and lymphoma in West Cumbria[2] Dr Valerie Beral was reluctant to accept the conclusion that radiation damage to sperm cells may be a cause of childhood cancer. This reluctance stems partly from the facts that "7400 children of Japanese men who survived the atomic bomb explosions . . . show no hint of an increased risk of leukaemia . . ." and "the average exposure to external ionising radiation of the Japanese men was four times higher than that of the Sellafield workers."

According to Professor Gardner and colleagues, however, the timing of the occupational exposures is critical—they considered exposure at less than six months before conception. About 80% of the Japanese children were born after January 1948 and were thus conceived more than 20 months after paternal exposure.[3] The published data do not show how many were conceived within six months of exposure, but the expected proportion would have been about 5%, and given the circumstances it was likely to be much less than this (probably amounting to fewer than 300 children). It follows that the incompatibility of the conclusion with offspring of atomic bomb survivors is not itself critical.

We have two comments based on our own work. In 1961 one of us (AS) argued, partly from the high incidence of leukaemia in children with Down's syndrome and partly from animal experiments, that childhood cancers probably had prezygotic as well as postzygotic or fetal origins.[4] Later, in an analysis of data related to twins from the Oxford survey of childhood cancer we showed that a major determinant of childhood cancer was operating "either on the early zygote or its component germ cells."[5] Indeed, much the greater part of the differentiation between children at risk of leukaemia and children not at risk occurred after parental mating and before conception or at the very latest before the first few divisions of the zygote were completed. Leukaemogenic factors affecting the fetus, such as exposure to *x* rays, served only to tip the balance in a child who was already at very high risk.

These observations told us nothing about the nature of the prezygotic determinants, but in view of the known obstetric association with *x* rays it would be surprising if radiation was not important. Indeed, our own later observations on the enhanced risk of leukaemia and other childhood cancers in regions with high levels of gamma radiation[6] may owe more to sperm cell than fetal mutations.

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When the money runs out

SIR,—Dr Tony Delamothe's report of the decision of the management of the Royal Infirmary, Sunderland, to limit spending on the retinoid drugs highlights the difficulties that management and clinicians now face after years of underfunded inflation, pay awards, and cost improvement programmes.[1]

This is not an isolated action. Controlling and planning the drug budget are essential tasks for unit general managers and their principal pharmacist. At the University Hospital of Wales retinoid drugs were introduced in 1985 with an imposed ceiling of £25 000. In 1989-90 the ceiling, by now £70 000, was reached early in March. No further prescriptions for these drugs will be permitted before 1 April. Throughout the year clinicians were provided with monthly printouts that gave them advanced warning of the resources being exhausted. Unit general managers, however, will not be surprised to know that the drugs which were initially introduced for acne and psoriasis are now used for a wider range of dermatological conditions. The ceiling will remain unchanged for the financial year 1990-1 as we have not been provided with new money for developments.

In recent years many expensive drugs and new developments in their use have been introduced. Managerial control of drug expenditure is absolutely essential. At the University Hospital of Wales drugs can be prescribed only if they are included in the hospital drug guide and within the antibiotic policy. Both guide and policy are governed by the drug and therapeutic committee, which has no managerial involvement. In my view the use of the drug guide and antibiotic policy has improved and not detracted from the quality of patient care. New drugs are introduced to the guide on merit alone often after a trial. I do, however, retain the right to agree to their being purchased as some are potentially financially disastrous to the unit budget. In such circumstances their use is agreed only when funds have been made available or other drugs have been withdrawn.

Drug trials are a major problem in teaching hospitals as an appreciable pool of patients may be formed whose drugs are provided free of charge. At the end of the trial, if successful, the source of these drugs dries up and the clinicians then expect the hospital budget to pick up the revenue consequences. To avoid frustration clinicians are advised to consult their managers before rather than after a trial so that budget planning is possible.

Difficulty in pharmacy recruitment and financial pressures have forced us to adopt other strategies, including restricting drugs for a discharged inpatient to one week's supply and restricting outpatient prescribing to only selected groups of patients—for example those attending the paediatric, oncology, and psychiatry departments. General practitioners are encouraged to prescribe for their patients once they have been discharged, with the hospital retaining the monitoring role in patients having drugs such as growth hormone and cyclosporin.

Those who believe that clinical freedom includes the right to prescribe any drug for any length of time may be horrified by these actions. I believe, however, that they are justified in order to ensure an equitable distribution of our resources, and, however irritating they may be to my colleagues, they have in my opinion produced a more responsible attitude to drug prescribing.

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1 Delamothe T. When the money runs out: Sunderland. *Br Med J* 1990;**300**:627. (10 March.)

Treating renal anaemia with erythropoietin

SIR,—The piece by Dr Iain C Macdougall and colleagues[1] on the treatment of the anaemia of renal failure with erythropoietin reads well. Unfortunately I am in no position to make informed comment because I have not been able to prescribe this desirable hormone. No money came to this renal unit for erythropoietin in the current financial year,[2] and only £200 000 has been promised to be divided among the four North West Thames regional units for 1990-1. The promise made by the former Minister for Health, David Mellor, that no patient would be denied any essential drug (Department of Health and Social Security press release, 6 October 1989) cannot be true. This is scandalous.

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2 Gabriel R. Wanted: funds for a treatment that really works. *Br Med J* 1989;**299**:64.

Pay as you pray

SIR,—As a hospital chaplain in Mrs Thatcher's home town I was interested by Scrutator's comments in his article entitled "Pay as you pray,"[1] which was shown to me by a consultant colleague.

In my darker moments I wonder how chaplaincy would fare in a market led climate where value for money was the sole (or should it be soul?) arbiter of effectiveness. It must be tempting to administrators to either "buy" chaplaincy on the cheap by subcontracting it to retired local clergy or dispensing with it altogether. Similarly, it must be tempting for chaplains faced with the predicament of privatisation to concentrate on a narrow specialty (for example, care of the bereaved) and corner the market in that subject.

I am convinced that the benefit of chaplaincy to clinicians, nurses, and patients and their relatives is when it addresses the whole institution, not, for example, just the bereaved but also those grateful for the privilege of parenthood, and when it is not simply providing "services" for the religiously inclined (which retired clergy could do easily) but is concerned for all members of the therapeutic community, their joys, hopes, sadnesses, and doubts—in other words the spiritual dimension to health.

In my own hospital (where well resourced part time chaplains provide the core service) my five lay assistants recently remarked that it was with the medical profession that forming relationships seemed the most elusive. Perhaps clinicians—through their hospital medical committee—could identify certain areas of common concern where chaplains have some expertise and competence to contribute? Rather than being the last resort (and fulfilling Scrutator's nightmare of absorption or annihilation) chaplains might then be seen for what they strive to be: a tool of support for the common good.

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1 Anonymous. Pay as you pray. *Br Med J* 1990;**300**:630. (10 March.)

Correction

Leukaemia and lymphoma among young people near Sellafield

An error occurred in this authors' reply by Professor Martin J Gardner and Dr Michael P Snee (10 March, p 678). At the end of the second sentence the authors were alluding to a working document held by the Department of Health and not to the Black Report itself.