

dispensing arrangements will continue as the government is openly committed to reducing expenditure in the NHS. One strategy is the wholesale deregulation of prescription only medicines; this and the extortionate NHS prescription charge encourage sick people not to see their doctor but to treat themselves, placing themselves in the willing hands of business interests. It now seems that pharmacists in maintenance programmes have far more to offer than the doctors concerned, so perhaps we will soon hear of the deregulation of methadone to pharmacy only status.

P D THOMAS

Member of committee, Dispensing Doctors Association
Gipping Valley Practice,
Barham,
Ipswich IP6 0AS

- 1 Scott RTA, Burnett SJ, McNaulty H. Supervised administration of methadone by pharmacists. *BMJ* 1994;308:1438. (28 May.)
- 2 *Medicines Act 1968*. London: HMSO, 1992. (Chapter 67, sections 55(1)(a) and 58(3)(a).)
- 3 *NHS General Medical Services Regulations 1992*. London: HMSO, 1992. (Schedule 2, paragraph 43(1).)
- 4 Thomas PD. Dispensing doctors. *BMJ* 1992;305:650.

Drug rationing in a teaching hospital

EDITOR,—Felix Bochner and colleagues make a useful contribution to the database related to drug utilisation review and pharmaco-economic outcomes.¹ We write to comment on the philosophical position and strategic and operational assumptions in their paper. We believe that budgets can be contained by a process other than rationing by prioritisation, and we present our experience at the Alfred Hospital, Melbourne, to support our assertions. We also comment on the management fallacy inherent in assigning arbitrary budgetary targets for use of pharmaceuticals.

The table shows the raw year on year (June) budgetary data for the hospital over the past six years. Despite a complex caseload (for example, organ transplants, major trauma, burns) we have contained our budget. In the current year this is 5.3% (projected) despite an increase in annual throughput in the hospital of 11.4% to December 1994.

In contrast to the Royal Adelaide Hospital's strategy, the Alfred Hospital has accommodated the introduction and use of every item in table I of Bochner and colleagues' paper. On aggregate the drugs excluded at the Royal Adelaide Hospital cost the Alfred Hospital \$830 000 in the 10 months to 30 April 1994 and \$847 021 in the year 1992-3. We have achieved this by paying careful attention over more than a decade to who prescribes what, in which form, and for what purpose for all drugs and therapeutic categories in the formulary. Our general methods of drug utilisation review have been published²⁻⁴; they were pioneered in Australia in the 1970s by Eckert *et al.*⁵ We have not only targeted high cost areas but emphasised drug items that influence overall costs of care and outcomes. Published examples include metronidazole,⁵ phenytoin and carbamazepine,⁶ and aminoglycosides.^{7,8} A current project involving quality assurance for total parenteral nutrition has reduced the costs of this item by more than \$10 000 a month (\$137 851 total) in the calendar year 1993.

We reject in principle and in our hospital practice the concept that essentially bureaucratic rationing should guide the choice and use of pharmaceuticals. Translating this philosophy into a sustainable, viable administrative reality requires well trained professional staff; medical and nursing staff who trust and own the decision making processes; informed decisions as a result of high quality drug utilisation review and pharmaco-economic analysis; and support by senior management.

Budgetary data for Alfred Hospital, Melbourne, showing drug expenditure as percentage of total expenditure

Year	Drug expenditure (\$)*	Total expenditure (\$)	Drug expenditure as % of total	Expenditure on drugs not funded by Adelaide Hospital (\$)
1988-9	6 090 000	119 954 000	5.1	
1989-90	7 209 000	133 700 000	5.4	
1990-1	7 625 000	140 200 000	5.4	
1991-2	7 987 000	149 756 000	5.3	
1992-3	8 507 000	151 450 000	5.6 (5.1†)	847 021
1993-4	8 131 000 (projected)	152 000 000 (projected)	5.3 (4.7†)	996 000 (projected)

*Expenditure on cyclosporin for organ transplantation excluded because of federal refund.

†After adjustment for costs of drugs not funded by Adelaide Hospital.

Finally, we believe that there is not even commercial validity for an arbitrary ceiling on pharmaceutical costs. Any business cost, whether 5% or 20% of a global budget, can be judged only against the saving on other costs or the generation of added income. If a novel pharmaceutical could save any hospital 10% of its operating budget, expenditure up to that level could be justified independently of complex assessments of the pharmaceutical's worth compared with that of other agents.

We believe that we have acted responsibly and successfully in rejecting the overriding philosophy and specific strategy of formulary management described for the Royal Adelaide Hospital.

ALLAN J McLEAN

Professor of clinical pharmacology and therapeutics

LISA L IOANNIDES-DEMOS

Senior hospital scientist

NICHOLAS TONG

Director of pharmacy

DUNCAN TOPLISS

Chairman, pharmacy and therapeutics advisory committee

Alfred Hospital,
Victoria,
Australia 3181

- 1 Bochner F, Martin ED, Burgess NG, Somogyi AA, Misan GMH, Drug Committee of the Royal Adelaide Hospital. Drug rationing in a teaching hospital: a method to assign priorities. *BMJ* 1994;308:901-5. (2 April.)
- 2 McLean AJ, Ioannides-Demos L, Tong N, Mercer W, Bamed J, Wood TJ. Audit and scientific management of drug use in an Australian teaching hospital. *Australian Health Review* 1982;5: 12-5.
- 3 Eckert GM, Ioannides-Demos LL, McLean AJ. Measuring and modifying hospital drug use. *Med J Aust* 1991;154:587-92.
- 4 Ioannides-Demos LL, Eckert GM, McLean AJ. Pharmaco-economic consequence of measurement and modification of hospital drug use. *Pharmacoeconomics* 1992;2:15-33.
- 5 Ioannides L, Somogyi A, Spicer J, Heinzow B, Tong N, Franklin C, *et al.* Rectal administration of metronidazole provides therapeutic plasma levels in post-operative patients. *N Engl J Med* 1981;305:1569-70.
- 6 Ioannides-Demos LL, Horne M, Wodak J, Harrison PM, Gilligan BS, McLean AJ. Impact of a pharmacokinetics consultation service on clinical outcomes in an ambulatory care epilepsy clinic. *Am J Hosp Pharm* 1988;45:1549-51.
- 7 Li SC, Ioannides-Demos LL, Spicer WJ, Spelman DW, Tong N, McLean AJ. Prospective audit of the impact of an aminoglycoside pharmacokinetic and consultative service on the utilization patterns and clinical toxicology of aminoglycosides in a general hospital. *Med J Aust* 1992;157:308-11.
- 8 Ioannides-Demos LL, Li SC, Bastone EB, Spelman DW, Hooper R, Cousins VC, *et al.* Absence of toxicity in patients with malignant otitis externa following long-term treatment with high-dosage tobramycin. *J Antimicrob Chemother* (in press).

Dispensing with prescriptions

EDITOR,—R E Ferner paints an unnecessarily black picture in discussing the switching of drugs from being available on prescription only to being available from a pharmacy only, and the two main caveats require comment.¹ Far from there being no system for patients and pharmacists to report adverse reactions to over the counter drugs, they need only inform the general practitioner, who can use the yellow card system approved for this task. Doctors already ask about non-prescribed medicines and will become more aware of this need with time.

Ferner's other negative argument is that patients may be encouraged to seek treatment for trivial

ailments. Patients already consume many over the counter drugs for minor symptoms: the general household survey found that twice as many patients had taken an over the counter preparation in the previous two weeks (27%) as had taken a prescription medicine (13%).² The need is to educate people on how to manage their illnesses and, when appropriate, how to treat themselves, rather than to put up barriers between them and such drugs.

MIKE PRINGLE

Professor of general practice

Department of General Practice,
Queen's Medical Centre,
Nottingham NG7 2UH

- 1 Ferner R. Dispensing with prescriptions. *BMJ* 1994;308:1316. (21 May.)

- 2 Office of Population Censuses and Surveys. *General household survey*. London: HMSO, 1986.

Agranulocytosis and clozapine

EDITOR,—In his editorial on the use of risperidone in schizophrenia J Guy Edwards remarks that agranulocytosis is "such a problem with clozapine."¹ This merits comment.

Clozapine is sold by Sandoz Pharmaceuticals under the trade names Clozaril and Leponex. After postmarketing experience in Finland in 1975 Sandoz addressed the problem of agranulocytosis promptly by installing a worldwide haematological monitoring system for patients who were prescribed the two products. One of the basic requirements of this system is a normal leucocyte and differential cell counts before treatment with clozapine is started, followed by blood counts performed at least once a week for the first 18 weeks and at least monthly thereafter. Our experience has shown that 85% of cases of agranulocytosis occur during the first 18 weeks of treatment. Clozapine is stopped immediately and permanently in patients who develop leucopenia or granulocytopenia. A "no blood, no drug" policy ensures that patients do not receive clozapine unless initial and subsequent white cell counts are within normal values.² Results from the database of the Clozaril patient monitoring systems in Britain, the United States, France, Canada, and Australia show the current incidence of agranulocytosis to be less than 0.8%.

Increased awareness among the medical profession and the stringent mandatory requirements for blood monitoring in patients given clozapine have thus minimised what may once have been, but no longer is, "such a problem."

V J DEV

Medical expert

T ROSENBERG

International product manager

P KRUPP

Head of department

Drug Monitoring Centre,
Sandoz Pharma,
4002 Basle,
Switzerland

- 1 Edwards JG. Risperidone for schizophrenia. *BMJ* 1994;308: 1311-2. (21 May.)

- 2 Charatan FB. No blood, no drug. *BMJ* 1991;302:1041-2.