this is an example (I hope that I will not be accused of being racist) of the pot calling the kettle black.

AZUONYE, I. O. (1992) *America the Beautiful in Our Lifetime. A Step by Step Program for the Radical Transformation of America*. New York: Vantage Press.
— (1995) Is this an article too far? *Psychiatric Bulletin*, **19**, 328–329 (letter).
CULLIFORD, L. (1995) Response to Azuonye. *Psychiatric Bulletin*, **19**, 329.

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Use of depot neuroleptics in elderly patients

Sir: By collating prescribing information on depot antipsychotics, Taylor & Duncan (*Psychiatric Bulletin*, June 1995, **19**, 357) provide valuable guidance for doctors interested in auditing their use of these agents. I have used their table to re-analyse data collected in a survey I conducted in June 1994 of the use of depot neuroleptics in elderly patients (aged 65 and over) receiving care from Nottingham psychiatric services.

Nurses from psychogeriatric, rehabilitation and general psychiatric teams identified 97 elderly patients receiving regular depot antipsychotics. Formulations used were flupenthixol decanoate, fluphenazine decanoate, zuclopenthixol decanoate and haloperidol decanoate. Only eight patients (age range 65–78, median 68) were on doses of 'depot' greater than those suggested in Taylor & Duncan's article (based on reducing the figures given for younger adults by half). Six of these patients had schizophrenia with onset before the age of 55. Two received a dose greater than the maximum suggested for younger adults. By contrast, 27 patients (age range 65–87, median 75) were on weekly 'depot' doses below half the minimum suggested for younger adults: only one was on additional oral antipsychotics and 17 (63%) had a diagnosis of paraphrenia (onset defined as occurring beyond the age of 55). Fourteen patients (age range 68–87, median 77), all under the care of psychogeriatricians, were on doses below one-quarter of the minimum for younger adults. Ten (71%) of these patients had a diagnosis of paraphrenia.

These data indicate that Nottingham psychiatrists are generally prescribing conservative doses of 'depot' to their elderly patients. The few doses above the guidelines are confined mainly to younger, elderly patients with early-onset psychosis, while doses below the ranges given by Taylor & Duncan are commonly used in older, elderly patients with late-onset psychosis, suggesting that in psychogeriatric practice clinicians prescribing 'depots' do not pay too much heed to minimum dose recommendations.

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Neuroleptic prescribing practice

Sir: We were interested to read about the change in antipsychotic prescribing brought about by Warner, Slade & Barnes' audit at Horton Hospital (*Psychiatric Bulletin*, May 1995, **19**, 237–239). We too were inspired by the Concensus Statement from the Royal College of Psychiatrists (*British Journal of Psychiatry*, 1994, **164**, 448–458) to survey the antipsychotic prescribing within our two hospital sites of 199 acute adult, forensic, rehabilitation and long-stay psychiatric in-patients.

We would like to make three points. Firstly, due to the wide case-mix of patients within the Horton study from several sub-specialties, it would be interesting to general psychiatrists to express separately the proportion of acute general psychiatric in-patients receiving treatment above *British National Formulary* (BNF) limits since it is our experience that this is far higher than the 1% quoted in a recent study by Torkington *et al* (*Psychiatric Bulletin*, 1994, **18**, 375–376).

Secondly, we would like to highlight the hidden potential of 'as required' or PRN antipsychotics in potentially increasing the proportion of patients above BNF limits. Although previous studies have suggested few patients are at risk of this, our survey found that the risk of being prescribed above BNF limits (i.e. above 100mg chlorpromazine equivalents) increased from 23.4% to 42.5% of our total sample if all PRN medication had been dispensed in addition to regular treatment.

Thirdly, despite chlorpromazine equivalents being a recognised 'currency' for antipsychotic dose conversion there are still wide variations in published tables. We explored alternative

expressions of standardising drug dose and used the ratio of prescribed dose over maximum BNF dose (i.e. 1.0 being maximum and 0 minimum) allowing addition of these units for polypharmacy within individual patients, with greater than 1.0 units being above BNF limits (C. Thompson, personal communication). We believe this 'ratio of maximum equivalent' has face validity in comparison with chlorpromazine equivalents since it avoids in particular the wide variation in chlorpromazine equivalence for high potency and low potency antipsychotics, though we are still exploring whether it provides a realistic alternative to chlorpromazine equivalents in the long term.

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The use of clozapine

Sir: Regarding the use of clozapine (Drs Seabourne and Thomas and Dr Launer *Psychiatric Bulletin*, May 1995, **19**, 326–327), the essential question is how to arrive at the optimum dose of clozapine to ensure response while minimising side-effects. As the steady-state plasma clozapine concentration can vary more than 45 fold on the same oral dose of clozapine (Potkin *et al*, 1994), a way of predicting likely clinical response would be useful.

Potkin *et al* (1994) have reported a fixed-dose, double blind trial which demonstrated that a plasma concentration of 420 ng/ml distinguished responders from non-responders. After four weeks only 8% of those patients with a plasma clozapine concentration <420 ng/ml responded, compared to 60% of those who had a plasma clozapine concentration >420 ng/ml. When plasma concentrations were increased above 420 ng/ml in the non-responders with low plasma clozapine levels (by a double-blind random assignment procedure), their response rate increased to 73% at 12 weeks compared to a response rate of only 29% if week 12 plasma levels remained below 420 ng/ml. Further, no statistically significant differences in extrapyramidal symptom scores or abnormal movement scale were observed between patients with plasma levels above or below 420 ng/ml.

Several other groups of investigators have now confirmed that clozapine plasma levels in the 350–420 ng/ml range are a threshold that can predict clinical response.

KRONIG, *et al* (1995) Plasma clozapine levels and clinical response for treatment-refractory schizophrenic patients. *American Journal of Psychiatry*, **152**, 179–182.

MILLER, D. D., *et al* (1994) Plasma clozapine concentration as a predictor of clinical response: A follow-up study. *Journal of Clinical Psychiatry*, **55**(9, suppl. B), 177–121.

POTKIN, S. G., *et al* (1994) Plasma clozapine concentrations predict clinical response in treatment-resistant schizophrenia. *Journal of Clinical Psychiatry*, **55**(9, suppl. B), 133–136.

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Research by trainees

Sir: The editorial on Research by Trainees by Owen *et al* (*Psychiatric Bulletin*, June 1995, **19**, 337–340) is timely and important. I would like to share my experience of research performed by trainees in Australia. After passing the formal examination of the Royal Australia and New Zealand College, the trainee is expected to spend a year (as a senior registrar) preparing a dissertation. Many trainees undertake a research project for this dissertation. Aspects of the research system assist the trainee in this endeavour. Senior Registrars tend to be supra numerary, and are allocated to consultants who would meet their research and clinical needs. In some units, trainees could receive a small grant to facilitate research (in one unit the figure was A$ 1000). Finally, each hospital had a research and an ethics committee. The project would have to be approved by both committees before commencement. The research committee comprised of local academics and served the purpose of ensuring that a project was methodologically sound, plausible and realistic; trainees find this very helpful. It is important to provide an environment where trainees can pursue research easily and effectively.

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