

As a result the Royal Pharmaceutical Society of Great Britain issued a statement to pharmacists last April, saying that all dispensed oral liquid medicines should be supplied in a child resistant container from 1 January next year. As supplies of these bottles and caps become available during this year they will begin to be used by pharmacists.

Discussions are currently taking place between the society and the pharmaceutical industry about the use of child resistant containers for original pack oral liquid medicines; it is hoped that the containers will be used for these by 1 January 1996.

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2 Odd RW. Child resistant containers for liquid medication. *BMJ* 1993;306:460.

## Melanoma in Britain and British Columbia

EDITOR.—Joan Austoker's review of malignant melanoma omits to compare the incidence of the disease, and survival from it, in Britain with that in the rest of the world.<sup>1</sup> The table compares the British figures quoted with those from British Columbia, Canada, over a similar period.<sup>2</sup> Such differences in incidence and survival should be a cause for concern in Britain.

*Depth of primary tumour, five year survival, and proportion of primary tumours on extremities in patients with melanoma in Britain and British Columbia. Values are percentages*

	Primary tumours with depth <1.5 mm	Survival at 5 years		Primary on extremity	
		Men	Women	Men	Women
Britain	39	52	75	42	73
British Columbia	60	70	83	28	62

Better prognosis for women compared with men in British Columbia was related to thinner primary tumours (median depth 1.1 mm in women and 1.45 mm in men).<sup>2</sup> The duration of symptoms in men and women was 5.6 and 6.2 months respectively, suggesting that differences in survival between the sexes are not related to earlier recognition of melanoma. The difference in survival between the sexes is attributable to longer intervals to recurrence, while survival after recurrence is equivalent.<sup>2</sup>

Ethnic differences are unlikely to contribute to the differences in the incidence of melanoma and survival between British Columbia and Britain since the population of British Columbia is mostly of Scottish origin. The distribution of the primary site favours British patients (more melanomas on the extremities), yet survival favours patients in British Columbia.

Differences in education and medical practice have to be considered as potential reasons for the observed differences in the depth of melanoma and survival between British Columbia and Britain.

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- 1 Austoker J. Melanoma: prevention and early diagnosis. *BMJ* 1994;308:1682-6. (25 June.)  
2 Carmichael VE, Wilson KS. Primary cutaneous malignant melanoma: experience of the British Columbia Cancer Agency from 1972 to 1981. *Can J Surg* 1992;35:589-97.

## Bone marrow transplants from peripheral blood

EDITOR.—Reinfusion of peripheral blood stem cells to repopulate the bone marrow after myeloablative chemotherapy is being increasingly used to intensify treatment for haematological and other malignancies.<sup>1</sup> We could find no published data on the practicalities of returning the cells to the patient through a central venous line. One method is to inject the stem cell suspension with a syringe, but problems may occur in maintaining sterility; in addition, too rapid injection may result in an adverse reaction to the cryopreservative (dimethyl sulphoxide) in which the cells are suspended.

An alternative method is reinfusion with a standard blood giving set, but, using this technique, we have observed accumulation of cellular sediment within and around the 170 µm filters of such sets. Since the cell suspension harvested with a Haemonetics V50 cell separator contains platelets of the order of 10<sup>12</sup>/l these were probably contributing to the cellular sediment in the filter bulb, but we were concerned that stem cells might also be trapped and wasted in the sediment. Three patients who had received myeloablative treatment for high grade lymphoma each received reinfusions of two bags of stem cells. The concentration of CD34 positive cells (putative stem cells) in individual bags of harvested cells was measured before and after the cells' passage through blood giving sets. There was no significant change in concentration of these cells ( $P > 0.05$ , paired *t* test), and the procedure was successful in all three patients.

It is reassuring that peripheral blood stem cells can be returned to a patient in a sterile and easily controlled way with a standard blood giving set without appreciable loss of cells.

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- 1 Holyoake TL, Franklin IM. Bone marrow transplants from peripheral blood. *BMJ* 1994;309:4-5. (2 July.)

## Assessing change through audit

EDITOR.—In his commentary<sup>1</sup> on the multicentre criterion based audit of the management of induced abortion in Scotland<sup>2</sup> Ken MacRae makes a telling point about the risk of double standards in the assessment of audit rather than research papers. He is right to challenge the view expressed in "Editor's choice" that without such double standards "the *BMJ* would rarely have published any papers on audit." The methodology of research needs to fit its purpose, and the current accepted gold standard of the randomised controlled trial is appropriate when research compares different interventions. It would be unhelpful to suggest that a lower standard is acceptable merely because a study is called an audit.

There is potential confusion, however, about the nature of the intervention being studied here. The intervention being tested is not priming with mifepristone but the effectiveness of the audit process in generating changes in service derived from expert review. MacRae's points about the robustness of the conclusions to be drawn from the study still hold, but the consequences of publishing an erroneous finding are much less. At

worst, other groups will misguidedly use the authors' methods for disseminating information on good practice when in fact the improvements were due to confounding effects, such as parallel publication. If, however, the authors had claimed from the results of such a study that morbidity had changed as a result of increased use of mifepristone then MacRae's strictures would have been crucially important.

The debate about appropriate methodology for audit is complex, but two further points are relevant. Firstly, the audit process often challenges received wisdom in medicine, which itself may never have been subject to randomised controlled trials. In this situation it is helpful to publish provisional findings, which can then be scrutinised more exactly. Secondly, there is an assumption that the best methodology is always a randomised controlled trial. Audit requires a diversity of methods that are optimal for different questions. Measurement of "clinically significant change"<sup>3</sup> might be a useful technique for locating individual patients in an audit within a framework delineated by reliable measures of change derived from larger samples. Howard *et al* suggest that the limits of randomised controlled trials need to be considered when appropriate audit methods are chosen: the difficulties of attrition, generalisability, the need for unambiguous main effects.<sup>4</sup> All of these are challenges to the utility of the randomised controlled trial as the best available methodology in systematic audit.

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- 1 MacRae K. Commentary: validity of assessing change through audit. *BMJ* 1994;309:18-9. (2 July.)  
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## Complementary therapies used by patients with cancer

EDITOR.—S M Downer and colleagues found that 16% of patients with cancer had used complementary therapies.<sup>1</sup> We wish to report a study that we are carrying out.

Between September and 31 October 1993, 327 consecutive unselected patients starting treatment with radiotherapy at Mount Vernon Centre for Cancer Treatment were asked to complete detailed questionnaires about their treatment and psychosocial support. These included a hospital anxiety and depression scale, a cancer locus of control, and the European Organisation for Research and Treatment of Cancer's quality of life questionnaire C30 (a general quality of life questionnaire). We also collected detailed clinical, social, and demographic data. Of the 268 patients who consented, 174 were receiving radical radiotherapy as opposed to palliative radiotherapy. One hundred and fifty eight patients were women, and the age range was 22-88 (mean 62.8) years.

Results from a questionnaire listing 40 complementary therapies show that 86 patients had used such treatment. While 22 patients had used only one treatment, 15 had used eight or more. Unlike Downer and colleagues, we regarded counselling, telephone helplines, and support groups as complementary therapies (table). While many patients availed themselves of these three services, this cannot account for the overall higher uptake in our study compared with Downer and colleagues.

Therapy	No
Counselling	35*
Telephone helpline	24†
Massage	23
Relaxation	23
Cancer support group	20†
Aromatherapy	16
Movement/exercise therapy	16
Breathing techniques	17
Acupuncture	15
Osteopathy	14
Music therapy	12
Reflexology	13
Chiropractic	13
Meditation	13
Homeopathy	10
Healing	9
Other‡	67

\*Excludes four patients who used only counselling.

†Excludes five patients who used only telephone helpline or support group.

‡Acupressure, Alexander technique, art therapy, behavioural therapy, biofeedback, colonic irrigation, colour therapy, cranial osteopathy, drama therapy, herbalism, holistic treatment, hypnotherapy, naturopathy, nutritional medicine, psychotherapy, tai chi ch'uan, visualisation, vitamin therapy, yoga.

These patients have been followed up since October 1993, and we are continuing to analyse our data and look for psychosocial factors associated with the use of complementary therapies.

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1 Downer SM, Cody MM, McCluskey P, Wilson PD, Arnott SJ, Lister TA, et al. Pursuit and practice of complementary therapies by cancer patients receiving conventional treatment. *BMJ* 1994;309:86-9. (9 July.)

## Future of preventive dentistry

### Caries in children ignored

EDITOR.—In his editorial on the future of preventive dentistry<sup>1</sup> Aubrey Sheiham quotes selectively from a report by the Office of Population Censuses and Surveys<sup>2</sup> and is in danger of misleading readers into believing that only 17% of 8 year old children had experienced caries in 1993 in England and Wales. This figure applies only to the permanent dentition and only to England, the comparable figure for Wales being 22%. Furthermore, Sheiham fails to mention that the report also gives the prevalence of caries in 5 year old children: in this age group 44% of children in England and 54% in Wales had already experienced the disease in their deciduous teeth. The prevalences recorded in 1983 and 1993 indicate that in 5 year old children in England the decline in caries has now levelled off.

The misery that caries in deciduous teeth can bring to young children is evident to those of us who care for them. This is particularly true for children under 5 who require general anaesthesia for the extraction of multiple teeth.<sup>3</sup> A recent survey found that 7852 children required general anaesthesia for the extraction of teeth in three London dental teaching hospitals in the 12 months March 1990 to February 1991, of whom 2396 were under 5.<sup>4</sup>

Sheiham's suggestion that the recall interval of six months should be extended to 18 months or more may be correct for some age groups, but there is no supportive evidence that this should apply to children under 12. The general points in the

editorial on the need for improved preventive measures, including the increased use of water fluoridation, should be supported. Nevertheless many vulnerable children in Britain will continue to need the intervention of dentists to correct their oral problems for the foreseeable future.

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- 1 Sheiham A. The future of preventive dentistry. *BMJ* 1994;309:214-5. (23 July.)
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### Severe shortage of personnel in rural Africa

EDITOR.—We believe that there has been insufficient appreciation of the tremendous falls in caries scores that have taken place in the last 10-15 years. What were we doing wrong in the past? What are we doing right at present? Answers are far from complete. As Aubrey Sheiham points out, however, the fluoridation of water supplies and the use of fluoridated toothpaste probably rank first in importance as preventive measures.<sup>1</sup>

What worries us is the future of preventive dentistry in Third World populations, as in southern Africa, where the prevalence of caries is rising. Although until recently most young rural African children were free of caries, in children in big cities the rises in decayed, missing, and filled teeth scores (with respect to both deciduous and permanent teeth) are such that the means are now higher than those in their white counterparts,<sup>2,3</sup> which have been falling. How can the tide of changes in dietary and non-dietary practices, some good, some bad, be controlled? In stark contrast to the plethora of dentists in prosperous Western countries, in Africa dental help, especially in rural areas, is severely limited. Dental auxiliaries, were they freely available, would certainly be of help.

So far as control of caries is concerned, we see only one avenue of hope—namely, the increasing practice among African children of cleaning their teeth with fluoridated toothpaste. In a recent inquiry the motive for this was found to be not the prevention of caries but simply to have a clean mouth.<sup>4</sup> Obviously, this behaviour, as a component of primary public health care, must be strongly encouraged.

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### Editorial offends dentists

EDITOR.—Must Aubrey Sheiham adopt such an accusatory manner? His editorial on the future of preventive dentistry is erudite and articulate and shows clear, logical thinking backed by relevant,

current research.<sup>1</sup> I suspect, though, that he has succeeded in putting dentists' backs up with his tone. Why use the following phraseology?

"Dentists play only an insignificant part [in prevention]. We need to reconsider what dentists should be doing."

"In future, dentists should do fewer restorations, but of a higher quality, and offer more appropriate prevention."

"Dentists' preventive practice should be confined to supervising auxiliaries."

"The role of individual practitioners in prevention, however, is limited."

I offer the following as possible alternatives:

Historically high prevalences of disease led general dental practice to be based on treatment. With recent sharp falls in the prevalence, the delivery of primary dental care should be reviewed.

With fewer restorations required, the system should be altered to encourage higher clinical standards.

Most practice based preventive care could be delivered more cost effectively by suitably supervised auxiliaries.

Health promotion initiatives by public health dentists offer the greatest scope for the future prevention of dental disease.

There is obviously a difference between general dental practice and dental public health, as there is between cardiac surgeons and the public health campaign to reduce tobacco smoking. If Sheiham disagrees with the way in which primary dental care is delivered he should direct his comments at the system and not at practitioners. My comments are not purely semantic or prompted by injured pride. Articles such as the editorial, and especially similarly worded articles by Sheiham that have appeared in the tabloid press, undermine the morale of, and public confidence in, a profession that is already despondent.

Sheiham always gets a response to his articles. If he was more conciliatory and less reproachful he might be recognised as the leader that he is and gain more support within the profession for his excellent strategies.

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- 1 Sheiham A. The future of preventive dentistry. *BMJ* 1994;309:214-5. (23 July.)

### Standardised program for medical audit is needed

EDITOR.—A simple definition of medical audit, applicable to both developed and developing countries, is "the critical analysis of medical data to improve patients' care." The type of analysis would depend on the detail and quality of the data available—that is, medical audit should be viewed as a maturing process, from the analysis of basic health statistics through to detailed analysis of the management of specific diseases and the use of resources.

My experience of setting up a system for collecting data in a developing country and experience of using an in house system in a developed country<sup>1</sup> have highlighted the need for a standardised program for medical audit that is freely available. Problems encountered have included errors made when the data were entered, inconsistencies in the coding hierarchy, and problems related to diagnostic certainty. A well designed program with robust routines to check for errors would reduce errors of data entry. Problems with the coding hierarchy—for example, "anaemia and malaria" or "malaria and anaemia"—and with diagnostic certainty—for example, "fever," "clinical typhoid," or "typhoid"—are more common in, but not confined to, developing countries.