

provided. All hospitals provide beds for those placed on part 2 (civil) orders on the day the order is made. It is illogical that, unless approached by a scheme such as ours, they do not routinely do the same for those placed on part 3 (court) orders.

The fourfold increase in the number of hospital orders made by the courts in this study after the scheme began is difficult to attribute to factors other than the presence of the psychiatric liaison service and its influence on referral patterns. The change was immediate and sustained, and there was no increase in the use of hospital orders by inner London magistrates' courts as a whole over the period in question.¹⁰ An increase occurred in all types of offences, suggesting a higher detection rate of cases suitable for hospital disposal. The greater increase in orders for those charged with offences not involving violence supports the hypothesis that readier access to psychiatrists at Clerkenwell encouraged the referral of some mentally disordered people who might previously have not been referred as their outward behaviour was not severely disturbed.

The scheme received no funding and functioned within existing service provision. A modest grant for secretarial and administrative support would have been useful. The only cost of the scheme to the court was the standard expert witness fee that the psychiatrists could (if they choose to) claim for each patient on whom they gave evidence. Assessment at remand prisons commands a similar fee.

The cost of keeping a person in Brixton Prison at the beginning of the liaison scheme was £442 a week.¹¹ Given the substantial reduction in remand lengths achieved by the liaison scheme substantial savings in remand costs are possible, but it would be necessary to enable the closure of an entire remand wing before a direct equation could be made. The inter-relation of costs between prison and health care is difficult to calculate. For those not admitted to hospital after assessment—usually the majority¹—the probability of overall savings is greater, at least for those not receiving custodial sentences. But for all those swiftly removed into hospital under the liaison scheme costs are in effect transferred from prison to hospital budgets.¹² It

is arguable that early hospital admission may reduce the length of costly hospital stay and also improve long term prognosis.

Further research is needed to establish whether liaison schemes have any effect on long term outcome, both in terms of readmission and reoffending. The Home Office circular on provision for mentally disordered offenders states in the section on magistrates' courts that "a mentally disordered person should never be remanded to prison simply to receive medical treatment or assessment." The establishment of more psychiatric liaison schemes to magistrates' courts, particularly in inner city areas, presents an effective way of bringing this ideal closer.

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Outcome of brittle diabetes

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A brittle diabetic patient is one whose life is constantly disrupted by episodes of hyperglycaemia or hypoglycaemia of any cause.¹ The condition occurs in a minority of insulin dependent patients and usually results in repeated admission to hospital. An important type of brittle diabetes is characterised by recurrent attacks of ketoacidosis in young female patients. The clinical characteristics in these patients are remarkably stereotyped and they thus provide a useful model to study the long term outcome of brittle diabetes. We have followed up 20 such diabetic patients for a mean of eight years.

Patients, methods, and results

Between August 1979 and September 1985, 20 young females with C peptide negative, insulin dependent diabetes were referred to the Freeman Hospital, Newcastle upon Tyne, because of severely

life disrupting recurrent ketoacidosis. Their mean age was 18.8 (SD 4.1) years and mean duration of diabetes was 7.7 (4.2) years. We sought follow up information on these women between March and November 1989, a mean of 8.2 (1.4) years (range 5.0-10.0 years) after initial assessment. Each patient's consultant was contacted and asked for current clinical details (type and dose of insulin received, body weight, recent glycated haemoglobin concentration, frequency of hospital admission in the past 12 months, and diabetic complications). The consultants were asked to state whether the patient was still considered brittle, using the definition above. We analysed the results using Student's *t* test and the χ^2 test with Yates's correction.

Two patients died during follow up: one of ketoacidosis and one during an operation to implant a peritoneal insulin infusion cannula. The table summarises the results for the remaining patients. Though glycaemic control remained poor at follow up, the doses of insulin and rates of admission to hospital were considerably reduced. Consultants thought that 10 (56%) patients were no longer brittle and that four (22%) had improved. The brittleness in two patients was unchanged and in two others it had become more problematic: both had required implantation of insulin pumps and one had had a

Initial and follow up data on 20 young females with ketoacidotic brittle diabetes. Values are mean (SD) unless stated otherwise

	Initial assessment (1979-85)	Follow up assessment (1989)*	p Value
No of subjects	20	18	
Age (years)	18.8 (4.1)	26.6 (4.4)	
Duration of diabetes (years)	7.7 (4.2)	15.7 (4.4)	
Weight (kg)	64.4 (9.7)	65.6 (8.3)	NS
Insulin dose (units/day)	145 (46)	69 (18)	<0.005
No injecting insulin:			
Subcutaneously	14	16	
Intramuscularly	4	2	
Intravenously	2		
Glycated haemoglobin (%)	14.1 (3.4)	13.5 (4.2)	NS
No of hospital admissions in past year	14.5 (10.2)	1.9 (2.9)	<0.001
No (%) with complications	0 (0)	6 (33)	<0.02

*Follow up was for a mean of 8.2 years.

pancreatic segmental transplant, which had failed. The clinical characteristics of the patients provided no explanation for their resistant instability.

Comment

Little is known of the natural course of brittle diabetes. In a three to six year follow up of 13 patients, most of whom were young females with recurrent ketoacidosis, one patient died of hypoglycaemia and the rest generally improved.² Admissions to hospital were reduced, but 11 of the 12 survivors were still considered brittle at follow up. Tattersall *et al* reported that brittleness had resolved in five of 11 patients with ketoacidotic brittleness at 12 years' follow up; one patient had died and one was lost to follow up.³

Combining our results with those of the above studies gives a total of 43 patients, four (10%) of whom died. Though this mortality seems high for predominantly young patients, data from the Pittsburgh study

suggest that about a 95% survival would be expected in patients who have had diabetes for 15 years.⁴ Our rate of complications of 33% compares favourably with that found by Pirart, who reported retinopathy in 45% of patients with diabetes of 16 years' duration.⁵ The complications and mortality associated with brittle diabetes are thus not excessive compared with those in other diabetic patients.

Although a "hard core" of patients may continue to present serious problems, there seems to be a strong tendency for brittle diabetes to improve or resolve, with insulin doses and hospital admissions falling during follow up. Though we have no hard data, resolution in at least some cases seems to coincide with positive life events such as marriage, pregnancy, or forming a stable relationship. The difficulties of controlling diabetes in adolescence are well known, and brittle diabetes may represent an extreme response to psychosocial disruption or teenage rebellion, or both.

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Reuse of disposable plastic insulin syringes

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When disposable plastic insulin syringes became available on prescription in September 1987 the Department of Health and Social Security insisted that they should be used once only. This was despite the advice of the British Diabetic Association¹ and the evidence of studies which showed reuse to be safe.^{2,4} In November 1987 we performed a survey of the use of disposable syringes in our diabetic clinic.⁵ The present study was to see whether the frequency of reuse of disposable plastic insulin syringes had changed over the subsequent three years.

Patients, methods, and results

Patients were questioned again in August 1990 by means of an identical postal questionnaire. In the intervening three years no further advice about the reuse of syringes had been given to the patients. Statistical analysis was by Wilcoxon's signed rank test and Student's *t* test for paired data.

Of the 103 patients who had completed the survey in 1987, nine had died and eight had moved out of the area. The questionnaire was distributed to the remaining 86 patients and was completed and returned by 65 (76%). The mean number of injections that each syringe was used for had increased significantly from

5.6 (SEM 0.5) to 7.1 (0.7) (table). There was no change in the treatment regimen, and the prescription size was similar. The mean duration of use of each syringe had increased significantly from 3.2 (0.3) days to 4.3 (0.6) days, and the length of time served by each prescription had increased significantly from 170 (26) to 231 (38) days. Patients were asked if they used each syringe more often, less often, or the same number of times as in 1987. Sixteen patients (25%) had not changed the number of injections per syringe, 29 patients (45%) had increased the number of injections per syringe, and 20 patients (31%) were using the syringe for fewer injections. Twenty three of the 29 patients who had increased the reuse of syringes believed that their use was unchanged.

Comment

When plastic syringes became available on prescription the DHSS did not accept the advice of the British

Use, reuse, and prescription of disposable plastic syringes. Values are means (SEM) [range]

	1987	1990	Significance
No of injections/ syringe	5.6 (0.5) [1-14]	7.1 (0.7) [1-30]	p<0.05
No of injections daily	1.8 (0.1) [1-2]	1.8 (0.1) [1-2]	NS
No of syringes prescribed	55 (5) [10-200]	58 (5) [10-200]	NS
No of days' use of each syringe	3.2 (0.3) [0.5-8]	4.3 (0.6) [0.5-30]	p<0.05
No of days' use of each prescription	170 (26) [10-1400]	231 (38) [10-1600]	p<0.05

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