The confounding effect of educational background and general premorbid ability must always be considered when predictors of dementia are sought, particularly when performance on the measures used to identify dementia is highly influenced by premorbid ability.

RONAN O'CARROLL
Clinical psychologist
KLAUS EBMEIER
Consultant psychiatrist

MRC Brain Metabolism Unit,
Royal Edinburgh Hospital,
Edinburgh EH10 5HF

- 1 Ott A, Breteler MMB, van Harskamp F, Claus JJ, van der Cammen TJM, Grobbee DE, *et al.* Prevalence of Alzheimer's disease and vascular dementia: association with education. The Rotterdam study. *BMJ* 1995;310:970-3. (15 April.)
- 2 Orrell M, Sahakian B. Education and dementia. *BMJ* 1995;310:951-2. (15 April.)

A study of patients living in institutes may bias the findings

EDITOR,—Alewijn Ott and colleagues report their estimates of the prevalence of dementia in a suburb of Rotterdam and state that the fact that 27% of the potential population was unscreened was likely to lead to an underestimate of the rates.¹ This fails, however, to account for the bias of living in an institution.

Altogether 8% of the total population, a high rate for the cut off age of 55, was living in an institution, but all those in institutions were included in the authors' screened sample—a rate of 12%. Since the authors state that many of the subjects with dementia were living in an institution the true prevalence is likely to be lower than their estimate. Unfortunately, they detail neither the number in institutions considered to be demented nor the quality of the diagnostic work up that this sizeable subgroup had. It is also unclear whether this part of Rotterdam is typical in terms of the number of residential homes per capita. Perhaps better educated people with dementia are more able to avoid admission to an institution in the Netherlands and fall into the unevaluated 23%, while those with lower educational attainment end up in institutions.

JOHN M STARR
Senior registrar in geriatric medicine

Hammersmith Hospital,
London W12 0HS

- 1 Ott A, Breteler MMB, van Harskamp F, Clams JJ, van der Cammen TJM, Grobbee DE, *et al.* Prevalence of Alzheimer's disease and vascular dementia: association with education. The Rotterdam study. *BMJ* 1995;310:970-3. (15 April.)

Author's reply

EDITOR,—Ronan O'Carroll and Klaus Ebmeier suggest the possibility of diagnostic misclassification. I agree that the diagnosis of dementia cannot be based on the cognitive test we used. As discussed in our paper, after the screening test, which comprised the minimal state examination and the geriatric mental state schedule (organic level) followed by the Cambridge examination for mental disorders of the elderly, we used an extensive clinical neurological evaluation to diagnose dementia. We do not think it likely that misclassification resulted in our overdiagnosing dementia in those with low general cognitive ability. They were positive on screening and were extensively evaluated clinically. It is possible, however, that we missed some early cases in which the subjects had a high premorbid cognitive function and managed to escape the sensitive screening. Our present follow up study of the incidence of dementia may show the extent of underdiagnosis of intelligent early demented patients and thus give a more accurate measure of the association with education.

John M Starr questions whether our estimates of

prevalence can be generalised. We think that our age specific prevalences, unlike the overall prevalence, can validly be extrapolated to the general population. The overall prevalence depends on the age distribution and the proportions living in institutions. The prevalence of dementia is generally higher in institutions. In the Rotterdam study 11.2% lived in institutions (homes for elderly people); in the substudy of dementia the figure was 11.9%, which is higher than the figure in the general Dutch population. The reason is that the population in the Rotterdam study was older than the Dutch population aged 55 and over: 35% were 55-64 years old, 34% were 65-74, and 31% were ≥ 75 , compared with 43%, 33%, and 24% respectively. Also, a higher percentage of elderly people in urban than rural areas live in institutions. The age specific proportion living in institutions in our study, however, was reasonably similar to that in the general Dutch population.

For those who are interested, I am happy to supply estimates of prevalence broken down by age and proportion living in institutions.

ALEWIJN OTT
Research physician

Erasmus University Medical School,
Rotterdam,
Netherlands

Promoting cost effective prescribing

Cost effectiveness studies may not be cost effective

EDITOR,—Nick Freemantle and colleagues criticise the NHS for lagging behind Australia and Canada in promoting cost effective prescribing.¹ As members of the working group that agreed the British guidance on conducting economic evaluations² we take issue with their claim that these countries have a preferable approach.

There is no evidence that Australia and Canada have more cost effective prescribing than the United Kingdom. They have centralised reimbursement lists (federal and provincial, respectively), requiring the submission of information on cost effectiveness. Such submissions should improve decision making, but costs are attached to the process. Neither country has evaluated how cost effective these procedures are.

The United Kingdom does not have a central reimbursement list. General practitioners have budgetary responsibility to encourage them to match the cost of prescribing with expected health gain. Increases in generic prescribing, reviews of repeat prescriptions, and a greater willingness not to prescribe have all increased the cost effectiveness of prescribing.³ Information on the cost effectiveness of prescribing in the United Kingdom therefore needs to be targeted at general practitioners and other decision makers. The British guidance is designed primarily for those preparing studies that will be used to convey such information to general practitioners. Provision of this information by the pharmaceutical industry is governed by the same standards as is provision of clinical information—that is, the code of practice of the Association of the British Pharmaceutical Industry, administered by the Prescription Medicines Code of Practice Authority; the authority exists to ensure that standards are high.

Freemantle and colleagues are right to say that more should be done to promote the use of studies of cost effectiveness (for all technologies) in the NHS but wrong to believe that this requires promotion of the guidance. It requires decision makers to believe that such information is relevant. In the case of medicines, competition will ensure that it is supplied.

There is no simple formula to ensure cost effective prescribing. In Australia and Canada the

assumption is that decisions are taken by "experts" rather than prescribing general practitioners. In the United Kingdom the general practitioners decide, drawing on expert advice. How should we assess which system is the most effective? Certainly not by anecdote and assertion. We need evidence of the relative effectiveness of these regimes.

ADRIAN TOWSE
Director

Office of Health Economics,
London SW1A 2DY

NICHOLAS WELLS
Head of Health Economics

Glaxo Pharmaceuticals UK,
Uxbridge,
Middlesex UB11 1BT

- 1 Freemantle N, Henry D, Maynard A, Torrance G. Promoting cost effective prescribing. *BMJ* 1995;310:955-6. (15 April.)
- 2 Department of Health. *Virginia Bottomley welcomes pioneering guidelines for the economic evaluation of medicines*. London: DoH, 1994. (Press release 94/251.)
- 3 Audit Commission. *A prescription for improvement: towards more rational prescribing in general practice*. London: HMSO, 1994.

More trials from general practice are needed

EDITOR,—As the medical prescribing adviser to Highland Health Board, I have a responsibility to encourage cost effective prescribing. Nick Freemantle and colleagues rightly emphasise the need for adequate data from good trials, but they miss one major point. Much of the 85% of prescribing that takes place in general practice is necessarily based on a presumptive diagnosis (for example, heartburn) rather than proved disease (for example, reflux oesophagitis)—but drug trials are generally limited to selected groups of patients with proved disease (for example, endoscopically proved oesophagitis). Thus, while a proton pump inhibitor may be shown to be the most cost effective treatment for endoscopically proved erosive oesophagitis, this does not necessarily mean that it is the best treatment for patients with dyspepsia presenting to general practitioners.

The prescription of proton pump inhibitors has increased by about 160% over the past two years in Scotland, and these drugs alone account for 25% of the increase in the total drug budget over that period. It seems unlikely that this reflects a real increase in the incidence of the diseases for which these drugs were evaluated: endoscopically proved oesophagitis or peptic ulceration.

The different worlds of wizards (consultants) and gatekeepers (general practitioners) have been eloquently described.² The wizard's magic potions and crystal balls, however well proved in selected patients, may not always be as cost effective when applied to the gatekeeper's clientele. If we are serious about promoting cost effective prescribing, we either need more studies of prescribing options in a primary care setting (where most patients present with symptoms) or need to pay more attention to the translation of clinical trials from highly selected groups of patients to the majority of clinical (that is, general) practice.

DENNIS M TRACEY
Consultant in public health medicine

Highland Health Board,
Inverness IV2 3HG

- 1 Freemantle N, Henry D, Maynard A, Torrance G. Promoting cost effective prescribing. *BMJ* 1995;310:955-6. (15 April.)
- 2 Mathers N, Hodgkin P. The gatekeeper and the wizard: a fairy tale. *BMJ* 1989;298:172-4.

Cost effectiveness rapidly becomes cost containment

EDITOR,—We believe that Nick Freemantle and colleagues' editorial on promoting cost effective prescribing may give an unrepresentative perception of Australian experience.¹ The policy of requiring economic analysis before being prepared