sociological effects was specifically excepted, even though the study was designed by an acknowledged authority on cystic fibrosis. This information turned out to be needed. If the NHS is to be considered as a state supported personal health service rather than a state run human veterinary service those concerned with funding and implementing screening programmes have a duty to study in pilot trials how such programmes are likely to be perceived in the community; and the same applies to programmes of immunisation. Indeed, had the public's perception been considered when whooping cough vaccination was introduced much subsequent bother would have been averted. So called soft science is better than no science at all.

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1 Cuckle HS. Screening with discrimination. *BMJ* 1990;**301**: 889-90. (20 October.)

National Cervical Screening Programme

SIR,—Dr David Slater advocates departmental enforcement to ensure that health districts provide adequate resources to improve cervical screening standards.[1] Though there may be a good case for improved efficiency in using resources already committed to this screening programme, it must be remembered that the number of deaths due to carcinoma of the cervix fall well below those due to many other preventable causes of death in both sexes.

Are the incremental benefits that may be derived from the compulsory diversion of further scarce resources into cervical screening likely to offset possible costs in terms of increased morbidity and mortality arising from other diseases? We suspect that this is most unlikely and would in any case argue that individual health districts should be able to determine their own priorities in terms of service based on local need.

None the less, if we accept that the process of cervical screening does on the whole confer benefit to a population then a way forward may lie in centrally coordinated funding distributed on a pro rata basis to an agency acting on behalf of one or more health districts. As is pointed out by Dr Andrea Elkind and colleagues[2] the planning, implementation, and operation of a cervical screening programme is a considerable undertaking and does require the coordination of several agencies. Central funding, already used for breast cancer screening, would be a more rational means of ensuring that the guidance advocated by the 1988 circular can be followed by those agencies participating in the cervical screening programme and thus help towards a more satisfactory outcome for all concerned.

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1 Slater D. National Cervical Screening Programme. *BMJ* 1990;**301**:887-8. (20 October.)
2 Elkind A, Eardley A, Thompson R, Smith A. How district health authorities organise cervical screening. *BMJ* 1990;**301**:915-8. (20 October.)

SIR,—Dr David Slater states that a recall interval of three years for cervical smears has substantial medical support.[1] In the next paragraph, however, he seems to disagree with this sentiment when he argues that Avon's successful policy of returning "inappropriate opportunistic smears" unreported deserves a widespread introduction.

Most doctors agree that a three year recall is about right for cervical cytology and that the present target payment system is ill conceived in that it allows only a five year recall. General practitioners will be acutely aware of how much anxiety and embarrassment is caused to many women by pelvic examinations. When the occasion arises to do a pelvic examination before the due date of the next cervical smear I believe that it would be remiss not to do an opportunistic smear even if this may be classified by some as inappropriate.

I hope that the Avon initiative will not be introduced nationally as this would, in my view, be yet another nail in the coffin of freedom to exercise clinical judgment.

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1 Slater D. National Cervical Screening Programme. *BMJ* 1990;**301**:887-8. (20 October.)

Prediction of hip fracture in elderly women

SIR,—Dr R W Porter and colleagues have clearly showed the inaccuracy of predicting hip fractures.[1] Women characterised by low bone density and low cognisance seem to have fractures 8·4 times more often than women with the opposite characteristics.

Scientifically, this result suggests that bone density or cognisance, or both, might be involved in the mechanism of fracture occurrence. Clinically, however, the reporting of a risk ratio between two extremes of a risk distribution is totally irrelevant. The classic measures for clinical predictions are sensitivity and specificity.[2] In the study by Dr Porter and colleagues only 18 of 61 hip fractures occurred in the so called high risk group. This resulted in a sensitivity of prediction of no more than 0·30 and a specificity of 0·89.

Any preventive effort directed towards such a "high risk" group will fail to reduce the number of hip fractures in the population. Prediction of osteoporotic fractures by bone density measures or by any other risk characteristic remains very inaccurate.[3,4]

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1 Porter RW, Miller CG, Grainger D, Palmer SB. Prediction of hip fracture in elderly women: a prospective study. *BMJ* 1990;**301**:638-41.
2 Wasson JH, Sox HC, Neff RK, Goldman L. Clinical prediction rules. Applications and methodological standards. *N Engl J Med* 1985;**313**:793-9.
3 Raffle AE, Cooper C. Bone density screening for osteoporosis. *Lancet* 1990;**336**:242.
4 Van Hemert AM, Vandenbroucke JP, Birkenhäger JC, Valkenburg HA. Prediction of osteoporotic fractures in the general population by a fracture risk score: a 9-year follow-up among middle-aged women. *Am J Epidemiol* 1990;**132**:123-35.

Safety and health in the construction industry

SIR,—Dr D Snashall's editorial on the grim record of safety and health in the construction industry raises several questions.[1]

Has the industry always been based so much on subcontracted or unregistered labour? During the 1970s the building workers' trade unions fought hard against the employers' use of unregistered labour—a battle that they lost. Since then the larger companies, and, more recently, local councils, have increasingly used subcontractors rather than employing their own workforces, who tend to be better organised.

Coalmining also entails "breaking new ground" and plenty of horizontal and vertical movement, yet the death and injury rates among miners, though bad enough, are not as bad as those among construction workers. Could this be related to the miners' stronger union organisation?

The reason that the learning curve is so steep on many building projects is that priority is given to completion dates and not to workers' safety. It is quite common for employers to blame the "feckless" victims for the accidents that kill or main them at work. This October the safety officer of the Channel tunnel project claimed that workers on the site were macho and unconcerned about safety. Yet it is the project's management who have pushed for the speed of tunnelling to be tripled since the beginning of this year.

Even when employers are found at fault there is no effective financial pressure on them to put their house in order. The first six deaths on the Channel tunnel project led to fines totalling £78 000; the total investment in the project is over £7bn.

If only employers, trade unions, and government would get together.... But are the government and employers going to play ball? Not if the oil industry, with its appalling record of fatalities, is anything to go by. The North Sea oilfields were specifically excluded from the provisions of the Health and Safety at Work Act, and the oil companies, left to "regulate" themselves, have fought tooth and nail to keep trade unions out of the industry. Not until the industrial action taken by oil rig workers this year did the oil companies think twice about workers' safety. Strengthening the trade union organisation will lead to real improvements in safety both there and in the construction industry.

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1 Snashall D. Safety and health in the construction industry. *BMJ* 1990;**301**:563-4. (22 September.)

SIR,—Dr D Snashall's editorial highlights a serious problem.[1] The accident rate in the British construction industry has no justification and shows a lack of commitment to safety among employers. It is difficult to see, however, how employing large numbers of doctors can have a major effect on this.

Increasing awareness of safety is a complex task that requires the participation of all levels in a company, including the rank and file. The first priority is to make sure that every employee is aware of the importance of his or her contribution to his or her own safety.[1] Some ways of achieving this are by using near miss reporting schemes, regular well planned safety meetings, and high profile safety campaigns. The second priority is to show employees that management is committed to safety by promptly investigating any accident. Then, improvements recommended must be instituted as quickly as possible, and all results should be widely publicised. Finally, management should recognise that accidents cost money, both because of sickness absence and compensation paid to injured employees or their families. The costs of safety programmes should not be seen as pure expense but as the means of protecting a company's most important asset: its workforce.

The cost to society must also be recognised. If the cost benefit of safety is not obvious to managements it is society's responsibility, through government, to ensure that the cost-benefit ratio lies firmly on the side of safe working. Construction projects are usually offered to the lowest acceptable bidder. Unless owners and operators see safety as a priority for their contractors' employees there is a perceived disincentive for bidders to tender for safety.