above, and to refer to dialysis and transplantation treatment as "extraordinary" is surely an unjustifiable judgment.

At a time when the referral rate to nephrologists clearly indicates that many patients are dying from end-stage renal failure without the benefit of proper assessment, the general medical profession should be clearly aware of the real benefits of renal replacement therapy.

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¹ UK Transplant Annual Report 1977-1978. Bristol, UK Transplant Service, 1978.

Drug treatment of psychiatric patients in general practice

SIR,—A recent survey by Dr Peter Tyrer (7 October, p 1008) of patients seen at his psychiatric outpatient clinic purported to show that many had been prescribed psychotropic drugs incorrectly by their general practitioners. In a subsequent letter (18 November, p 1433) Dr Tyrer confirms that general practitioners received "feedback" about their prescribing habits in the four years covered by his survey and this resulted in less incorrect prescribing during the second half.

As Dr Tyrer and his colleagues responded to psychiatric referrals from the same general practitioners for many years before he started his survey it would be interesting to learn what alteration they made in the contents of their letters to effect a significant change in general practitioner prescribing habits during the survey period. Perhaps he has demonstrated that the standard of general practitioner prescribing in any area alters in accordance with the quality of the advice given by the local specialists.

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SIR,—Dr Peter Tyrer (7 October, p 1008) states that "many general practitioners were unaware that their prescriptions [of antidepressants] were insufficient to produce true antidepressant effects" in his series. The leading article (16 September, p 783) on this topic suggests that plasma concentration might be more important than actual dosage, but even this is debatable. High plasma levels may be ineffectual.

It is a common occurrence to achieve a satisfactory clinical response with small doses of antidepressants. Those doctors who use small doses initially, with increments as required, usually confirm this finding. Such patients are not usually referred to a psychiatrist. On the other hand, if antidepressants are started routinely in large doses, unacceptable side effects may result in the patient's refusing to continue or seeking to place his confidence elsewhere.

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"Lecture Notes on Medical Statistics"

SIR,—I have just read the review (9 December, p 1631) of *Lecture Notes on Medical Statistics* by Aviva Petrie, and the letters by Aviva Petrie and Mr Ian Clarke (23 December, p 1783) and am appalled that your reviewer, although

claiming to be a consultant statistician, appears to have a very prejudiced view of the bread-and-butter methods of applied medical statistics.

The first half of his review appears to be a general criticism of the subject of medical statistics, but the criticisms he makes are unqualified and without rational foundation. For example, he states that small sample sizes are the bane of medical research. How can this statement be defended when a large part of the development of statistical theory in this century has provided solutions to many of the problems that small samples present? For example, the two sample *t* test is a valid test provided that the assumptions of equality of variance and normality are reasonable (the *t* test is, of course, robust to minor departures from normality). Non-parametric tests are valid when used with small samples and make no assumption about the form of the parent distribution.

Does your reviewer really believe that if a patient who survives is scored 1 and a patient who dies is scored 0, the mean of the scores implies that on average the patients are half-dead? Does he not realise that the average of these scores is the proportion of patients who survive? His criticisms of the book are equally absurd. I would be interested to know his specific problems with the example of the *t* test on pp 82-83. The sample sizes are indeed 12 and 13 patients; so what? Are these not the sort of sample sizes which require a *t* test?

On item 4 of Aviva Petrie's letter and the reply concerning whether or not to include Fisher's exact test in an elementary text of medical statistics, I agree with Aviva Petrie but accept that Ian Clarke is entitled to his opinion. The test is certainly very clumsy to perform without a table of logarithms of factorials. However, Clarke's reference to Swinscow¹ is unfortunate. The example used in Swinscow's otherwise good, if brief, book is bad because the decision to perform the test is made *because the results look extreme*.

Ian Clarke's reply to Aviva Petrie's letter gives some excuses and apologies for his wild criticisms but his final paragraph expresses an opinion, stated as a fact, that the book is an inappropriate text for its target audience—a statement with which many experienced medical statisticians would disagree.

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¹ Swinscow, T D V, *Statistics at Square One*. London, British Medical Association, 1976.

Reusing dialysers

SIR,—We are not sure why Dr J M Vandembroucke and his colleagues (18 November, p 1434) reuse the dialyser 10 times and not 15 or 20 times. Limiting factors such as financial gain, rupture rates, dialyser clearance, increasing morbidity, patient acceptance, and nurse and technician times need active consideration before reaching an arbitrary set figure. They do not mention whether they reuse the blood lines and heparin administration sets. In 1975 we described reuse of the Gambro-Lundia dialyser inclusive of blood lines using an automatic rinsing device,¹ which has been further automated, now requiring 15 minutes of rinsing time, and is commercially available. In our experience, considering the labour and time involved, the financial gain achieved in reusing the dialyser more than six times is

negligible. If the blood lines are not reused and the dialyser is reused up to 10 times the cost per dialysis turns out to be more when compared with a dialyser reused up to six times inclusive of blood lines (see table).

Cost comparison of dialyser reuse (Dialyser: Gambro Lundia 1.36 m²: £18.50. Blood lines: Gambro; £3.55)

Reuse	Cost of reuse including blood lines (£)	Cost of reuse exclusive of blood lines (£)
6th	3.67	6.63
7th	3.15	6.19
8th	2.75	5.86
9th	2.45	5.60
10th	2.20	5.40

Finally, we confirm their results concerning pyrogenic reactions and septicaemia but emphasise that the technique of dialyser reuse must be practised only by skilled staff, preferably using an automated dialyser rinsing device, in order to achieve satisfactory results.

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¹ Ahmad, R, and Goldsmith, H J, *Dialysis and Transplantation*, 1975, 4, 29.

Tranquillisers and plasma prolactin

SIR,—The report by Dr S K Majumdar and others of a prolactin-lowering effect of chlor-methiazole (4 November, p 1266) also refers to the wide range of drugs which cause hyperprolactinaemia, including "tranquillisers such as phenothiazines and at least some of the benzodiazepines." While neuroleptic tranquiliser-induced hyperprolactinaemia is well recognised,¹ the effect of benzodiazepines on plasma prolactin is less clear and confusion can arise if the general term "tranquilliser" is used in this context. Patients presenting for investigation of amenorrhoea and hyperprolactinaemia are not infrequently found to be taking or to have recently taken a tranquilliser, most commonly diazepam. Horrobin² maintained that diazepam elevated prolactin secretion in animals but Noel *et al*³ found no increase in plasma prolactin over a 3-h period following intramuscular diazepam in human volunteers. We therefore decided that it was important to establish whether diazepam has any effect on plasma prolactin levels.

We studied basal plasma prolactin levels and the release of prolactin after administration of the dopamine antagonist metoclopramide in 10 women patients before and during treatment with 15 mg diazepam per day.⁴ The patients were selected from a group of hospital in-patients with anxiety symptoms. All were drug-free for at least one week before being studied. After an overnight fast an intravenous cannula was inserted and the patient allowed to settle for one hour to overcome the effects of stress on plasma prolactin levels. Three blood samples were then taken through the cannula at 10-min intervals and the mean of these three values taken as the basal plasma prolactin level. Metoclopramide 2.5 mg was injected intravenously via the cannula and blood samples for plasma prolactin estimation taken 10, 20, 30, 60, 90, and 120 min later. The patients were then started on 15 mg diazepam by mouth per day and the estimations of basal and stimulated prolactin levels