

## LETTERS TO THE EDITOR

### Cystic fibrosis: current survival and population estimates to the year 2000

We read the statistical predictions of longevity in cystic fibrosis by Dr J Shale and others (December 1991;46:881-5) with interest, but we would like to comment on their statement that "health service provision for children will not need to change substantially over the next 10 years." We run a regional paediatric cystic fibrosis clinic, and we have recently examined the change in our work load over the past four years (1988-91).

We found a 102% increase in the number of inpatient and/or intravenous treatment days for the patients of our own district, with only a 16% increase in numbers attending district clinics. During this time our role as a regional centre has developed; the increase in work load resulting from this is even greater than that seen in district patients (table).

This rise in number of admissions results both from the increasing treatment needs of children with cystic fibrosis as they grow older and develop more of the complications of the disease and from a generally more aggressive

approach to treatment in recent years. The increasing longevity of patients with cystic fibrosis is in large part due to this increasingly aggressive treatment, which includes frequent use of expensive intravenous antibiotics, with implications for the budgets of paediatric units. Indeed, we are now asking local general practitioners to share the cost of prescription of intravenous antibiotics for home administration.

This paradox, of increasing survival and quality of life increasing the cost of care, is one that is seen in other aspects of cystic fibrosis care. We agree that the impact of this increasing longevity in cystic fibrosis on adult services will be substantial.<sup>1</sup> It is apparent, however, from our own recent experience that the cost implications for paediatric services, at both district and regional levels, should not be overlooked.

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EJL is funded by the Cystic Fibrosis Research Trust.

1 Royal College of Physicians Working Party on Cystic Fibrosis. *Cystic fibrosis in adults: recommendations for care of patients in the UK*. London: Royal College of Physicians of London, 1990.

Numbers of patients during 1988-91 (numbers from outside district in parentheses)

Year	1988	1989	1990	1991
Number at clinic	65 (28)	63 (28)	78 (42)	110 (67)
Number of patients admitted	24 (13)	21 (9)	31 (12)	46 (26)
Total inpatient or intravenous treatment days	166 (57)	156 (126)	250* (130)	336 (375)

\*Newly diagnosed twins account for 117 days.

### Prescribed fenoterol and death from asthma in New Zealand, 1981-7: a further case-control study

In an article by Dr J Grainger and others (*Thorax* 1991;46:105-11) further evidence was put forward to support the hypothesis that inhaled fenoterol increased the risk of death in patients with severe asthma in New Zealand. Although their careful studies have been concerned with fenoterol itself as a suspected cause of some of the deaths, there is another aspect that I think the authors should take into consideration before condemning fenoterol with certainty, and that is the possibility that their patients may not have shaken the fenoterol inhalers sufficiently vigorously before use. The active agent of most metered dose inhalers is present as an insoluble micronised powder suspended in a liquid propellant, and tends to settle out when an inhaler is not in use. A few gentle shakes before use are not sufficient, because the agent will not be dispersed uniformly in the propellant. As a result, the patient may receive too much sedimented agent in early puffs and, more importantly, too little agent in later puffs to relieve his asthma.

Manufacturers and pharmacists have been well aware of this problem with metered dose inhalers since they were introduced in the

1960s, but it is clear from inquiries I have made recently that many chest physicians have not been adequately informed about the importance of shaking inhalers vigorously before each dose, or told that undershaken inhalers can vary in the dose they deliver per puff. The manufacturers of fenoterol inhalers recommend in their leaflet that the inhaler should be shaken vigorously before each dose, but I think that patients would follow this instruction more actively if it were explained to them that there was an insoluble powder present, which settled out when an inhaler was not in use, and which had to be shaken up vigorously to mix it evenly in a liquid before being inhaled.

I suggest that pathologists who perform necropsies on patients dying of asthma in the future should arrange for the last inhalers in use to be analysed by the manufacturers, to discover if the amount of active agent per dose was too low to be effective. Any action at all that can possibly help to reduce the current formidable number of deaths from asthma, even fractionally, is obviously well worth taking, and in the present instance may exonerate fenoterol from present suspicions.

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## BOOK NOTICES

**Tobacco Litigation—AFCO v TIA. The Case Against Passive Smoking.** Edited by R Everingham and S Woodward. Sydney: Legal Books (14 Charles Street, Redfern, NSW 2016, Australia), 1991.

In July 1986 the Tobacco Institute of Australia published an advertisement in which it stated "there is little evidence and nothing which proves scientifically that cigarette smoke causes disease in non-smokers." The Australian Federation of Consumer Organisations (AFCO) claimed that the advertisement contravened a section of the Trade Practices Act that prohibited "misleading or deceptive conduct," and the case went to the Federal Court. All the evidence available was examined extensively and expert witnesses from Australia, the United States, and Britain were called for AFCO, while the TIA called witnesses who mostly had a previous allegiance to the tobacco industry in their support. In February 1991 Justice Morling handed down his judgement that there was indeed scientific proof that cigarette smoke causes lung cancer, respiratory disease in children, and attacks of asthma in non-smokers, awarding the considerable costs of the case on an indemnity basis to the Tobacco Institute of Australia. The bulk of this book consists of a reprint of this historic judgment, including an analysis of all the primary articles on passive smoking and Judge Morling's comments on the oral evidence provided by both sides. He found the epidemiological evidence impressive and commented on the fact that the Tobacco Institute had failed to field a single epidemiologist, and he had no hesitation in preferring the opinions of the AFCO witnesses. Those who fear that the book is a dry legal document can be reassured that it makes fascinating reading and forms an excellent critical analysis of the scientific evidence, as well as providing a very direct view into the thinking of the worldwide tobacco industry. The value of the book is increased by short introductory chapters on the legal implications, and also an explanation from well known campaigners, including Simon Chapman, of why the tobacco industry went to such lengths and cost to fight the case. They clearly saw the passive smoking issue as a Trojan horse because, although the risks of passive smoking are trivial compared with the risks to smokers themselves, the restriction of smoking in public places has major effects on the number of cigarettes smoked (and bought) by smokers. Those of us who treat the victims of the tobacco industry must welcome the judgment as a sign that good scientific evidence can prevail, and that the industry's determined attempts at self preservation must eventually fail. For all those interested in passive smoking and the politics of the tobacco war this book can be strongly recommended.—JF