quality of mental health care; most 'top-down' evaluation concentrates on resources and process rather than outcome. Jenkins[5] has underlined the danger of measuring only that which is easily quantifiable, stressing the need for outcome indicators relevant to the different categories of illness. She also advocates specific strategies to prevent disease, to alleviate disability and to restore function.

Priority in research should be given to the investigation of the course and outcome of conditions that are managed by general practitioners and not usually referred. The natural history of the non-psychotic illnesses that dominate general practitioner psychiatry remains largely unrecorded and a clearer understanding of the dynamics of the referral process, not only among doctors but among all health professionals, would lead to more effective use of human resources. Much of our knowledge of the action and relative value of psychotropic drugs is derived from hospital based trials. It is therefore important to investigate in general practice the reasons for the initial prescription and use of psychotropic drugs, the effectiveness of these drugs and the impact of factors such as a patient's personality and the therapeutic setting in which medicaments are prescribed. Lastly, there is a need to investigate clinical applications of computer technology in assisting family doctors to improve the detection, diagnosis and management of mental disorders in the community.

While the primary task of doctors in the front line of the health service is to care for the sick and seek to prevent illness and handicap, we should not lose the vision of a better future or cease to work towards it. It is over 40 years since the World Health Organization[6] defined health as 'a state of complete physical, mental and social well being and not merely the absence of disease or infirmity'. Further research and better understanding of strategies for coping with life stress could one day make this view of 'positive' health more than a dream.

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Asthma care in general practice — time for revolution?

THE year 1990 was one of remarkable opportunity for asthma care. The launch of the National Asthma Campaign in January brought together all the elements of self-help, research and fund-raising under a single umbrella, and in April the new contract for general practitioners led to the setting up of asthma clinics in great profusion. In September peak flow meters at last became available on prescription and December saw the release of the new, long-acting bronchodilator drug salmeterol. Perhaps most significant of all was the publication in the *British Medical Journal* in September and October of guidelines from a consensus meeting for the management of asthma in adults.[1,2] Other consensus meetings have also led to guidelines, notably from Canada[3] and London,[4] but these have not drawn together clinicians from both primary and secondary care. The guidelines published in the *British Medical Journal* are a result of collaboration between not only representatives of the British Thoracic Society, the Royal College of Physicians, the National Asthma Campaign and the King's Fund Centre but also members of the Royal College of General Practitioners and the General Practitioners in Asthma Group. The guidelines have been generally welcomed.[5] What then are the implications of these guidelines for general practice?

The guidelines describe the aims of management in adults as 'to recognize asthma, abolish symptoms, and restore normal or best possible function of the airways and reduce the risk of a severe attack'. General practice estimates of the prevalence of asthma in adults are relatively scarce, with Horn and Cochrane reporting 3.5% in two London practices in 1989[6] and Gellert and colleagues, also in a London practice, reporting 7.2% in 1990.[7] However, the evidence for both underdiagnosis[8] and delayed diagnosis[9-11] in children is strong; these findings, in conjunction with the known persistence of childhood asthma into adult life in many cases[12] makes it likely that some adult asthmatics remain undiagnosed in primary care.

Unfortunately, being diagnosed as asthmatic and being prescribed treatment does not lead to the abolition of symptoms. Hilton and colleagues found that 57% of their sample of asthmatics were avoiding activities because of their asthma and that work or school was being missed on average 1.2 times per year.[13] White and colleagues reported breathlessness at least once per week in 47% of their sample and night wakening on at least one day each week in 30%.[14] In 1989 Turner-Warwick reported that 73% of a large sample of asthmatics in the community were waking at least once per week and 39% every night.[15] Clearly, current management is some distance from 'abolishing symptoms'. The increase in the number of deaths from asthma in England and Wales shows that the risks of severe attacks are not being reduced,[16] and many sufferers are accepting the consequences of suboptimal lung function on their lifestyle.

The therapeutic guidance for chronic asthma given in the guidelines also presents several challenges to general practice. Great stress is now placed on the inflammatory origins of asthma and the need for anti-inflammatory therapy such as inhaled corticosteroids or cromoglycate-like drugs at very early stages of the disease. The threshold for starting such treatments has been substantially reduced to 'patients who need to inhale a bronchodilator more than once daily or who have night time symptoms'.[1] A great number of patients not currently receiving these drugs may now benefit from their prescription. Gellert and colleagues found that only 32% of asthmatic adults were receiving inhaled corticosteroids and 8% cromoglycate.[7] Turner-Warwick found corresponding figures of 45% and 21% for asthmatics of all ages,[15] while Horn and Cochrane found figures of 35% and 13%.[17] The stress on anti-inflammatory therapies is made all the more important by evidence published since the guidelines which suggests that the trends towards the use of regular, higher doses or longer-acting inhaled beta-

sympathomimetic treatment may be an important causal factor in the worldwide increase in morbidity from asthma.[18]

Another major change in the management of asthma is signalled in the guidelines — the regular use of oral theophyllines has been relegated to adjunctive therapy in those not controlled by doses of inhaled steroids of 2 mg per day. The usefulness of this class of drugs has been debated recently by Addis,[19] but there is a general feeling that their use should be reduced[20] owing to their narrow therapeutic ratio and lack of anti-inflammatory action. However, studies have reported that between 20% and 25% of asthmatic patients were taking theophyllines.[7,15,17]

The guidelines emphasize the need for adult asthmatics to develop skills in managing their own treatment and considerable detail is provided on the principles involved. A small but important hospital based study has shown marked benefits of self-management among adults[21] and a larger, controlled study in general practice is under way. However, past attempts in primary care to educate patients[13,22] and their doctors[14] about asthma have led to increased knowledge without measurable reduction in morbidity. Education must be of potential benefit to asthma sufferers, but it is obviously difficult to determine the right level of information or how to impart it. Experience in the USA has shown that morbidity can be reduced if self-management programmes are linked with improving knowledge about the disease.[23] This is clearly an important way forward.

Implicit in the guidelines is the frequent and informed review of asthmatics and their degree of morbidity and this should become more commonplace with the rise in general practice asthma clinics and the greater availability of peak flow meters. However, as Charlton and colleagues have recently pointed out, 'Simply prescribing peak flow meters without a system of self-management and regular review will be unlikely to improve patient care'.[24] The guidelines thus pose a considerable organizational challenge for general practice. At present many primary care teams may be some way from being able to provide such proactive care. Proper training for nurses and doctors involved in asthma care initiatives and audit of the benefits gained from proactive management are essential in the drive to help patients without overburdening them or the practices which must still maintain services to the patients with acute illness. The guidelines provide good advice on asthma treatment, but do not cover some of the important organizational points such as when practice nurses providing follow up for asthmatics should refer back to the general practitioner.

The guidelines offer advice on the assessment and treatment of acute severe asthma in the community, in the accident and emergency departments and in hospital wards. Four points are stressed which may require attention in general practice. First, proper assessment of severity demands measurement of lung function. All general practitioners providing on-call services therefore need to carry a peak flow meter. Small portable spirometers probably give little additional benefit since their measurements of peak expiratory flow rate do not correlate well with those of mini-Wright peak flow meters.[25] Secondly, lung function needs to be related to the patient's best value which can only be done if more frequent recordings are made during periods of apparent health, such as by prescribing peak flow meters for home use. Thirdly, the drugs of first choice for acute severe asthma are nebulized bronchodilators and therefore the emergency doctor must also be equipped with a nebulizer. Equivalent doses of bronchodilators delivered via a large chamber spacer may be suitable in many situations,[26,27] but nebulizers should be a part of emergency equipment in general practice. Lastly, the guidelines stress the need to use short courses of oral steroids whenever an emergency nebulization is required.

The guidelines have resulted in debate about the therapeutic aspects of asthma. However, they offer a great challenge to all those involved in the care of asthmatic adults — including the patients themselves — and deserve to be widely considered in general practice. As Rees has said, 'these statements should be seen as guidelines and not as didactic rules for treatment'.[5] Nevertheless we must all be prepared to say why we wish to use some other therapeutic approach. By promoting greater thought about asthma and by stimulating the need for more follow up of our patients, the guidelines should play an important part in the revolution of asthma care which I confidently expect to see in the 1990s.

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