

during intercourse. There were no significant differences between patients and nurses with Crohn's disease ($\chi^2=0.1$). Neither was there a difference between patients and nurses who were menstruating and those who had been amenorrhoeic for six or more months ($\chi^2=1.3$).

We believe that a substantial number of women with Crohn's disease have largely unrecognised sexual difficulties and that these may be partly responsible for the reduced fertility seen among women with Crohn's disease.⁵ Certainly such difficulties might account in part for the high level of interest in fertility and family planning among self help groups for patients with inflammatory bowel disease.⁶ Physicians, surgeons, gynaecologists, and family practitioners need to be sensitive to the needs of women with Crohn's disease.

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Children born in Seascale

SIR,—In the week of the 30th anniversary of the Windscale fire it is surely a remarkable coincidence that your pages should carry confirmation (3 October, p 819, 822) of the findings of Sir Douglas Black¹ concerning the raised incidence of childhood leukaemia around the Windscale (now Sellafield) plant. The discovery that the excess is confined to children of mothers living in Seascale at the time of birth raises a number of questions in relation to the continuing controversy over the safety of nuclear installations in Britain.

Firstly, as the *Lancet* observed after the inquiry,² of the 14 young people with leukaemia born in Millom rural district, three were born in 1957—the year of the fire—and one in 1958. The findings of Professor M J Gardner and colleagues sharpen the doubts that this small temporal focus have raised.

Secondly, in offering his "qualified reassurance" to the people of west Cumbria Sir Douglas relied heavily on the calculations of the National Radiological Protection Board, which claimed to show that reported levels of radioactivity discharged from the plant were far too low to account for the observed incidence of leukaemia.³ Profound uncertainties underlie the models used in these calculations,^{4,5} but the uncertainties are at their most broad and uncharted over risks to the fetus.

The fetal model⁶ relies on a tiny handful of animal experiments and is preoccupied with changes in physiology during gestation rather than with metabolic behaviour. Thus the fractional distribution of plutonium in the organs of the fetus is taken to be the same as that in the mother. Transfer of actinides from mother to child is based entirely on experiments in animals; the authors of the model remark that extreme care is needed in extrapolating from animals to humans. They also question whether the conventional concept of dose has any meaning when applied to the fetus. It

seems unlikely that committed effective dose equivalent, which is the quantity recommended for adult members of the population, is an appropriate criterion for estimating risks to the fetus.⁶

The model also includes a factor to account for the reciprocal relation between tissue dose and the increasing body mass of the growing child. Thus the dose—and therefore the risk arising—from a long lived α emitter lodged in the skeleton is taken to decrease with the rapid growth in fetal body mass.⁶ Tissue mass is relatively unimportant, and at the cellular level α particle dose averaged throughout the tissue may be biologically almost meaningless.⁷

Thanks to the work of Professor Gardner and his colleagues, those seeking an explanation for the existing excess of leukaemia in Seascale now have a clearer idea of where their efforts might be directed.

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Keeping up with orthopaedic epidemics

SIR,—The suggestion by Mr Christopher Bulstrode that the rising incidence of fractured neck of femur is responsible for the present difficulties experienced in running orthopaedic trauma services (29 August, p 514) has been challenged by Dr Fear and colleagues (26 September, p 782). They produce data from Leeds to show that the incidence of fractured neck of femur and the actual number of cases in the over 65 age group have not changed noticeably in the past 12 years.

When figures for the Cardiff Royal Infirmary (table) are considered in two five year periods,

Numbers of operations for fractured neck of femur and trauma cases at the Cardiff Royal Infirmary between 1977 and 1986

Year	Total operated on for fractured neck of femur	Total operated trauma cases
1977	407	1493
1978	390	1566
1979	382	1603
1980	379	1654
1981	382	2218
1982	427	1854
1983	398	2092
1984	403	1938
1985	463	2211
1986	454	2228

1977-81 and 1982-6, operations for fractured neck of femur increased by 10.5% and all trauma operations by 21%. The incidence of fractured neck of femur is rising gradually as the population ages but is overshadowed by a more rapid rise in general trauma. The motorcycle has taken over from the car as a major cause of trauma since the

widespread use of seatbelts; and knee arthroscopy becomes daily more popular, as does the operative fixation of secondary bony deposits of malignant disease.

Many other factors heap pressure on limited resources. To date the "epidemic" has been contained as far as theatre time is concerned and with little expansion in resources by the introduction of better x ray imaging, orthopaedic fixation, and anaesthetic techniques.

Clearly, a time will be reached when the elective case will be squeezed out by the trauma load, especially if the beds happen to be under the same roof.

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Reference bias in reports of drug trials

SIR,—I would like to commend Dr Peter Götzsche for his study of "reference" bias in reports of drug trials (12 September, p 654). It is dismaying that unbiased information retrieval should be so difficult. The modern meta-analyst or other researcher is faced with the challenge of collecting an unbiased series of reports for a given subject using the combination of an electronic searching system that provides incomplete retrieval of reports and a hand search method that relies on a biased set of reports.

I would also like to commend Dr Robert Newcombe for presenting the concept of "registering" protocols for peer review at the planning stage (p 656). Readers may be interested to know that Jerold Lucey, editor of *Pediatrics*, has indicated his willingness to adopt a system similar to that proposed by Dr Newcombe.

Dr Newcombe's arguments for a registration system would have been a good deal stronger if he had supported his statements about publication bias with data. Though there are data to support its existence in psychology and education,^{1,2} publication bias is far from being a fact supported by data in medicine. As far as I know, a study by Simes provides the only published data documenting the problem, in this case for cancer.³ Findings from an additional study⁴ show that a publication bias related to study results does exist but there it is the authors who fail to write up null or negative results rather than the editors who fail to accept them for publication.

Dr Newcombe wrote that currently the only prospect of eliminating publication bias is to contact all investigators who may have done relevant work; he mentioned the worldwide survey designed to identify all unpublished trials in perinatal medicine, undertaken by Iain Chalmers and others in connection with the Oxford database of perinatal trials. The survey is now complete, and the results are being written up. Very few responses were received reporting unpublished results of perinatal trials, indicating that there are not many unpublished results of trials, that the survey did not reach investigators with unpublished results, or that investigators with unpublished results did not respond to the survey. In any case, we are forced to conclude that retrospective registration of trials is not worth while in view of the enormous effort and expense required. Instead, we must devise a system for prospective registration of initiated studies, as Dr Newcombe and others have suggested.

Though the proposal to register studies through journals is a possible solution, the additional burden might prove too great for the already overloaded volunteer peer review system. Perhaps a more practical approach, at least in the United States, would be to set up registration through the institutional review boards, a system already in

place with the express charge to review protocols for design and ethical considerations.

It seems fair to assume that those who fund research want to realise the maximum benefit from the research; therefore funding agencies would do themselves a favour by providing the fairly modest funds required to launch an international effort to register clinical trials.

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A test for manpower planning

SIR,—It was good to read Dr J Parkhouse's outspoken criticism of the continued concentration of senior registrar posts in London, now perpetuated by a formula giving a weighting of 30% to the number of medical and dental students in the region (10 October, p 868). We in the provinces recognise the role of national centres like the Royal Postgraduate Medical School and Maudsley Hospital but do not regard the London teaching hospitals as "a national training resource" for graduates. The quality of senior registrar training is related not to the number of students but to the strength of graduate training programmes; and we are quite capable of training our own senior registrars.

It might be helpful to spell out the effects of the maldistribution of senior registrar posts which now exists in most specialties. Firstly, junior staff in the deprived regions have greater difficulty in obtaining senior registrar posts because they have to apply in other regions against local competition. Secondly, fewer consultant staff have the stimulus of training a senior registrar. Thirdly, since senior registrars are men and women in their late 20s and 30s, often with young families, they put down roots in their region of training, so that the deprived regions tend to receive consultant applications from those the training regions choose not to appoint.

The Thames health authorities recognise these advantages; otherwise they would not continue to fund extra posts they can ill afford. But we have long ago recognised that health care should be fairly distributed in Britain. The same should be true of the training posts which control the quality of medical manpower.

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SIR,—Dr J Parkhouse paints a gloomy view of any attempt to rationalise the distribution of medical staff in the training grades, and nowhere is this felt more acutely than by those in research posts. In February this year a questionnaire was sent to Medical Research Council clinical scientific staff. Of those in the training grades on limited term contracts, 88% held honorary clinical contracts at registrar or senior registrar level, but only 45% of these posts had been accredited for training purposes. When questioned about career inten-

tions, 47% intended to return to full time NHS posts whereas only 19% hoped to remain in research (MRC, university, etc); but a striking 76% of those intending to leave research would have preferred to remain in research posts if they had been able to do so.

It was also possible to compare the results of this questionnaire with another one of 13 years earlier. The honorary contract allocation then was broadly similar, but when questioned about long term career intentions only 5% intended to return to full time NHS posts, contrasting with 29% intending to remain in research and 47% in both; 86% expressed satisfaction that their career hopes had been fulfilled, but this optimistic outlook is no longer borne by those in post now.

In commenting about manpower allocations the JPAC report states that reliable data have been particularly hard to come by, but it is clear that not all current research post holders want to be squeezed back into the tightly controlled senior registrar manpower allocation. We hope that during its next session the committee will indeed examine this question more closely and perhaps return the sense of balance and optimism held not so very long ago.

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Hospital and community health service costs: England and Scotland compared

SIR,—We welcome the timely contribution of Drs Alastair C A Glen and John K M Hulbert to the debate on the relative levels of funding of hospital and community health services in England and Scotland (19 September, p 707). Their proposed adjustments to our original estimates of inequalities between countries' should be considered carefully, however, before they are adopted in policies on distribution of health care resources.

Firstly, local authority rates paid by hospitals are just one input cost that varies across Britain. Compensation for such variations eliminates the managerial incentive inherent in a RAWP type budgetary control to adopt cost minimising input mixes and simply perpetuates existing inefficiencies in health service provision. Research has shown that managers have responded to other uncompensated variations in input costs by adopting more efficient input mixes.²

The case for an adjustment for sparsity of population in resource allocations remains unsubstantiated. Distance from point of delivery of care and population density have only a minor effect on National Health Service unit costs, and Wood concluded that the importance of spatial inequality should not be overstated.³

The inclusion of private medical care provision in RAWP estimates undermines the "needs" based concept of the RAWP formula. Findings from a study of provision of hip replacements in the private sector suggest that such provision has little effect on the unmet need for hip replacements.^{4,5} Reducing National Health Service provision on account of observed private sector activity would therefore reduce resources by a greater amount than the reduction in needs. Notwithstanding this point, the proposed adjustment, on the basis of the proportion of the population with private medical insurance, fails to recognise that about 30% of private sector provision is for uninsured people.⁶

Drs Glen and Hulbert cite several studies that illustrate "the limited effectiveness of the all ages standardised mortality ratio" as a proxy for morbidity but fail to consider the more recent comprehensive review of RAWP,⁷ which concludes

that "no other measure of need has been proposed which is superior to (standardised) mortality data" to adjust for morbidity differentials. Furthermore, we fail to see why the adjustment for morbidity using standardised mortality ratios should be compromised by the use of average bed utilisation rates for the United Kingdom.

Finally, we agree with the concern expressed about the failure to allow for inequalities between countries in provision in other elements of the health and personal social services programme. Anyone reading the whole of our original paper, however, would be aware of our arguments for subjecting the health and personal social services budget as a whole to a RAWP type policy so that perverse incentives for shifting demands between the separate elements of the health care budget might be avoided.

Despite the tenuous grounds on which the adjustments to our original estimates have been made we note that Scotland still seems to receive significantly more resources in relation to needs than England. We hope that these findings may encourage the health departments of the United Kingdom to devote a similar amount of attention to allocation of resources between countries as has already been devoted to the current rather narrow and parochial review of the English RAWP formula.⁸

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Training doctors and surgeons to meet the surgical needs of Africa

SIR,—Messrs D A K Watters and A C Bayley (26 September, p 761) suggested in the title of their paper that they were embarking on a plan for the whole of Africa, but in the article they concentrated on only east and central Africa. As an anaesthetist, may I say that training surgeons alone can never meet the surgical needs of any continent. Anaesthetists must also be considered to be vital components of any such long term plan if it is to be successful.

Secondly, if Messrs Watters and Bayley are proposing a short term plan, aiming at training surgeon cum regional anaesthetists (who would primarily be taught regional and local anaesthetic techniques), a thorough training in resuscitation still needs to be emphasised. Furthermore, the three months allocated to anaesthesia in the proposed two years' training for district hospital doctors is far from being practical. At least six months are needed to impart some meaningful drills in resuscitation and training in some anaes-