Item of service	Frequency per 100 consultations	Cost per 100 consultations* (£)	Cost per 100 consultations as proportion of overall cost (%)	Cost per item (£)
Prescription	67.4 (35.5-93.2)	302.64 (159.41-418.50)	68.2	4.49
Outpatient referral	5.7 (1.4-12.0)	73.62 (17.60-156.40)	16.6	13.00†
Laboratory requests:				
Haematology	4.4 (1.0-14.6)	16.51 (3.90-55.00)	3.7	3.77
Bacteriology	3.9 (0.3-11.0)	21.41 (1.50-59.90)	4.8	5.45
Biochemistry	2.5 (0.8-7)	13.35 (0-47.10)	3.0	5.45
Virology	0.4 (0.3-3)	1.89 (0-17.70)	0.4	5.45
Radiography	2.5	14.26	3.2	5.80
Overall		443.68		

*Errors due to rounding of figures during calculation of means.
†Based on average cost of one outpatient consultation.

The percentage of the total cost accounted for by different items of service shows the trade off between the average cost per item and the relative frequency of each item. Assuming that the cost and frequency of other items remained constant, a 10% decrease in the prescribing rate would decrease the variable cost of the consultation by 6.8%. A 10% decrease in outpatient referral would result in only a 1.7% fall in the overall variable costs. Similar decreases in requests for diagnostic tests and radiography would have a negligible impact on costs. If, however, referrals were costed at £52 (roughly four outpatient attendances per referral) a 10% reduction in outpatient referral would decrease the overall variable costs by 4.4%. With this higher

estimate of referral costs a 10% reduction in prescribing would also result in a 4.5% decrease in overall variable costs. Apportioning certain hospital inpatient costs to the cost of referral would further affect the potential for reducing overall average costs.

Comment

We excluded the costs of repeat prescriptions and took the cost of an outpatient referral as being the cost of one outpatient attendance. On this basis, except in the case of prescribing, the consequences on cost of a change in clinical behaviour might be less than expected. If, however, costs of referral are taken as including costs generated by hospital staff who recall and admit referred patients a different picture emerges.^{4,5} Thus agreement on a basis for costing referrals, incorporating a reasonable way of apportioning costs generated by general practitioners and by hospital staff, is needed urgently.

We thank Mr Peter Hastie for providing the data on laboratory costs. This work was supported by grants from the Scottish Home and Health Department and the Nuffield Provincial Hospitals Trust.

1 Department of Health. *Practice budgets for general medical practitioners. Working paper 3*. London: HMSO, 1989.
2 Forbes JF. Practice budgets: lifting the veil of ignorance. *J R Coll Gen Pract* 1989;39:355-6.
3 Howie JGR, Porter AMD, Forbes JF. Quality and use of time in general practice: widening the discussion. *Br Med J* 1989;298:1008-10.
4 Smedley E, Worrall J, Leese B, Carr-Hill R. *A costing analysis of general practice budgets*. York: Centre for Health Economics, University of York, 1989.
5 Pope N. Expert's shock figures double reform costs. *General Practitioner* 1989 Apr 21:28.

(Accepted 12 June 1990)

Effectiveness of eye protection in the metal working industry

Ashis Banerjee

Accident and Emergency Department, Manor Hospital, Walsall WS2 9PS
Ashis Banerjee, FRCS, registrar

Br Med J 1990;301:645-6

Ocular foreign bodies are an occupational hazard for people working in metal processing industries. About three or four new patients attend this department every working day with foreign bodies that entered their eye while they were working with metal. The Walsall area has many small metal processing industries. The aim of my study was to find possible reasons for the high numbers of patients presenting with such foreign bodies in the eye.

Patients, methods, and results

I performed a prospective study of patients seen in this department from 1 August 1989 to 1 February 1990 with foreign bodies that had entered their eye while they were at work. During the study nearly 25 000 new patients attended the department, which was initially at Walsall General Hospital and then, from December 1989, at this hospital. Of these patients, 472 presented with foreign bodies that had entered their eye while they were at work. I examined 164 patients during this study (149 men and 15 women).
Assessment of the patients included the nature and duration of symptoms, the likely cause of the injury, and the type of eye protection used at the time of the incident. Both eyes were routinely examined. Foreign bodies entered the eye during grinding in 42 cases, drilling in 37, hammering in 26, welding in 19,

polishing in seven, and various combinations of these in 22; 11 patients were unable to state the time or circumstances of the injury. Overall, 136 patients stated that the injury had been sustained while they were doing their usual work; 19 had been helping with work they were unused to doing and nine had been on work experience schemes.

Direct questioning established that 65 of the 164 patients had not been using eye protection when working. The table shows the reasons given for this. Many patients seemed to be sceptical about the need for these protectors, and many thought that those provided were either uncomfortable or interfered with clear vision.

Reasons for not wearing eye protectors given by 65 patients presenting with ocular foreign bodies

Reason	No
Protector not necessary for work being done	18
Protector interfered with ability to work	15
Patient was walking past someone else working	11
Protector uncomfortable	9
Patient was wearing prescription spectacles	5
Reason not provided	7

All patients eventually recovered satisfactorily, but all were asked to make more than one visit to the department, though 14 failed to do so. Seven patients were referred to the eye clinic, five with deep corneal rust rings and two with corneal scars. No intraocular foreign bodies were found.

Comment

Guidelines for the provision of eye protection at the workplace have been provided under the Protection of

Eyes Regulations.^{1,2} The British Standards Institution has also issued specifications for eye protectors.³ Despite these, ocular foreign bodies continue to be a problem. The true number of patients who get foreign bodies in their eye while at work is certainly higher than the number presenting to this department as most firms have first aiders who will try to remove such foreign bodies.

Compliance with wearing eye protectors is not as high as expected, with people deciding for themselves whether protection is needed in various circumstances.⁴ Many of the patients interviewed also showed little awareness of the potential dangers of ocular foreign

bodies. There seems to be scope for improved education of workers dealing with metals and possibly for the provision of individually measured eye protectors. A range of devices for different activities seems to be desirable.

- 1 The protection of eyes regulations. Statutory Instruments 1974 Part III Section I, 6075-83. London:HMSO, 1976.
- 2 The protection of eyes (amendment) regulations. Statutory Instruments 1975 Part I Section I, 813-4. London: HMSO, 1976.
- 3 British Standards Institution. Specification for industrial eye protectors (BS 2092). London: BSI, 1967.
- 4 Davey JB. Industrial eye protection. *Ann Occup Hyg* 1987;31:67-70.

(Accepted 18 June 1990)

Differences in disability between people with mental handicaps who were resettled in the community and those who remained in hospital

Richard Farmer, Sue Holroyd, Jenifer Rohde

Department of Community Medicine, Charing Cross and Westminster Medical School, London SW1P 2AR

Richard Farmer, MB, professor of community medicine

Sue Holroyd, BA, assistant register organiser

Jenifer Rohde, register organiser

Correspondence to: Ms Holroyd.

Br Med J 1990;301:646

The white paper *Caring for People* recommends that people requiring continuous health care should not be placed in large institutions unnecessarily.¹ We have examined the position for mentally handicapped people in two London boroughs and assessed the differences between those remaining in hospital and those resettled in the community.

Patients, methods, and results

We studied all patients who had been registered as mentally handicapped in Kensington and Chelsea and Westminster and who were in hospital at the time of their registration. The average period between their registration and the time their record was last updated was five years.

Data were extracted in February, 1989 from the Kensington and Chelsea and Westminster planning registers for people with mental handicaps.^{2,3} Information included an assessment of patients' skills, abilities, and behaviours based on the Wessex rating scale.⁴ The scale includes questions about continence; mobility; ability to wash, dress, and feed; sight and hearing; communication; and social behaviour. Patients are reassessed each year.

Four hundred people had been in hospital when they were first registered, of whom 92 were then resettled in the community (community group), 231 remained in hospital (hospital group), and 77 died (seven of whom had been resettled in the community). The overall frequency and severity of problems among all patients at registration was similar to that at their last update (table). Those patients in the hospital group had had significantly more severe problems at registration than those in the community group ($\chi^2=17.72$, $df=1$; $p<0.001$). The hospital group also had a greater proportion of people with severe problems at last update than the community group for every variable analysed (table), the largest difference being in ability to wash. There were also large differences in the two groups' ability to feed and dress themselves.

Comment

Our study suggests that in Kensington and Chelsea and Westminster the people who had been resettled had had fewer and less severe problems at registration than those who remained in hospital, rather than that they had less severe problems as a result of living in the community. The resettlement teams have been finding that the available provision in the community is, with few exceptions, not appropriate for the people left in hospital. So far the needs of most multiply handicapped people do not seem to have been met. Although our findings do not necessarily reflect the position throughout Britain, in the absence of detailed data from other parts of the country their implications should not be ignored.

We thank Dr Gyles Glover and Jacqui Bobby for help with computing.

Number (percentage) of people who were recorded as having one or more severe physical or behavioural problems at registration and at last update in Kensington and Chelsea and Westminster boroughs

	At registration (Total group; n=400)	At last update			% In hospital: % in community
		Total group* (n=400)	Hospital group (n=231)	Community group (n=92)	
Wetting at nights	71 (18)	61 (15)	53 (23)	8 (9)	2.6
Soiling at nights	43 (11)	41 (10)	37 (16)	4 (4)	4
Wetting by day	57 (14)	49 (12)	42 (18)	7 (8)	2.3
Soiling by day	40 (10)	36 (9)	32 (14)	4 (4)	3.5
Unable to walk	52 (13)	41 (10)	34 (15)	5 (5)	3
Unable to feed	23 (6)	15 (4)	14 (6)	1 (1)	6
Unable to wash	94 (24)	75 (19)	72 (31)	3 (3)	10
Unable to dress	76 (19)	54 (14)	50 (22)	4 (4)	5.5
Little or no vision	28 (7)	24 (6)	21 (9)	3 (3)	3
Little or no hearing	16 (4)	17 (4)	11 (5)	5 (5)	1
No speech	109 (28)	104 (26)	91 (39)	13 (14)	2.7
Hit people	26 (7)	27 (7)	26 (11)	0	
Damages property	26 (7)	18 (5)	18 (8)	0	
Overactive	24 (6)	21 (5)	20 (9)	1 (1)	9
Attention seeking	32 (8)	29 (7)	25 (11)	4 (4)	2.8

*This includes last update before death.

- 1 Department of Health and Social Security. *Caring for people: community care in the next decade and beyond*. London: HMSO, 1989. (Cm 849.)
- 2 Farmer R, Rohde J. A register of mentally handicapped individuals using a microcomputer. *J Ment Defic Res* 1983;27:255-78.
- 3 Nurse AD, Farmer RDT, Rohde J. Patterns of use of a mental handicap register in its first 5 years. *J Ment Defic Res* 1986;30:277-90.
- 4 Kushlick A, Blunden R, Cox G. A method of rating behaviour characteristics for use in large scale surveys of mental handicap. *Psychiatr Med* 1973;3: 466-78.

(Accepted 3 August 1990)

Correction

Aetiological importance of ovulation in epithelial ovarian cancer: a population based study

A printer's error occurred in this paper by Dr Derek J Cruickshank (15 September, p 524). The first sentence of the second paragraph of the comment should read "The incidence of and mortality from ovarian cancer, unlike those associated with other gynaecological malignancies, are rising."