by the pharmaceutical industry in exactly the same way as general practitioners and so it is likely that this effect spills over into the advice given to general practitioners. Furthermore, there is a commercial interest in that many hospitals are able to buy drugs at a difference price to that charged in the community and this 'loss leader' approach to pharmaceutical selling has a profound influence on the patterns of prescribing by general practitioners.

It is rather sad to see that more unbiased sources of information, such as the *British national formulary,* ranked low down on the list of influences on doctors' prescribing. Therapeutics is an important subject which is highly undervalued in schemes of both undergraduate and postgraduate medical training. It seems a pity that the same techniques used to sell washing powder are still more successful than providing more detailed, unbiased and factual information.

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Patient participation

Sir,

We read with interest the paper on patient participation in general practice (May *Journal,* p.198). Dr Agass and colleagues suggest that the level of awareness of their patient participation group might have been higher had patients over 65 years of age been included in the study. Why were they excluded? Results from the study show that awareness and interest tended to be greatest in older women and among those who consulted more than four times per year. Older people are known to consult more frequently, so why were they not asked to participate in the survey? Will not this kind of discrimination against elderly people perpetuate inequalities in health in the practice population?

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Patient education and attendance rates

Sir,

Dr Grundy-Wheeler's excellent paper (May *Journal,* p.210) has confirmed my own findings that effective patient and parent education, provided in comprehensive care programmes for children under five years of age, reduces both out of hours attendance rates and total attendance rates in practices running such programmes.

However, I suspect that at least some of the beneficial effects found in this study may have been reduced by the one doctor who continued to prescribe antibiotics for 80% of the children presenting with upper respiratory tract infection. Although not in the results I suspect that he or she may also have had the highest consulting rates for this age group.

As more and more partnerships start to use indicative drug budgets and PACT (prescribing analyses and cost) data, such prescribing patterns may be recognized and dealt with appropriately. For can we, as a profession, allow such behaviour to go unchallenged, especially when it affects costs and probably workload adversely? Or will we continue to claim clinical freedom as a reason for this behaviour?

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Sampling endocervical cells on cervical smears

Sir,

The issue of improved performance of cervical smears in terms of endocervical sampling is an interesting one. The presence of endocervical cells indicates that the transformation zone, where most cancers begin, has been sampled and that the sample is therefore a good one. The paper by the Cumbrian practice research group (May *Journal,* p.192) confirms the results of a number of previous studies on the use of the brush for cervical sampling in primary care settings demonstrating superiority over the swab/spatula technique.[1-4] These report the presence of endocervical cells in between 84% and 90% of smears. The rate reported by the Cumbrian practice research group is still quite a bit lower than this and may be due to the position of the patient and the more limited visualization of the cervix that occurs in the 'frog leg' position often used in the UK. I had low rates of cervical smear adequacy (72%) despite using the brush until I switched to having the patient use leg stirrups. Now 90% of the smears I take are adequate and have endocervical cells. I find it interesting that in their discussion the authors do not review or quote the extensive literature on the effectiveness of brush sampling techniques.

In their report, the authors do not discuss the significant confounding effects of patient age and fertility status on the adequacy of cervical smear sampling. Endocervical cell sampling is adversely affected by pregnancy and the menopause. Without knowing the distribution of these variables among the two study groups, their conclusions are open to criticism.

In the final paragraph of the paper the authors suggest that increasing the detection of abnormalities will reduce the need for major surgery. The reference for the cervix brush increasing detection rates comes from a journal that is not refereed. In fact, there is controversy about the relevance of increased detection to outcome.[5,6] At least 30% of such lesions are reported to regress over time and better sampling might, in fact, lead to overtreatment.[7]

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Breast cancer screening

Sir,

In their discussion paper (April *Journal,* p.166), Drs Austoker and Sharp argue from contradictory premises. First they accept that 'the decision to mount the NHS Breast Screening Programme was largely political' and leave unanswered their rhetorical question, 'do the benefits of screening outweigh the adverse effects?' Then they exhort general practitioners to cooperate fully with the programme. General practitioners must choose

between being frank about the uncertainties of screening and the possibility that it may do more harm than good, and making unrealistic promises to patients in order to increase uptake.

It is sad that Maureen Roberts' wise counsel, made shortly before she died of breast cancer, is misrepresented and dismissed, among two other references, with the statement, 'Expositions deploring the inadequacies of service provision for symptomatic women have become confused with discussions concerning the efficacy of screening'. Far from being confused, Roberts, with her expertise as director of the Edinburgh Breast Screening Project, questioned the evangelism of screeners and pleaded for the provision of 'a truthful account of the facts [which] must be made available to the public and to the individual patient. It will not be what they want to hear'.[1]

In their last paragraph, Drs Austoker and Sharp express their disagreement with the view that 'screening is invariably an infringement of the patient's personal liberty', which is inexplicably attributed to me and referenced by an article in which I say no such thing. As Drs Austoker and Sharp appear to be worried about the spate of articles confusing the public they should not add to the confusion by their muddled arguments.

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Reference

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Opportunistic screening

Sir,

Norman and Fitter apparently use the word 'screening' as a synonym for a well person consultation organized on an appointment basis (May *Journal,* p.188). Thus, they say 'These figures produce an attendance rate of 87% but a screening rate of only 26% for the target population', while I would say 'these figures produce a screening rate of 87% and an attendance rate at a subsequent clinic of only 26%'. Such a clinic cannot be termed 'screening', although mentioning factors such as smoking, alcohol and obesity during the course of an ordinary patient initiated consultation is legitimately called 'opportunistic screening'.

The debate about the value of preventive measures is important and must continue, but no light can be thrown on the subject until everyone writing about it agrees on their terminology. Norman and Fitter are looking at process, and outcome is to be preferred. If, in a consultation initiated by the patient about something else, I bring up the question of smoking, and a month later that patient comes to me in an ordinary surgery and says that he or she has given up smoking, and six months later he or she comes again and repeats this, then does it matter that the patient did not attend a well person clinic arranged to suit the convenience of the doctor or nurse running it?

Not only is screening possible on an opportunistic, individual basis, but in fact, with properly developed software, it is possible to 'screen' the whole of the practice population in quite a short space of time if the software is organized so that the whole family or household appears on the screen every time an individual patient consults. Such a programme has been running in my practice for a year now, and in the near future we will be able to produce quarterly figures of the number of people in our practice who smoke for example. Further work on this is proceeding, but we should not be confused by simulations which bear little or no relationship to reality.

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The screening process

Sir,

Much confusion exists about the use of the term 'screening' to describe two similar activities, one which is population-based, and the other which is carried out on the individual.

Population-based screening describes the activities of community based professionals. They identify a population of people who are at risk of developing a certain condition and then invite them for examination to detect this disease or pre-disease condition. The results are then compiled based on the findings and outcomes of all those invited for screening, whether or not they attended.

Individual screening is carried out opportunistically and is a physical examination designed to screen for a number of diseases in an individual.

There are four factors which can influence the outcome in the majority of acute diseases: the aggression of the disease; the resistance of the host; the timing of the diagnosis; and the treatment offered to/accepted by the sufferer. A screening examination can affect just one of these: the timing of the diagnosis.

To have an effect on disease incidence or outcome, population-based screening must recruit the majority of the at risk population. It must be carried out effectively and frequently enough to reduce the number of cases presenting in the interval between screening. If only 50% of the population accept an invitation for screening, then only 50% of the studied disease can be detected by this screening process. However, if there is a frequent interval in the screening programme, the number of cases detected by the screening process may be exactly the same as in a different situation where there is a higher percentage of the population accepting the invitation for screening but a longer interval between screenings.

Individual screening is concerned with applying appropriate screening procedures in a correct way and using an appropriate interval between screening examinations which will reduce to a minimum the individual's risk of developing the disease in the interval between screenings.

These simple models, of short screening interval/low patient compliance rate and long screening interval/high patient compliance rate which give similar detection rates, can be applied to any condition which has a known prevalence and incidence. One-off screening procedures, as for phenyl-ketonuria or for genetic disease, obviously carry no risk of interval diseases. There is only the possibility of cases being missed owing to inaccurate screening techniques.

The anguish of Maureen Roberts,[1] a greatly admired researcher in the breast cancer field, and the subsequent correspondence,[2] reflects the concern of professionals in the field of breast cancer screening. These are real concerns and are being properly addressed.

However, there must be no confusion between the advantages of population-based screening and the advantages of individual screening. Two axioms must be accepted: a screening examination can offer no benefit whatever to those who do not have it; and a screening examination is of no benefit to those who develop the disease in the interval between screenings. Once these axioms are understood by both professionals and the lay public, screening procedures and processes can be reviewed in their correct perspective.

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