

will probably always be able to exceed the resources allocated, and therefore the difficult but necessary campaign will continue. Our duty must include a contribution to hospital management to improve efficiency and reduce waste. The help and influence of the BMA in this would be welcome and should be developed.

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- 1 Samuel O. Fundholding practices get preference. *BMJ* 1992; 305:1497. (12 December.)
- 2 Delamothe T. Hospitals cut elective surgery in attempt to stay solvent. *BMJ* 1992;305:1451. (12 December.)

EDITOR.—Tony Delamothe's news item about cuts in elective surgery refers to examples in Southend and Basildon and Thurrock.¹ He suggests two main explanations for this situation. Firstly, he suggests that purchasing authorities may be holding money back. This is not the case in these examples as both district health authorities are overcommitted. Secondly, he suggests that sufficient money does not exist to meet the demand for services. The two authorities are a total of £14m under the weighted capitation target, and this therefore provides at least part of the answer. The health authorities have expressed concern that a gap of this size still exists and have little expectation of receiving all the extra money until well after 1995-6.

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- 1 Delamothe T. Hospitals cut elective surgery in attempt to stay solvent. *BMJ* 1992;305:1451.

American view of NHS reforms

EDITOR.—Having studied the NHS in the past and having personal experience in primary care, geriatrics, and administration in the United States, I was eager to see the effects of, and gather reactions to, the recent reforms in Britain. Last November I accompanied and interviewed physicians, nurses, social workers, therapists, and the public in five health districts.

What I found was that the time honoured ways in which the British provide primary care and care of elderly people, though they vary by individual, seem well organised and are of high quality, cost conscious, and far ahead of those in the US. The providers, however, were uncomfortable about erosions of these prior achievements by recent government initiatives.

There was agreement that the primary motivation for the new changes in the NHS and social services has been cost containment. American health care models are being introduced, particularly competitive models, case management, quality measurement, and data systems to monitor the changes. There was total agreement that such changes are detrimental, taking time away from patient care and adding costs for both management staff and data systems that they thought were not needed.

It is intriguing that the US was chosen as a model when its total health costs per person per year are nearly three times Britain's and rising more rapidly. Moreover, 87% of the American population wants major change in its "non-system." Certainly, the US has some interesting demonstration projects, now well publicised, but most of those have not yet been thoroughly studied or found generally applicable.

If most prior complaints about the NHS related to underfunding (for example, the wait for elective surgery, run down facilities, crowded surgeries, etc) it would have been more prudent to increase funding of direct services rather than spend as

much to change whole systems. On top of that is the cost of rebuilding what existed previously if the reforms prove a failure as costs escalate. If you are interested in total health costs the shift from public expense to private expense (including profits)—as in the US—is merely a subterfuge.

But most puzzling to me, given the apparently widespread opposition to—and outright anger about—the reforms, is the near lack of organised opposition to them. Is the famous "tight upper lip" interfering with what should be done? Perhaps what the British should copy from the US is not how to fragment and overbureaucratise a health system but the ways in which many of us have learnt to build movements opposing the government when it goes wrong.

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Antithrombotic treatment and atrial fibrillation

EDITOR.—Gordon D O Lowe's editorial¹ and Claes Gustafsson and colleagues' paper² on atrial fibrillation and antithrombotic treatment prompted us to examine our practice and consider the implications of treatment. This is particularly relevant in the light of the aims of *Health of the Nation*.³

We work in a training practice with a list of 13 250. From our computerised records we identified patients with a recorded diagnosis of atrial fibrillation and those who are currently receiving digoxin. We have reviewed the notes of the 76 patients with atrial fibrillation (0.57% of the practice population).

Fifty one of the patients were under 80, of whom 11 had either medical or social contraindications to use of anticoagulant treatment. Of the remaining 40 patients, seven were already receiving anticoagulant treatment. This left 33 patients, 31 of whom had not had a stroke. Nine of this group had coexisting heart failure or hypertension. With an annual rate of stroke of 5% we would expect a rate of stroke of 1.55 patients a year in this subgroup of 31 patients. A reduction of the rate with anticoagulation would reduce this to 0.52 cases a year. With a complication rate of 0.3% this would be increased to 0.61 cases a year. This is a reduction of almost one stroke a year in our practice. The Medical Research Council's trial in 1985 reported that to prevent one stroke 850 patients with mild to moderate hypertension of a similar age must be treated for one year.⁴

We conclude that practices setting up programmes for the primary prevention of stroke should identify patients with atrial fibrillation. Treating this small group of patients could produce a similar reduction in the number of strokes to that seen in treating a much larger group of patients with mild to moderate hypertension in the practice.

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- 1 Lowe GDO. Antithrombotic treatment and atrial fibrillation. *BMJ* 1992;305:1445-6. (12 December.)
- 2 Gustafsson C, Asplund K, Britton M, Norrving B, Olsson B, Marke L-A. Cost-effectiveness of primary stroke prevention in atrial fibrillation: Swedish national perspective. *BMJ* 1992; 305:1457-60. (12 December.)
- 3 Secretary of State for Health. *The health of the nation*. London: HMSO, 1991. (CM1523.)
- 4 Medical Research Council. MRC trial of treatment of mild hypertension: principal results. *BMJ* 1985;291:97-104.

EDITOR.—We recently looked at the current treatment of patients with atrial fibrillation in a large general practice and were therefore interested in Gordon D O Lowe's editorial.¹ Our findings reflect

the previous uncertainty about the benefits of anticoagulation: 18 of 50 patients were taking warfarin, but there were no great differences between the patients taking and not taking the drug. What are the implications for general practice of the new evidence of benefit?

Atrial fibrillation is common in general practice. Applying the prevalence found in the Framingham study² to Britain suggests that a practice with 10 000 patients of average age distribution has about 80 with atrial fibrillation. It would be helpful to have clearer guidance on the main question for general practitioners: which of these patients should be referred for cardiological assessment with a view to anticoagulant prophylaxis?

Should we follow Claes Gustafsson and colleagues' suggestion that patients aged 80 or over should be excluded because of their increased risk of cerebral haemorrhage when taking anti-coagulant drugs?³ There seems no point in referring patients with definite contraindications to anticoagulant drugs. Also, the late Professor J R A Mitchell questioned the point of offering lifelong prophylactic treatment with a degree of inconvenience and danger to people who are generally risk takers in other aspects of their lives (personal communication). It certainly seems important to explore patients' attitudes to such treatment when considering referral.

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- 1 Lowe GDO. Antithrombotic treatment and atrial fibrillation. *BMJ* 1992;305:1445-6. (12 December.)
- 2 Wolf PA, Abbott RD, Kannel WB. Atrial fibrillation as an independent risk factor for stroke: the Framingham study. *Stroke* 1991;22:983-8.
- 3 Gustafsson C, Asplund K, Britton M, Norrving B, Olsson B, Marke L-A. Cost effectiveness of primary stroke prevention in atrial fibrillation: Swedish national perspective. *BMJ* 1992; 305:1457-60. (12 December.)

White coat hyperglycaemia

EDITOR.—Lesley V Campbell and colleagues report on "white coat hyperglycaemia,"¹ but their study lacks the mainstay of modern management of diabetes—namely, the glycated haemoglobin concentration at the time of consultation. This is the best method of assessing glycaemic control, and a contemporary value must be available at the visit to the clinic.

My clinic asks patients to have a blood sample taken about 10 days before their consultation, usually at their general practitioner's surgery or at the hospital. The blood is then sent for analysis so that the result is available at the time of consultation. Up to date results are also available on a laptop computer at the clinic's reception desk so that any laboratory values measured the previous afternoon are available to the doctors. Thus for every patient at every visit the haemoglobin A_{1c} concentration is available and both the doctor and the patient know that the value will be discussed.

I take issue with the authors' assurance that falsification or optimisation of home blood glucose monitoring is rare. In my experience it is relatively common—done either on purpose or inadvertently—with patients producing a record of home tests, often alternating values of 4 and 7 mmol/l, which are grossly discrepant with their haemoglobin A_{1c} concentration. This sort of discrepancy suggests to me optimisation of the home results rather than white coat hyperglycaemia. I place little value on the blood glucose estimation at the clinic when records of home blood glucose monitoring and a recent haemoglobin A_{1c} concentration are available.

Campbell and colleagues' study also highlights the obvious points that you should carefully select

patients for home blood glucose monitoring and that any who do not seem capable or are uninterested should not be shown the technique. Obviously you should teach patients carefully and not allow them to start unless you are sure that they are able to do the procedure properly.

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1 Campbell LV, Ashwell SM, Borkman M, Chisholm DJ. White coat hyperglycaemia: disparity between diabetes clinic and home blood glucose concentrations. *BMJ* 1992;305:1194-6. (14 November.)

EDITOR.—We agree with Lesley V Campbell and colleagues about the disparity between clinic and home blood glucose measurements in diabetes.¹ We reviewed 27 children who have attended our clinic recently and who undertake home blood glucose monitoring (we consider control to be good if 70% of measured concentrations are < 10 mmol/l). We found that of the 15 patients with a fructosamine concentration in the range indicating good control (< 2.8 mmol/l), nine had a clinic blood glucose concentration > 10 mmol/l (four having concentrations > 15 mmol/l) and yet only two had evidence of less than good control in their home monitoring records. Of the 12 patients whose fructosamine concentration was in the range indicating fair control (2.8-3.4 mmol/l), 10 had a clinic blood glucose concentration > 10 mmol/l (eight having concentrations > 15 mmol/l) despite only seven having home monitoring records that indicated less than good control.

The authors point out that decisions can be difficult to make in the clinic if the glycated protein concentration at the time the patient is seen is not known. For the past two months such results have been provided for Southmead Hospital's children's diabetic service. The patients visit the clinical chemistry department for a fingerprick fructosamine test immediately before reporting to the outpatient department. By the time the patient has been weighed and measured the result has been telephoned over and is thus available when the patient is seen. The fructosamine concentration is measured in capillary serum samples with an in house nitroblue tetrazolium method standardised against deoxymorpholinofructose on a discrete analyser. This method is based on that described by Johnson *et al.*² For patients seen at the various peripheral outpatient clinics the diabetic liaison health visitor takes the necessary blood sample a week before the clinic appointment, the result therefore being available when the patient visits the clinic.

The availability of this service has led to more useful consultations and removed the need to write to both the patient and the general practitioner after each visit. As this system has only recently been introduced, however, further evaluation will be needed.

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1 Campbell LV, Ashwell SM, Borkman M, Chisholm DJ. White coat hyperglycaemia: disparity between diabetes clinic and home blood glucose concentrations. *BMJ* 1992;305:1194-6. (14 November.)

2 Johnson RN, Metcalf PA, Baker JR. Fructosamine: a new approach to the estimation of serum glycosyl protein. An index of diabetic control. *Clin Chem Acta* 1983;127:87-95.

EDITOR.—It is interesting that although Lesley V Campbell and colleagues performed their study on patients with non-insulin dependent diabetes mellitus, 21 of the 34 patients who had a disparity between their home and clinic blood glucose readings were in fact receiving insulin.¹ Such patients may have very little B cell function left and may therefore have random fluctuations in blood

glucose concentrations, as in insulin dependent diabetes mellitus.

If the 15 patients who had errors in their monitoring technique are excluded there are 19 remaining patients who had a disparity between their blood glucose concentrations, out of a total of 283 (6.7%)—that is marginally higher than can happen by chance (5%), but it could well be due to the stress of travelling and waiting in the clinic.

Finally, the technique used to estimate blood glucose concentration is important,² and some difference in results would be expected if a different technique was used by patients at home and in the clinic.

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1 Campbell LV, Ashwell SM, Borkman M, Chisholm DJ. White coat hyperglycaemia: disparity between diabetes clinic and home blood glucose concentrations. *BMJ* 1992;305:1194-6. (14 November.)

2 Marks V, Rose SC. *Hypoglycaemia*. Oxford: Blackwell Scientific, 1981:411-8.

AUTHOR'S REPLY.—Our paper dealt with a topic on which most diabetes specialists have strong feelings but few studies provide objective data. While it is possible, as H J Bodansky suggests, to double the patients' visits to hospital or their general practice, we prefer to avoid non-essential visits, knowing that patients' time (like ours) is precious. We now have an "immediate" fructosamine service, similar to that discussed by Carol Sullivan and colleagues. Our patients do not seem to regard the clinic measurement of blood glucose concentration as demeaning: one sample is used for measurement of both blood glucose and glycated protein concentrations. We have an appointment system preventing queues.

As (anecdotally) it seems that self monitoring of blood glucose concentration is more unreliable in Britain than we found in our falsification study² could this be due to poor instruction of patients; the self monitoring technique not being re-evaluated in elderly people; community or social resources not being used if the patient is incapable of testing; or patients' fear of doctors making falsification more likely?

We agree that the haemoglobin A_{1c} (or fructosamine) concentration is the only objective measurement, but it will reassure the doctor and patient only if the diabetes is well controlled. If the diabetes is not well controlled how do they adjust treatment with reasonable safety without data from self monitoring?

J S Gujral and colleagues suggest that patients' blood glucose concentrations may fluctuate randomly and that the discrepancies may be largely due to chance. As stated in our paper, however, subjects were selected only if they had a large discrepancy between readings at at least two consecutive clinic visits (which would occur by chance only 0.25% of the time at most). We also stated, as they do, that the cause of discrepancy in those without errors of technique could be the stress of the visit but point out that further investigation is required.

In reply to Gujral and colleagues' final point, when errors of technique have been eliminated only a small discrepancy can be attributed to differences in the method of testing. Clearly, a discrepancy of at least 5 mmol/l quoted in our paper could not be predominantly due to differences in the methods used by the patients and clinic.

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1 Campbell LV, Reinhardt J, Ashwell S, McLay J. Verification of blood glucose recording during outpatient stabilisation of diabetes. *Diabetes* 1991;40:140.

Nurse triage

EDITOR.—Tom Keighley and Jan Maycock favour nurse triage to address the patient's charter's standard on immediate assessment of patients attending accident and emergency departments.¹ However, they fail to distinguish research from anecdote, and they have misquoted or misunderstood several of the papers that they cite as evidence. Of the 11 references quoted, one is the patient's charter, one our own study of nurse triage,² criticisms of which we have answered,³ and a third an observational before and after study⁴ that was flawed methodologically.⁵ The others are anecdotes.

Keighley and Maycock quote Nuttall as saying "that a system of nurse triage can significantly reduce waiting times when performed effectively."⁶ Nuttall, however, provides only a description of the triage process at one hospital in Australia and does not examine the effect of triage on waiting times. [See correction, p 160.]

They quote Slater as showing that the provision of separate triage nurses for ambulant and seriously ill patients "halves the waiting times for acutely ill patients."⁷ Again, this paper is anecdotal, and the only relevant passage reads: "We have not done studies to show whether patients' average time in clinic is shorter than it was before the change, but the staff believe that it is."

They go on to quote Shields's suggestion that ambulant patients should be seen in a separate area from acutely ill patients and her conclusion that this halved treatment delays.⁸ They do not mention that the shortening of delay benefited the least urgent patients, who were awarded a treatment area and a physician to themselves, and who in Britain would likely have been seen by a general practitioner. In particular, they do not quote Shields's statement that "Unfortunately, there was little or no time change for the care of categories I and II (more urgent) patients."

What is the objective of nurse triage? Is it to ensure that those in most urgent need of care receive it first, or is it to act as a public relations exercise for those patients who could do without attending the accident and emergency department at all? If the former, patients with minor symptoms would wait longest; if the latter, they would be awarded priority. In Shields's study the provision of a separate primary care doctor satisfied the latter objective but did nothing for the former.

Of these papers, we would claim that ours alone meets the criteria of being well structured, valid, and reliable. Our results do not support Keighley and Maycock's conclusions.

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1 Keighley T, Maycock J. The patient's charter and the triage nurse. *BMJ* 1992;305:1310. (28 November.)

2 George SL, Read S, Westlake L, Williams BT, Fraser-Moodie A, Pritty P. Evaluation of nurse triage in a British accident and emergency department. *BMJ* 1992;304:876-8.

3 George SL, Westlake L, Read S, Williams BT, Fraser-Moodie A, Pritty P. Nurse triage in accident and emergency departments. *BMJ* 1992;304:1379.

4 Mallett J, Woolwich C. Triage in accident and emergency departments. *J Adv Nursing* 1990;15:1443-51.

5 George SL, Westlake L, Read S, Williams BT. Janforum: feedback—debate about triage in accident and emergency departments (critique). *J Adv Nursing* 1991;16:1391.

6 Nuttall M. The chaos controller. *Nursing Times* 1982;20:656-8.

7 Slater R. Triage nurses in the emergency department. *Am J Nursing* 1970;70:127-9.

8 Shields JE. Making triage work—the experience of an urban emergency department. *J Emerg Nursing* 1976;2:37-41.

EDITOR.—Tom Keighley and Jan Maycock's editorial shows the confusion that surrounds the