disease depend on distribution of staff trained in diagnosis and identification and persistent accuracy of observation, *not* on the prevalence or elaboration of computers.³ Until family health services are better organised and distributed "social class, occupation, life, and death" will not provide basic information or policies.

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¹ Williams, C D, *Journal of Malaya Branch of BMA*, 1938, 2, 113.

² Paul, F M, *Newsletter, Singapore General Hospital*, vol 14, April-May 1978, p 6.

³ Williams, C D, and Jelliffe, D B, *Mother and Child Health: Delivering the Services*, pp 27 and 57. London, Oxford University Press, 1972.

Once- versus twice-daily insulin for diabetic children

SIR,—The essential conclusions expressed in your leading article "Diabetic complications in childhood" (15 April, p 941) should be strongly supported. Good metabolic control should be the objective of all physicians looking after diabetic children in attempting to prevent or slow the progression of diabetic complications.¹ However, you state that "twice-daily insulin injections are needed (at least from puberty)" in order to achieve good control. We feel that this generalisation is unjustified and based largely on clinical impressions.

We have recently studied the metabolic control in a group of diabetic children on once- and twice-daily insulin regimens. Fifteen children (seven boys and eight girls) were included. All but two, both boys, were pubertal, with a mean age of 13.6 (range 9.2-15.5) years and a mean duration of diabetes of 4.3 (range 0.7-10.9) years. The once-daily regimen used was a mixture of Monotard (Novo) and Actrapid (Novo) given in the morning and the twice-daily regimen used was a mixture of Semitard (Novo) and Actrapid (Novo) given morning and evening. Metabolic profiles were used in hospital to measure diabetic control. Each child was studied twice, once on each regimen in random order. Each regimen was treated similarly by optimising "control" at home before each hospital study. This was achieved by frequent Clinitest urine estimations (2-drop method), a 24-h fractional urinary glucose collection,² and a series of preprandial plasma glucose estimations. The results will be published in full elsewhere.

The mean 24-h diabetic control in terms of blood glucose was similar on the two regimens, with no significant differences when assessed by the four methods shown in the table. There were differences in mean blood glucose levels on the two regimens at specific times of the day which reflected the nature of the insulins used.

This study demonstrates that when the current highly purified insulins are used in adolescent children careful manipulation may allow similar diabetic control to be achieved

on these two particular regimens, representing examples of once- and twice-daily insulin therapy. We found no evidence for the blanket statement that twice-daily injections provide better control. It might be argued that better control could have been achieved on alternative twice-daily insulin regimens. While this may be the case (and we are currently extending our studies to include alternative twice-daily regimens), this further illustrates the necessity of specifying exactly the regimen under discussion and avoiding generalisations. Furthermore, by many standards the degree of control achieved in these adolescent children was relatively good on both regimens.

We believe that the insulin regimen must be specifically prescribed for each individual patient, every effort being made to measure the degree of control achieved. It may be that injected insulin given once or twice daily is so unphysiological that ideal control is impossible in both cases unless the patients themselves are producing endogenous insulin, which is frequently the case in the first few years after the diagnosis of clinical diabetes.

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¹ Cahill, G F, Etzwiler, D D, and Freinkel, N, *New England Journal of Medicine*, 1976, 794, 1004.

² Forman, B H, Goldstein, P S, and Genel, M, *Pediatrics*, 1974, 53, 257.

³ Schlichtkrull, J, Munk, O, and Jersild, M, *Acta Medica Scandinavica*, 1965, 95, 177.

Developmental surveillance in general practice

SIR,—The paper by Dr G H Curtis Jenkins and others (10 June, p 1537) describes the work load generated by a developmental surveillance programme in general practice. Their claim that the "results show that paediatric surveillance is worth the effort" is untenable for the following reasons.

Firstly, comparison with a control group is mandatory for evaluation of any programme. Ideally, children should have been randomly allocated into surveillance and non-surveillance groups. Had there been no surveillance programme many of the suspected disorders might have been detected, without harm, at consultation for other problems or by the mother bringing the child with the suspected abnormality to a routine surgery.

Secondly, any assessment of the value of a programme must depend on the result of outcomes and not just process (such as numbers of specialist referrals). The outcomes must be shown to be beneficial to the child or parents and to have resulted from the intervention of the surveillance programme. For example, there is little to be gained by the detection of "obesity" if the child does not lose weight.

Thirdly, normality has not been defined. The sensitivity and specificity of the screening programme were not evaluated. In particular, we have no idea how many children were classified as "normal" but were later found to have some abnormality. Such measures of validity are necessary to evaluate any screening programme.

Fourthly, the diagnoses of the suspected disorders have not been tested for repeat-

ability. Detection has depended on subjective assessment by individual doctors. A similar survey in other practices may produce very different results and referral patterns. Therefore any conclusions about the resources required if such surveillance programmes were started on a national scale are tenuous.

Fifthly, the majority of referrals were for speech, vision, and hearing problems. Such abnormalities may be detected as easily by the health visitor during her routine work and home visits as by the general practitioner in the developmental surveillance programme.

Finally, there is no assessment of the disadvantages of this programme, such as anxiety created in the mothers, unnecessary investigation of children, and any deleterious effects on other work in the practice. The costs and manpower involved in running such a programme are considerable.

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SIR,—Dr G H Curtis Jenkins and his colleagues (10 June, p 1537) claim to validate the use of developmental surveillance in general practice with the high pick-up rate of suspected abnormalities at their clinics. However, they do not state how many of their abnormalities were occult—that is, not suspected by parents or health visitors before the clinic. For example, how many of the cases of strabismus would have had someone suspecting abnormality which without the facility of a well-baby clinic would present at a normal surgery.

It is only a high pick-up rate of occult abnormalities which would validate developmental surveillance, for otherwise a well-baby clinic in general practice will be just a clearing house for dealing with abnormalities and as a very useful forum for the development of doctor/parent and child relationships.

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If I had . . .

SIR,—Professor Bryan Jennett writes cogently (17 June, p 1601) of what he would do if his son had a trivial head injury with brief loss of consciousness: clinical assessment, good skull radiographs, and observation at home. But it is *his* son who is going home to that particular father, who is prepared to accept the responsibility which in "normal" practice has to fall upon a far less experienced casualty officer. He comments that skull fractures are present in 90% of patients with extradural and 75% with intradural haematomas, but the remaining 10% and 25% present a clinical and medicolegal hazard which is hard for the ordinary doctor to bear and very difficult to defend in court when a normal skull radiograph provided the grounds for not admitting the patient for observation. Furthermore, this advice invites the casualty officer to use the skull radiograph in relatively trivial cases rather than the clinical presentation as the indication for admission.

Whether it is wise to rely upon a relative or a friend to observe and report the development of untoward symptoms is doubtful, and the responsibility for judging the trustworthi-

Control of diabetes on once- and twice-daily insulin regimens in 15 children (mean values)

	Single injection	Two injections
24-h mean blood glucose (mmol/l) . .	8.2	8.2
Area under blood glucose curve (mmol/l h)	182.9	169.7
M value ^a	57.8	69.7
Urinary glucose excretion (mmol/24 h)	67	67

Conversion: SI to traditional units—Blood glucose: 1 mmol/l $\approx$ 18 mg/100 ml. Area under blood glucose curve: 1 mmol/l h $\approx$ 0.18 g/l h. Urinary glucose excretion: 1 mmol/24 h $\approx$ 0.18 g/24 h.

ness of such observers would devolve upon the casualty surgeon. If his judgment proved faulty and disaster followed the casualty surgeon could well be considered to have failed to provide reasonable care.

Professor Jennett is writing of his son, but sadly the parents of our patients are rarely of such calibre, and for that the harassed casualty officer tries to provide a safe substitute.

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Blood-pressure control round the clock

SIR,—We are very aware of difficulties in adequately reviewing the extensive literature when writing about the treatment of hypertension. We are still surprised that Dr T Reybrouck and his colleagues (27 May, p 1386), in their interesting report of a carefully designed study on metoprolol, failed to quote our work when commenting on the 24-h control of blood pressure with atenolol therapy. They refer to the study of Douglas-Jones and Cruickshank,¹ which drew attention to the effectiveness of once-daily therapy with atenolol. This report elicited letters from Besterman² and from Kendall and Yates³ in which preliminary results with metoprolol were reported. Some doubts were raised about whether the data provided by Douglas-Jones and Cruickshank were adequate evidence that atenolol was satisfactory on a once-daily basis since they had relied on daily blood pressure measurements and had not examined the effect of exercise. We replied⁴ reporting a study, designed in collaboration with Dr Cruickshank, in which hourly blood-pressure readings over the 24 hours after atenolol therapy were recorded. We demonstrated that control was achieved in blood pressure, both before and after exercise, throughout the whole 24 hours, including the period after waking, which has been receiving increasing interest, but was not mentioned by Dr Reybrouck and his colleagues. This study answered in 1976 the criticism of the Douglas-Jones and Cruickshank paper which they now make.

We also drew attention to the difference in blood pressure control achieved on the first day of therapy compared with the better control on the 28th day, despite there being no difference in atenolol concentrations.⁵ This failure of the plasma atenolol levels to correlate with the duration or extent of control was reported in several verbal communications during 1976 and 1977. Our paper reporting this was not accepted, owing to lack of space, by several journals and its appearance in the literature was delayed.⁵

Studies of 24-h recordings of blood pressure in patients with essential and accelerated hypertension were first reported by one of us in 1961.^{6,7} These were followed by studies of 24-h recordings of blood pressure in patients on treatment with the hypotensive drugs then in use, a subject that editors at that time failed to find of interest and the paper lies unpublished.

We are pleased to note the increasing interest in this topic and, while appreciating the difficulties of editors, hope that they will be more sympathetic to articles reporting studies in which observations are made around the whole 24-h period. Indications are that editors

are now more aware of the potential importance of biological rhythmicity to therapeutics and that drug action may be significantly different depending upon the time of day treatment is given (27 May, p 1376). Comparative studies must take this possibility into consideration as well as being careful not to draw final conclusions if a variable has only been measured at one time in the 24 hours or only during the daytime; the experimental design of Dr Reybrouck and his colleagues does not allow all these questions to be answered for metoprolol, and further information will be awaited with interest.

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¹ Douglas-Jones, A P, and Cruickshank, J M, *British Medical Journal*, 1976, **1**, 990.

² Besterman, E, *British Medical Journal*, 1976, **1**, 1403.

³ Kendall, M J, and Yates, R A, *British Medical Journal*, 1976, **1**, 1404.

⁴ Woolfson, A M J, and Knapp, M S, *British Medical Journal*, 1976, **2**, 235.

⁵ Woolfson, A M J, and Knapp, M S, *Proceedings of the Royal Society of Medicine*, 1977, **70**, suppl 5, p 36.

⁶ Shaw, D B, Knapp, M S, and Davies, D H, *Demonstration to British Cardiac Society*, 1961.

⁷ Shaw, D B, Knapp, M S, and Davies, D H, *Lancet*, 1963, **2**, 797.

Frequency and dysuria in women

SIR,—The article by Professor A W Asscher (10 June, p 1531) on the management of the frequency and dysuria syndrome makes profitable reading, but it is not really tailored to the needs of the general practitioner. This syndrome, however, is primarily a community problem. Only 10% of women with symptoms bother to consult their doctor.¹ Less than 10% of patients seen by the general practitioner are referred to hospital specialists.²

Professor Asscher recommends a management approach involving a careful history, physical examination (including a pelvic examination), a precise bacteriological diagnosis, and a high vaginal swab to determine the vaginal flora and to exclude gonorrhoea. In this way precipitating factors can be identified and the precise problem can be defined in order to produce an individual management plan. Other hospital specialists have gone further, some even recommending routine suprapubic aspiration of urine.

We know that there are hazards in basing the prognosis of a disease on a biased population. For example, Professor Asscher points out that there is no evidence that repeated attacks of the syndrome in women lead to kidney failure. General practitioners have always felt intuitively that this was the case, yet only 10 years ago and in this journal we were led to believe otherwise.³ Even the aetiology of the syndrome can vary between hospital and general practice; one need only look at organisms isolated from hospital patients and general practice patients and consider the relative importance of *Escherichia coli*. Is it not equally likely that there are hazards in basing diagnostic and management norms on a hospital population?

I am sure that Professor Asscher's approach is ideal for women who arrive at his clinics, who will tend to have a frequently recurring or atypical problem. It will not be followed by most general practitioners and we should

not automatically assume that they are wrong. How should we behave when faced with this syndrome? Women with frequent attacks form only a small proportion of those seen in our surgeries. Twenty-nine women presenting with their first attack eight years previously were recently followed up in this practice. Half of them had not experienced any further symptoms at all; most of the remainder had had only two or three attacks.

Our patients can conveniently be divided into three categories for management purposes: women with infrequent attacks and few constitutional symptoms (the great majority), women with frequent attacks and few constitutional symptoms, and women with symptoms suggesting acute pyelonephritis. It would seem illogical to treat them all the same way.

There are problems in applying the Kass criterion to women with acute dysuria and frequency if one wishes to conclude that those without significant bacteriuria do not have a bacterial aetiology and do not require antibiotics.⁴⁻⁵ Many women with mild attacks get better on increased fluids and analgesics even in the presence of significant bacteriuria. If lower urinary tract symptoms are marked most clinicians would not want to wait for the result of bacteriological examination of the urine anyway. Little harm is done by prescribing a three-day course of, say, amoxicillin. If symptoms suggest acute pyelonephritis longer treatment is required and if attacks are frequent Professor Asscher's management plan will define the natural history more accurately. Rather than go to inordinate lengths to avoid a possibly unnecessary three-day course of a cheap and hardly dangerous antibiotic it might be better to encourage general practitioners to concentrate upon this latter group because they have distressing symptoms, and of course on children, in whom the disease is of particular significance.

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¹ Waters, W E, *British Journal of Preventive and Social Medicine*, 1969, **23**, 263.

² Office of Population Censuses and Surveys, *Morbidity Statistics from General Practice, Second National Study 1970-71*. London, HMSO, 1974.

³ *British Medical Journal*, 1968, **3**, 600.

⁴ Brooks, D, and Maudar, J A, *Lancet*, 1972, **2**, 893.

⁵ Tapsall, W, *et al*, *Lancet*, 1975, **2**, 537.

SIR,—Professor A W Asscher's article entitled "Use of antibiotics: management of frequency and dysuria" (10 June, p 1531) is not confined to the role of this particular aspect of treatment in women with this symptom complex.

While re-emphasising the important distinction from a therapeutic point of view between those who have bacteriuria at the time of symptoms and those who do not, he fails to mention the postmenopausal oestrogen-deficient woman. Failure to recognise and treat the underlying problem in this large group of patients leads to much misery and considerable misuse of antibiotic therapy.

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SIR,—Professor A W Asscher (10 June, p 1531) advises that a high vaginal swab should be taken and put into Stuart's medium in order to exclude gonorrhoea as a cause of frequency