option—indeed, Griffiths and Baboonian state that their results "argue strongly against any therapeutic benefit of advising termination of pregnancy in women with primary CMV infection early in pregnancy," yet the problem remains. If generally less damaging, congenital cytomegalovirus infection is twice as common as congenital rubella, and the infected children who develop sequelae represent a considerable toll of individual and family distress.

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**Diabetes care: Whose responsibility?**

Hospital diabetic clinics developed from the need for supervision of insulin treatment in the mid-1920s. Inevitably they also recruited large numbers of non-insulin-requiring patients, and the problem has been compounded by increases in life expectancy. As clinics have enlarged without concomitant expansion of facilities or specialist staff they have become overcrowded and, by many indices of performance, unsuccessful. Specialists in diabetes have therefore begun to examine their role, and that of others—in particular, specialist nurses and general practitioners—in arranging for the efficient care of a group of patients who make up 2% of the population.

To add to the logistic difficulties the diabetic clinic is faced with new treatments and an expansion in the knowledge that allows their effective use. Research has restored the emphasis on effective metabolic control to reduce long term complications, so that more refined methods of insulin delivery, and more educational support for patients to monitor their treatment, have become increasingly important. Meanwhile, effective treatment for diabetic retinopathy and renal failure, together with the success of peripheral and coronary arterial surgery, have made regular clinical review a worthwhile if time consuming process. In older patients education may abolish the need for amputation for neuropathic ulceration of the foot.

Though some of these activities require the knowledge of and resources available to the hospital specialist, many do not, particularly if general practitioners have access to blood glucose monitoring equipment, community dietetic and chiropody services with an interest in diabetes, and nurse based educational services. The impact of such a service does of course depend on general practitioners recognising the importance of these services to their diabetic patients—for example, in the effective prevention of diabetic retinopathy, which is the commonest cause of blindness in middle age.

The need to reappraise the role of the diabetic clinic was recognised over a decade ago, when it was also appreciated that only half of patients attended a hospital clinic anyway. The other half have generally not been followed up systematically by anyone, including their general practitioner. It seems clear from the randomised study from Cardiff (p 728) that this was commonly the fate of patients who were simply discharged to their local practitioners with a letter of guidance. Even if only those patients with poor insight into the importance of continuing preventive care allowed themselves to be selected for this study, the standard of follow up and consequent health problems are unacceptable.

In Sheffield general practitioners were better prepared, but 42% of patients had not had yearly follow up at three years, and 44% had not been seen at all. Nevertheless, 70% of patients were pleased with the arrangement, though we may speculate that with more insight they might have felt less complacent. The Hotel Dieu (Paris) study showed that, in insulin treated patients at least, better metabolic control achieved at the hospital clinic may be associated with increased wellbeing and a more normal social life.

Two other approaches to community care for diabetic patients in the United Kingdom (there are similar schemes in Sweden and on the Danish island of Funen) have been more successful than the Cardiff experience from a clinical and audit standpoint. Thorn and his general practitioner colleagues now report on their experience of practice based miniclinics over 10 years (p 726). The system includes access to specially trained nurses, dietitians, and laboratory services which include an assay for glycosylated haemoglobin. Sadly, restrictions on prescribing are such that blood glucose monitoring equipment has to be provided from charitable funds. Blood glucose control seems little different from that achieved at the hospital (although the patient groups are not strictly comparable), and systematic screening for the complications of diabetes shows encouraging signs of increasing organisation. Nevertheless, it seems paradoxical to recommend moving to a system of independent management by general practitioners when the more enlightened hospital clinics are beginning to use microcomputers to enforce systematised care. Nor is it entirely satisfactory to have visual acuity checked biennially, fundoscopy performed without mydriatics, and only half the patients having estimation of glycosylated haemoglobin concentration in over two years.

In a similar scheme, reported by Baksis from the Isle of Wight, the clinics are run by clinical assistants. A satisfactory audit of this system, however, has not yet been carried out, blood glucose concentrations having only been assessed in the year of referral to the clinic.

In Poole care is shared between general and hospital practice. Computer records ensure that minimal sur-
Costs of teaching hospitals

Teaching hospitals cost more per patient day and per case than non-teaching hospitals, not only in Britain but throughout the world. Why do they cost more, and does the extra expenditure represent value for money?

These are reasonable questions, but we lack convincing answers. The 1976 report of the Resource Allocation Working Party (whose recommendations have ever since exerted a substantial, gradually tightening grip on the financial windpipes of the English teaching hospitals through their district budgets) merely noted that such a cost differential existed and that there was a wide range in the size of “excess” costs among the teaching centres.1 Those figures showed an average “excess” for the teaching hospitals of 30% at that time, with a range (at 1975 prices) from a low of £3300 per student (Newcastle) to a high of £19 100 per student (the Westminster). The working party decided to protect three quarters of the average excess—while having the grace to recognise that research was needed to justify this (or indeed any other) figure.

One of the problems is the old chestnut of the indivisibility of teaching, research, and service in all large medical centres. My hunch, for what it is worth, is that the higher costs of teaching centres may have less to do with teaching than is generally supposed. Granted that preclinical teaching is separately funded (and is not appreciably subsidised by the NHS) and that clinical teaching is essentially through apprenticeship, from what clinical teaching activity should large additional costs stem? If someone were to argue that, for example, clinical students initiate substantial additional diagnostic procedures, the obvious question would be whether this is actually sensible. Should not doctors begin to learn elegant parsimony while they are students?

Research represents a different conundrum. It is at least as necessary to health services as to the universities, but is it a large hidden element in the service budgets of the teaching centres? If so, the Medical Research Council, the research charities, and the endowment funds see little evidence of that fact in the applications presented to them. Moreover, if such an element does exist, should it not be extended to other NHS budgets? The spirit of inquiry deserves to be encouraged throughout the NHS, not only in the teaching districts.

There remains what is probably the crucial issue of treatment costs that are higher than average in these centres, and whether these costs are justified. Early, somewhat crude ventures in econometric analysis suggested (after adjusting for case mix) a U shaped distribution of treatment costs relative to hospital size: up to about 600 beds costs per case declined and thereafter they began to increase again.2 Some costs may indeed behave in this fashion, reflecting initial economies of scale and then diseconomies, but it is hard to disentangle the independent importance of case complexity of case, let alone to say what level of costs represents the best value for money. For there is now a fair amount of evidence to support the common sense hypothesis that volume matters, at least in some branches of medicine and surgery. Some medical centres achieve better clinical results than others, after adjusting for case mix.3 If practice does not necessarily make perfect, it surely seems to make for less imperfection.

These matters have suddenly become topical in the United States, because of its government’s adoption of prospective reimbursement for Medicare. The chosen method recognises 467 diagnosis related groups and sets a normative fee for cases in each group. The problem for the teaching hospitals is that their costs exceed the norms, even after adjusting for case mix. A thought provoking article has recently appeared in the New England Journal of Medicine seeking to shed new light on this familiar problem.4 The investigators examined roughly 1000 admissions each to the faculty and community services of Stanford University Hospital. The faculty service is essentially a conventional teaching hospital programme, while the community service is not, being supervised by community physicians in private