Asthma deaths in New Zealand

SIR,—Ten years ago a member of our group was a coauthor of a paper alerting readers of the *BMJ* to a new epidemic of deaths from asthma in New Zealand.¹ More recently we hypothesised that inhaled fenoterol may have had a role in the epidemic² similar to that of isoprenaline forte in the epidemics in the 1960s.³ Three case-control studies found that inhaled fenoterol was associated with deaths from asthma,^{2,4,5} and these findings have now been confirmed by a similar study in Saskatchewan.⁶ There is also experimental evidence that the adverse effects of fenoterol are greater than those of other commonly used β agonists.^{7,8}

When our first study was published in mid-1989¹ New Zealand's Department of Health issued a warning that fenoterol should not be used by patients with severe asthma, and sales of the drug began to fall (figure). The provisional mortality

Sales of fenoterol as market share of inhaled doses of β agonists (excluding nebulised presentations) and annual mortality from asthma per 100 000 people aged 5-34 in New Zealand, 1974-89

data for 1989 are now available from the Department of Health. These show that mortality in the 5-34 year age group in New Zealand was the highest in the world during 1983-8 and remained relatively high in the first half of 1989, at 2.2/100 000. In the second half of 1989 the mortality fell significantly ($p=0.04$) to 1.1/100 000 (figure). Preliminary estimates for the first half of 1990 (90% complete) indicate that mortality remains relatively low, at approximately 1.0/100 000.

These findings should be interpreted cautiously because time trend data can be affected by many factors. Nevertheless, the epidemic began when fenoterol was introduced in 1976 and seems to have waned rapidly after warnings about the hazards of fenoterol in mid-1989. This pattern is almost identical with that after warnings about isoprenaline in the 1960s.⁷

On the other hand, the time trend data are inconsistent with the hypothesis that the epidemic may have been due to a class effect of β agonists. The switch to regular use of β agonists (and the sharp rise in sales) occurred in 1979, whereas the epidemic started in 1976.⁹ Total sales of β agonists increased slightly during 1988-90, and publicity about the regular use of β agonists began only in December 1990.¹⁰ Thus the trend in mortality over time is consistent with a major role of fenoterol but is inconsistent with a major role of a class effect of β agonists in the second New Zealand epidemic.

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Public health heresy

SIR,—Paula Whitty and Ian Jones chronicle succinctly the potentially disastrous binding of public health into the NHS purchasing process.¹ Their argument is oversimplistic. The mandate of directors of public health after the Acheson report—to identify the health needs of the population and to recommend ways in which these could be met—was never thought to exclude curative, reparative, or supportive ways of improving the population's wellbeing. Health promotion services can be purchased like any other. Public health has never competed well for resources with the clinical disciplines, and purchasing has made this neither better nor worse. It has, however, provided the means, through provider contracts, of getting clinicians to help prevent disease—a substantial advance.

Whitty and Jones are right to point out probable conflicts of interest as directors of public health in particular have become corralled into the corporate processes. Nothing better illustrates this conflict than the fact that many directors of public health have a role in the rationing of options of general practitioners and their patients inherent in extra-contractual referrals.

The authors are right, too, to point out the danger of directors of public health becoming too involved in administering the clinical services. In practice, the current danger is that the directors will be exhausted by the floods of information, central government diktats, special interest pleadings, reports, and recommendations with which she or he is expected to deal. Public health is partly to blame for having extolled what in 1985 I termed administrative and economic epidemiology.² Having become aware at about that time of the seeming rising tide of communications that at least had to be read, I began periodically to audit written material coming to a director of public health. I excluded from my count the vast bulk of material, including all journals, books, bulletins, courses, conferences, annual reports, health data, minutes

of meetings, staff memos, budgets, expenses forms, advertising, drug company material, and my own letters. Latterly, for the sake of making a proper comparison, I also excluded correspondence about extracontractual referrals.

In 1985 during a typical month I was expected to deal with 1339 full page equivalents of communications. By 1988 this had risen to 1411. This year, in what seemed a suspiciously quiet pre-election month, the count of mandatory reading reached 1594 pages. This period also saw a profound change in the nature of the material itself. In 1985 and still in 1988 much of the original correspondence originated from members of the public. This year the obligatory reading originated almost entirely in the NHS hierarchy itself. This seems to me to say a lot about where public health has now arrived.

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- 1 Whitty P, Jones I. Public health heresy: a challenge to the purchasing orthodoxy. *BMJ* 1992;304:1039-41. (18 April.)
- 2 Robinson D. *Epidemiology and the community control of disease in warm climate countries*. Edinburgh: Churchill Livingstone, 1985.

SIR,—Paula Whitty and Ian Jones clearly and accurately point out that the root causes of ill health are problems such as poverty and unemployment.¹ I take issue, however, with their uncharitable attack on public health physicians and their purchasing role. They are obviously unaware of the issues that presently confront public health physicians in their endeavours to improve the health of the population.

Ever since public health physicians started to ply their craft in the mid-nineteenth century they have been well aware of the often politically sensitive nature of their activities and have known that they have to achieve their objectives by whatever means are appropriate within the prevailing context of practice.

The present context is the purchaser-provider separation. Within this framework, to achieve their ultimate goal—improving the population's health—public health physicians have identified the key organisational roles that they need to fulfil both within the purchaser and the provider domains as well as across health service boundaries.

Establishing a credible profile within the purchasing framework and working closely with managerial colleagues have enabled public health physicians to identify the prime issues in ensuring that money is spent to the best advantage for the population.

This may not immediately or dramatically change health status but does help to build up the networks and the support mechanisms that permit public health physicians to influence and persuade at a broader level. Some of the key skills that are incorporated in training in public health medicine are those entitled "political"—knowing when and how to intervene and when to refrain, understanding organisations and the power bases within them, and understanding and managing vested interests.

Poverty and unemployment are outside the direct aegis of public health physicians, but enabling politicians to understand what the results of their actions may be and helping health service colleagues and consumers to understand and to act on health information are well within the

legitimate work of public health medicine and happen daily.

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SIR,—Paula Whitty and Ian Jones's article questioning the role of public health doctors in the purchasing of health care services is challenging.¹ It lacks, however, a broader perspective on the problems faced by the specialty of public health medicine in procuring health gain.

Firstly, the authors mention just briefly the impact of fundholding by general practitioners on the organisation and planning of health care in a population. With post-election hindsight (and a new secretary of state for health, whose ambivalence towards trusts and whose dogged determination over fundholding is well publicised), this "wild card" in the NHS reforms deserves greater and urgent attention.² Public health doctors with a purchasing role in their district health authority have generally ignored the purchasing power of fundholders, especially those practices operating in consortiums. In so doing they may have tipped the delicate balance between the need to remain influential in the district health authority and the need to retain independent professional responsibility for the health of the whole population too far in the former direction. In addition, there are no incentives for fundholders to take regard of departments of public health medicine with a view to obtaining rational advice on purchasing.

Secondly, the authors assert that NHS services are poor at promoting health gain in comparison with fundamental changes in socioeconomic conditions. Historically most NHS resources have been focused on secondary health care at the expense of primary health care services. But primary health care services are rarely regarded as potential providers of cost effective, integrated, and locally responsive health care; rather they are considered merely to be efficient gatekeepers. Although, like secondary health care, primary health care remains essentially unevaluated, the reorientation of medical care towards preventing disease, promoting health, and primary health care is an inevitable but, hopefully, worthwhile strategic trend.³

Thirdly, the purchasing role of family health services authorities has at best been marginal (in terms of absolute money available) yet their potential for influencing health gain is unrealised. Some faltering steps are being made by a few public health doctors in health care planning and developing strategy in primary health care. The relationship between medical advisers or directors and public health medicine is of paramount importance, yet there is little evidence that it is being managed proactively. I suspect that the future success of public health medicine depends more on its central involvement in primary health care than it does on any other purchasing role.

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1 Whitty P, Jones I. Public health heresy: a challenge to the purchasing orthodoxy. *BMJ* 1992;304:1039-41. (18 April.)

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3 European Office of the World Health Organisation. *Regional strategy for attaining health for all by the year 2000*. Copenhagen: WHO/EURO, 1981. (EUR/RC 3018 rev 1.)

SIR,—Paula Whitty and Ian Jones's article on public health medicine is misleading and over-pessimistic.¹ The authors fail to acknowledge the growth throughout the 1980s of the new public health movement, which seeks to influence from

within the NHS as well as operating more widely through structures such as the healthy cities movement and external organisations such as the Public Health Alliance.^{2,4}

It is erroneous to attribute the current division of working time of those in public health to the NHS and Community Care Act. Since 1974 public health has been anchored in the NHS management structure, and much of the time and energy of public health physicians has been devoted to health care services. The authors produce no evidence that more time has been spent on health care services and less on health promotion since the implementation of the act.

Though there are serious problems with the NHS and Community Care Act, we see particular advantages to the split between purchasing and provision. Health authorities are now responsible for the health of a defined population, and, as partners in purchasing teams, public health physicians have a major role in the distribution of resources. We are now able to require information on outcomes and effectiveness as part of service contracts.

The fear that assessment of health care needs will not improve the public's health derives from the work of McKeown⁵ and assumes that the only important outcome measures are reductions in mortality. We suggest that a reduction in distress and disability due to the activities of health care services is equally important. Indeed, Whitty and Jones are in danger of belittling the daily contribution that the one million employees of the NHS make in ameliorating inequalities and relieving distress, disability, and disease. Not only do they adduce no evidence to support their assertion that public health skills are "presently redundant" in the measurement of outcomes but they later state that public health has an accepted role in evaluating the benefit of health services.

Like Whitty and Jones, we are concerned about the mergers of health authorities, impact of fundholding, effects of relatively diminishing resources, and serious lack of reliable information on activity and effectiveness of health services. Our particular skills in advocacy and analytical interpretation of data and the ability to take an overview of the population will help to meet the challenges within the NHS as well as in a wider local context.

Now is an exciting time to work in public health, as the quantity and quality of our new recruits attest. Our work is reflective and analytical, and we are more prone than other specialties to question our role. In that case we should take care to give the positive aspects as wide publicity as the negative ones.

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Vertebral fractures

SIR,—Cyrus Cooper and L Joseph Melton's editorial brings together several of the current thoughts on spinal deformity.¹ We disagree, however, with the conclusion that the "clinically

manifest burden [of vertebral fractures] is considerable." The burden of a vertebral fracture must be the continued pain, disability, or deformity that arises plus the prospect of further fractures in the future.

Any quantification of fractures should closely relate structural deformation to symptoms. The authors barely touched on the problem of grading deformities let alone relating them to symptoms. The plethora of grading systems indicates the problem. No system rises appreciably above all others in its ability to relate to symptoms.

In a study that we carried out in Nottingham subjective assessment was no worse than any of three grading systems that were compared by cross correlations of deformity, and none of the grading systems related significantly to pain or disability (unpublished findings). The study also showed that even the measurements of vertebral dimensions that the grading systems use are open to subjective interpretation.

We are surprised that Cooper and Melton do not quote a study by Cooper himself with colleagues.² This cross sectional epidemiological study of vertebral fractures showed, like ours, that there was no significant difference in the prevalence of back pain between groups with and without fractures. A study by Ross *et al* did show a correlation of back pain with limitation of activity and vertebral fractures but only for those in whom lateral radiography showed a loss of 35% of the area of at least one vertebra.³ This was the most severe grade and is above the grades 1 and 2 that Cooper and Melton quote. Ross *et al* found no correlation of fractures of Cooper and Melton's grades 1 and 2 with back pain unless there were multiple deformations.

So do we need grading at all? Why not define vertebral fractures in population studies as occurring above some level of deformity—say, a 35% loss of area?

From Cooper and Melton's figures for the frequency of vertebral fractures in the United Kingdom, we would expect 114 patients a year to be admitted with painful vertebral fractures in Nottingham. Hospital Activity Analysis data, however, show that only 18 patients were admitted with pain. Though we acknowledge that coding problems and underreporting occur with Hospital Activity Analysis data, we suggest (based on admissions to hospital) that the clinical problem is probably smaller than the authors suggest.

The subtitle of the editorial asked how large the silent epidemic is. Do we have a silent epidemic or not? Until a relevant definition of a vertebral fracture is found further research work will be hampered.

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Routine weighing during antenatal visits

SIR,—The tone of the editorial on routine weighing during antenatal visits was disappointing.¹ The authors seem to overlook the fact that routine antenatal care is no more than a screening process. Thus the tests applied during antenatal care should