Practical benefits achieved by a district diabetic prescribing policy

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The large number of new medicines introduced each year makes it difficult to choose between them and may result in inappropriate prescribing. This has important consequences on patient care and on financial resources. The recent National Health Service review highlights the importance for districts of introducing a policy for prescribing which enables doctors working in hospitals and in primary care to develop a uniform approach to the treatment of common diseases such as hypertension, arthritis, peptic ulceration and diabetes mellitus. In Newham, diabetes has been taken as the forerunner to the introduction of a prescribing policy for the district.

The treatment of diabetics has advanced almost beyond recognition during the past 20 years, but not towards uniformity. The variety of treatment regimens may lead to confusion among not only diabetics but also nursing staff and doctors. There are 35 insulin preparations and 22 different brands of oral hypoglycaemic agents listed in the current British National Formulary, and numerous urine and blood glucose measuring reagents are now available. The purpose of this paper is to outline the practical and financial benefits which may be achieved by rationalising prescribing for the management of diabetes.

The population of Newham is 210,000, with a sizeable immigration of people from the Indian subcontinent, East Africa and the Caribbean. The borough is served by two hospitals: St Andrew’s, Bow, and Newham General Hospital, Plaistow. Approximately 800 diabetics attend the diabetic clinic at St Andrew’s and 1,900 diabetics are registered on the microcomputer at Newham General, 700 of whom attend general practitioner surgeries as part of an integrated system of shared diabetic care. This co-operative system of diabetic care, which involves a consultant diabetologist working alongside general practitioners in diabetic mini-clinics, offered the opportunity to rationalise prescribing for diabetics.

Diabetes prescribing policy

A prescribing policy for diabetes was discussed by the Newham Medicines Committee and advisory guidelines were circulated amongst consultant and junior hospital medical staff. After a ‘run in’ period of several months, during which the guidelines were merely influential, the policy was officially adopted within the two district hospitals from 1 January 1986. The decision to simplify diabetic prescribing coincided with the publication of a district formulary and the guidelines were included in this. The formulary was circulated to hospital staff, general practitioners and other health workers in the community, and the policy was discussed at community meetings for GPs and at hospital meetings for junior medical staff.

Insulins. It was suggested that clinicians limit their choice of insulin preparations to 5 semi-synthetic human insulins (e.m.p.) produced by one manufacturer (short, intermediate and long acting and a premixed preparation).

Oral hypoglycaemic agents. The policy advised that only one of two sulphonylurea compounds (glicazide and glibenclamide) should be chosen. The addition of metformin to a sulphonylurea was suggested for poorly controlled non-insulin-dependent diabetics after careful consideration by the clinician. The limitations on choice of medicine were intended to ensure that doctors became fully familiar with all the agents used and, if there was a saving, to free resources for other developments in the diabetic care service.

Reagents. Clinicians were requested to restrict their prescribing to a single type of blood and urine testing strip. It was hoped that this proposal would facilitate an educational programme for monitoring diabetic control throughout the district.

Community prescribing. Hospital doctors were asked to limit diabetic prescriptions to 2 bottles of any single insulin or 2 weeks supply of an oral hypoglycaemic. This was intended to prevent duplicate prescribing and consequent wastage of medicines, and to enable local general practitioners to identify their diabetic patients from repeat prescription cards. This was

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explained to the patient by the prescriber and publicised by posters placed in the outpatient and pharmacy departments.

Methods
Information about prescribing was obtained from a variety of sources; outpatient dispensing of medicines for diabetes was monitored at both hospitals, and information on the total quantities of medicine for diabetes was obtained from pharmacy buying records for each financial year from 1984–5 to 1987–8.

Results
Diabetic patient and medical staff response to policy
Diabetics were generally grateful for the time given to explain the reasons for the change and the concern shown by medical and nursing staff; changes were never imposed on patients. No instance came to light in which a change in treatment, which resulted from the policy, caused a deterioration in diabetic control; no one required admission or attended the casualty department because of hypoglycaemia or uncontrolled hyperglycaemia. The policy was received in general with enthusiasm by the medical and nursing staff, and the rapid conversion to the policy throughout the district was further evidence of their approval. The implementation of the policy did not result in any objections or complaints being received either by the pharmacy department or by the district medicines committee, but there were many enquiries about the use of the medicines.

Insulin prescribing
The introduction of the policy was followed by an immediate reduction in insulin dispensing within the hospital (Fig. 1). The policy of purchasing a single manufacturer’s insulin range resulted in a fall in the price of an individual insulin bottle by approximately 25% to the hospitals. In 1984–5 20% of the insulins dispensed by the pharmacies were human type whereas all are now human insulin.

Oral hypoglycaemic agents
During the year 1984–5 275,840 tablets were purchased at a total cost of £3,600, with 6 different agents being dispensed (glibenclamide, gliclazide, chlorpropamide, tolbutamide, metformin and glipizide). For 1987–8 31,420 tablets were purchased at a cost of £1,500; the higher tablet price is explained by the intended prescribing trend away from the older, but less expensive, sulphonylureas towards glibenclamide and gliclazide. A number of adverse reactions experienced by patients taking chlorpropamide had resulted in a decision to limit its prescription within Newham district.

Diagnostic reagents
In 1984–5 the pharmacy stocked 4 types of blood glucose monitoring strips and 3 types of urine analysis test sets; in 1987–8 one type of each was held. The total number of blood glucose strips dispensed within the hospitals rose from 75,990 in 1984–5 to 233,295 in 1987–8, and the total hospital cost increased from £12,000 to £38,400, although there had been little change in the hospital price of a bottle of 50 strips. By contrast, the number of urine test strips/tablets used during 1984–5 was 204,520; it declined to about a quarter of this by 1987–8 (Fig. 2).

Educational consequences
It was not possible to perform a formal assessment of the diabetic patients’ response to the introduction of the policy apart from monitoring attendances at the hospital or GP surgery as a result of altered control. Nevertheless, the diabetic specialist nurses reported that the policy enabled a better understanding of treatment by patients, easier recognition of treatment

Fig. 1. The annual cost of insulins for the financial years 1984–5 to 1987–8 (shaded) and the total number of insulin bottles purchased annually (unshaded) by the hospital pharmacy departments in Newham.

Fig. 2. The total number of blood (shaded) and urine (unshaded) test strips purchased by the hospital pharmacy departments in Newham for the financial years 1984–5 to 1987–8.
by doctors and nurses, and consequently an improved climate for general education about diabetes. They found that the restricted number of insulins made them more confident in advising diabetics about their treatment.

Discussion

We consider that the introduction of a district prescribing policy for diabetic patients in Newham has resulted in practical benefits for their care, and considerable financial savings. We propose to introduce similar policies for the treatment of hypertension and the use of antibiotics in the community.

Three factors are of critical importance for the success of a local drug rationalisation policy: flexibility, willingness by all (whether doctor or patient) to change, and participation of prescribers in the evaluation of the system [1]. The planning and introduction of the Newham policy for diabetes care was designed to take these points into account. Those involved understood that the policy was not simply a measure to save money.

The advent of an integrated system for diabetes care involves the close co-operation of general practitioners in diabetic clinics and provides the opportunity for GPs to be informed about the new prescribing patterns [2]. This also enables any change in treatment to be undertaken in collaboration with the consultant diabetologist, either by direct contact or through the link provided by diabetic specialist nurses working in the community. The introduction of a local prescribing policy must, by its very nature, encompass community prescribing. The present situation of finite hospital budgets has resulted in increasing community prescribing with accompanying higher dispensing costs. Any financial saving that accrues within the hospital should therefore be used to improve services not only within the hospital but also in the community. In Newham, the integrated system of diabetes care allows an appropriate redistribution of such resources to be made. Moreover, GPs involved in the scheme experience the advantages of the policy at first hand by having close contact with the diabetologist and diabetic specialist nurses, and easy access to hospital-based specialised units such as dietetics and ophthalmology. It is essential that any scheme intended to introduce a district policy for the treatment of hypertension, arthritis or peptic ulceration takes these points into account.

A local prescribing policy has several important advantages for a pharmacy department. Any effective drug rationalisation policy will reduce both the value of stockholding and the number of expired medicines. Less storage space is needed and the likelihood of confusion between numerous similar medicines is avoided. The policy has resulted in advantageous prices being negotiated with pharmaceutical companies and, because it enables predictions about prescribing habits to be made both earlier and with more accuracy, it has promoted closer working relationships between clinicians and pharmacists [3]. Finally, such a policy simplifies the process whereby new preparations are substituted for old, the introduction of human insulin being a good illustration. Contrary to recent reports, no adverse reactions were reported by patients following the changeover to human insulins.

The financial benefits from introducing a restricted prescribing policy are considerable; the savings achieved in Newham during the past 4 years are in excess of £100,000 and this does not take into account inflation during the study period. Part of this sum was due to rationalisation of prescribing, and part was due to transfer of prescribing from hospital to community services. We consider this transfer is reasonable if the diabetologist is fully accessible to the general practitioners and if the hospital service provides support in the community through the diabetes specialist nurse. Most districts have a policy for the partial re-use of planned savings of resources. In Newham, the district was able to employ an additional diabetes specialist nurse as well as to absorb the increasing cost of blood glucose strips until these were made available on prescription in the community. We concede that the reduced prices offered to hospital pharmacies by pharmaceutical companies may be more than offset by the consequently altered prescribing patterns from primary health care. Such business enterprise is to be expected and it is unjustified to criticise companies too severely for such practice. Nevertheless, close co-operation between hospital and primary care units will enable a jointly planned prescribing policy to restrict any excessive additional community expense, largely by avoiding over-prescribing of medicines.

On the basis of our experience in Newham we suggest that other health districts should consider the possibility of standardising their prescribing for diabetes care. This may not only achieve substantial financial savings but also help to improve the standard of care provided. A similar uniform approach to the treatment of other common diseases should be encouraged.

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