
Middlesbrough TS7 0NJ

1 Warden J. The new culture. *BMJ* 1991;**302**:554. (9 March.)
2 MARI Computer Systems Ltd. *Outpatient referrals in South Tees: information needs and patterns.* Stockton: MARI, 1990.

SIR,—As a further example of the data now required for referring patients for hospital care,[1] the new preprinted patient referral letter requires 53 items of data. The personal and contract identifying numbers are long and open to errors of transcription. The Welsh Office states that completing these forms is "entirely voluntary, although if GPs choose not to supply some of the information needed, hospitals could well decide to refer the patient back to the practice."[2] Translated, this implies that if a general practitioner fails to provide all the data accurately in the referral letter the patient's treatment could be delayed. After a complaint from the patient the general practitioner could be found in breach of his or her terms of service, even for a minor discrepancy in recording data.

The code that I should use to refer a patient living in Powys, registered with my partner, to our local district general hospital is 44 digits long; when hospital and NHS numbers are added this gives a total of 60 chances for error. The codes for our patients living in Herefordshire are completely different. I have not been informed if Hereford and Worcester Health Authority has contracts with that hospital. The boundary between Wales and England is ill defined and further complicated by the fact that Hereford postcodes extend 12 miles into Powys.

My colleagues in the north of the county have enormous administrative problems. They work in four separate health authority districts, each with its own identifying number and distinct pattern of hospital contracts—that is, one health authority may allow referral to a specific district general hospital, whereas the others require written application and prior approval for "off contract" treatment, which could be refused if budgets are exceeded. Perhaps the administration will explain this to patients living on the wrong side of a street or stream.

At present hospitals and health authorities do not have the staff or computer facilities to price operations accurately and have made inspired guesses on referral patterns and numbers based on less than six months' data supplied by general practitioners. Eventually they will price these procedures accurately. There will be additional chaos when health authorities find that hernia operations are cheaper at hospital A, hip operations at hospital B, and cholecystectomies at hospital C. Each health authority may negotiate different price lists for operations and enforce strict referral limits. The implications for general practitioners covering several health authority areas, with additional contract codes and differing restrictions on referrals specific to each area, is mind blowing.

In theory the principle of money travelling with the patient is excellent, rewarding efficient hospitals. But the present method of achieving this aim is severely flawed. Surely a simple system whereby hospitals are paid a basic administrative allowance to run the core services with an item of service fee for each operation is easier to administer. The fee scale could be adjusted to remove anomalies and reduce waiting lists. The objectives of quality and service would be achieved naturally by the referral patterns of general practitioners, determined by their expert local knowledge of the service and guided by patients' preferences. The present system, designed by accountants, will result in patients being referred not to the nearest, the best, or the most convenient hospital with the shortest waiting list but to the cheapest.

K C HARVEY

Medical Centre,
Talgarth, Powys LD3 0AR

1 Harvey KC. Unnecessary hospital referral data. *BMJ* 1991;**302**:851-2. (6 April.)
2 Anonymous. GP afraid form-filling may hinder treatment. *Western Mail* 1991 April 5:6.

Global warming and health

SIR,—Professor Andrew Haines, in his editorial on global warming and health, called for more research on the implications for health of global environmental change.[1] In a recent Australian initiative the National Health and Medical Research Council commissioned the University of Wollongong to review expert opinion on the implications for health of long term changes in climate. The result was a 200 page discussion paper, "Health implications of long term climate change," which was disseminated to some 900 organisations and individuals both within Australia and overseas. The public response to this paper is being analysed before being incorporated into the final report, to be published in June this year.

In Australia expert opinion strongly supports Professor Haines's conclusions. Greater emphasis is placed on health hazards such as mosquito borne diseases, natural disasters, exposure to ultraviolet radiation, and the exacerbation of the socio-economic gradient whereby disadvantaged groups bear a disproportionate share of the detrimental consequences of global environmental change.

The final report should offer policy makers recommendations and priorities that will allow Australia's public health service to be more effective.

RHONA KENYON

Health and Climate Change Programme,
Environmental Health Branch,
National Health and Medical Research Council,
GPO Box 9848,
Canberra, Australian Capital Territory 2601,
Australia

1 Haines A. Global warming and health. *BMJ* 1991;**302**:669-70. (23 March.)