

experience pioneering computerised information systems under the resource management initiative. This shows in its price list, which is more detailed than those of some of its competitors, giving individual prices per procedure in many cases in place of the cruder average specialty costings. Its prices appear lower than average in general surgery; ear, nose, and throat surgery; and ophthalmology but higher than average in urology and orthopaedics.

"A lot of hospitals are not costing properly," said Mr Fenwick. "They still regard capital as a free good. We are working to real costs but some are still working to Mickey Mouse costs. We must ensure we are comparing like with like." He denies that any of the Freeman's prices are badly out of line. But Ms Rillens of the Gosforth practice claims that some are unrealistic, such as £1300 for a sebaceous cyst, which can be done in the surgery for a fraction of the price, and—what appears to be a mistake—£12000 for removing a pin in a bone.

On billing, the toughest area has been outpatients because of the difficulty of classifying cases. "You have got to have a diagnosis to hang your hat on," said Mr Fenwick. Extracontractual referrals have also proved difficult to identify in time to bill the referrer, and obtain approval, before administering treatment. In

general, however, the administration was coping well, he said.

There have been some tangible benefits. The hospital has bought a £350 000 computed tomographic scanner, made possible by the freeing up of capital under the reforms, and appointed a locum radiologist to run it. Agreement has been reached to appoint an extra consultant cardiothoracic anaesthetist and an extra staff grade anaesthetist. The pathology department has picked up "a couple of small private contracts from local industry," according to Dr Kate Gould, chair of the pathology executive. But Dr Lakkur Murthy, clinical head of radiology, is still awaiting trust board approval to appoint the extra consultant radiologist he urgently needs.

Mr Fenwick is tentatively exploring ideas for a new "reward strategy" to recognise high productivity. "There has got to be recognition for achievement," he said. He is also considering evening and weekend working in "a couple of surgical subspecialties."

But he has faced difficulties negotiating contracts for next year. Health authorities are taking their time to think about what they want. "I find it frustrating. Our three year business plan is quite vulnerable. When I say let's talk about the next three years they are very hesitant."

The Health of the Nation: responses

Alcohol as a key area

Peter Anderson

Alcohol satisfies the government's criteria for inclusion as a key area and should form part of a health strategy for England.¹ Alcohol consumption is a major cause of premature death and avoidable ill health in the whole population; effective interventions are possible for reducing alcohol consumption which offer significant scope for improvement in health. Objectives and targets related to alcohol consumption can be set, and progress towards them can be monitored.

Burden of ill health

The harms related to alcohol consumption are many and act at both population and individual levels.^{2,5} They include physical ill health; psychological ill health; public disorder, violence, and crime; family disputes; child neglect and abuse; road traffic accidents; accidents at work and in the home; fire; drowning; and employment problems. The total costs of harm to society are difficult to estimate. Economic costs for the United Kingdom related to alcohol consumption are more than £2 billion annually,⁶ and estimates of the deaths attributable to alcohol consumption in England and Wales vary from 5000 to 40 000.⁷

At population and individual levels as alcohol consumption increases harm increases and as consumption decreases so does harm. This is illustrated by what happened in the United Kingdom in 1981-2, when consumption of alcohol fell from 10.4 litres of pure alcohol per adult to 9.2 litres. The fall was associated with an 11% reduction in convictions for drunkenness, an 8% fall in drinking and driving convictions, and a 4% fall in deaths from liver cirrhosis.⁸

Setting and monitoring targets

Many different types of targets can be set. One target should relate to alcohol consumption. Because of tax

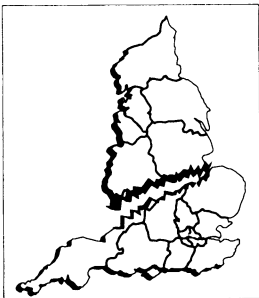
and excise, routine national data are available for trade and production of alcohol from which alcohol consumption per person can be calculated.⁹ Regular national surveys of drinking habits are provided by the general household survey¹⁰ and ad hoc but frequent inquiries of drinking are undertaken by the Social Survey Division of the Office of Population Censuses and Surveys.¹¹ Other targets should relate to reducing risk, state of health, and provision of services.

Risk reduction

Changes in consumption affect drinkers at all levels of consumption. The mean alcohol consumption of a community and the prevalence of heavy drinking are highly correlated ($r=0.97$), such that a mean reduction of alcohol consumption of 10% would correspond with a fall of about 10% in the numbers of heavy drinkers.¹² A Scottish study showed that after a substantial rise in the price of alcoholic beverages in the 1981 budget heavy and problem drinkers reduced their consumption in parallel with more modest consumers.¹³

Although heavy drinkers have a higher proportion of problems than other drinkers the contribution of heavy drinkers to the total number of alcohol related problems in the country is small. Most alcohol related problems occur in large numbers of light and moderate drinkers, although only a small proportion of such drinkers have alcohol related problems.¹⁴ Thus two possible strategies exist to reduce risk: to target preventive activity at those identified as being heavy drinkers (the high risk approach) or to attempt to reduce consumption across the whole population.

The high risk approach is concerned with identifying and helping minorities with special problems by treating their risk factors or seeking changes in their behaviour. The aim is to truncate the risk distribution related to alcohol consumption, eliminating the high tail but not interfering with the rest of the population.¹⁵



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In practice, however, such truncation proves hard or impossible to achieve.

A population strategy has considerable advantages over the high risk approach. Firstly, the potential for reducing harm is greater.¹⁴ Secondly, a population approach would aim at changing the perception of what are normal drinking levels and such a change would have important consequences. An environment in which light drinking is the norm would exert a powerful pressure on people who drink heavily to reduce their consumption and so potentiate the high risk strategy.

Nevertheless, prevention measures that bring much benefit to the population in aggregate offer little to each participating individual and may result in poor motivation to reduce drinking on health grounds. A high risk approach may be needed to complement the population strategy, although by itself it is not sufficient.

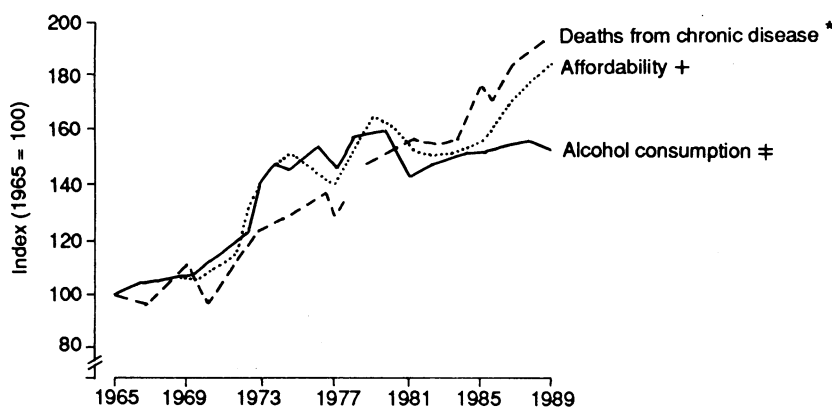
TARGETS FOR ALCOHOL CONSUMPTION

The steady rise in alcohol consumption seen in this country since the 1950s seems to have been tailing off in the 1980s with a consumption per person of 9.6-9.8 litres a year (figure). An appropriate target might be that for people aged over 15 years consumption of pure alcohol per person should fall to 7.0 litres a year by the year 2000. In 1987 the level was 9.8 litres a year.¹⁶ The target requires a fall in consumption of 28.6% and would bring alcohol consumption down to the level in the late 1960s.

One in four men and one in 12 women consume more than 21 and 14 standard units of alcohol a week respectively. A fall in overall consumption of 28% would automatically lead to a fall in the proportion of heavy drinkers of 28%.¹² Because service provision and education campaigns are targeted at reducing alcohol consumption among high risk drinkers higher targets for the fall in the proportions of men and women consuming more than currently recommended sensible levels could be achieved. Thus the government's target that by the year 2005 the number of men drinking more than 21 units a week should be no more than one in six and the number of women drinking more than 14 units a week no more than one in 18 could be achieved by the year 2000.

IMPROVED HEALTH

Liver cirrhosis—The most important indicator of health for alcohol consumption is liver cirrhosis.



* Office of Population Censuses and Surveys - not all these deaths due to alcohol. Discontinuity between years 1977 and 1979 due to change in coding.
 + Economic advisors office, Department of Health.
 = Customs and Excise with Department of Health.

Correlations between alcohol consumption and liver cirrhosis lie between 0.8 and 0.9. A fall in alcohol consumption of 28% would lead almost immediately to a fall in the death rate from cirrhosis and other chronic liver disease combined. Though there would be some latency in death rates from cirrhosis and a proportion of deaths are not caused by alcohol, improved treatment could decrease the death rates.¹⁷ Thus a target to reduce the death rate from cirrhosis by 28%, the same as alcohol consumption, would be feasible. In 1988 mortality from cirrhosis and other chronic liver disease combined was 55 per million population. This should be reduced to 40 per million population by the year 2000.

Road traffic accidents—Deaths from road traffic accidents and the number of such deaths related to alcohol are falling. In 1988 the figure was estimated to be 840. Assuming that the existing trend will continue, the target could be that by the year 2000 the number of deaths from road traffic accidents related to alcohol should be below 500.

IMPROVED SERVICES AND PROTECTION

Services should be based on primary health care with a partnership with specialist services.¹⁸ Advice on screening, risk assessment, and intervention at a primary health care level is available. Interventions at a general practice level reduce alcohol consumption and are as effective as and cheaper than specialist treatment.^{19, 20} The first stage is for general practitioners to record alcohol consumption, and the target for the year 2000 should be that 95% of people aged over 18 years should have a general practitioner health record which includes alcohol consumption. I surveyed 20 000 medical records among 20 general practices within the Oxford region in 1989 and found that only 7% of notes contained a dated record of a quantitative measure of alcohol consumption.

Strategies for achieving the targets

NATIONAL ACTION

The most important determinant of alcohol consumption is affordability, as measured by personal disposable income divided by the price of alcohol (figure). As affordability increases so does consumption and vice versa. The price of alcohol can be manipulated by tax. Differential changes in tax for different alcoholic beverages in Britain have provided clear evidence of the importance of tax in determining alcohol consumption. Over the past 20 years the prices for spirits and wines have dropped more than 50% relative to income whereas prices of beers have dropped by only 16%. Over this period the proportion of total alcohol consumed as beer has fallen from 74% to 55% and the proportion of alcohol consumed as wines and spirits increased from 24% to 40%. Alcohol consumption could be reduced by manipulating the price of alcohol in relation to personal disposable income through taxation policy.²¹

Licensing laws are a second strategy by which alcohol consumption can be influenced nationally. Licensing laws are designed to limit or control the availability of alcohol. But changing the number of retail outlets for alcohol may affect consumption only in communities with few such outlets relative to the population. Consumption of alcohol rose by almost 50% in Finland in 1969 as a result of the 1968 Alcohol Act, which permitted the establishment of state alcohol shops and licensed restaurants in rural areas. In 1968 medium strength beer could be bought in 132 state alcohol shops and 911 restaurants, nearly all of which were in cities and towns. In 1969 there were 18 000 off premises outlets and 4000 on premises outlets for medium strength beer, nationwide.²² The effect of

Alcohol consumption, affordability (personal disposable income/price of alcohol), and deaths from chronic liver disease. United Kingdom, 1965-89

restrictions in a country where alcohol retail outlets are already common has been calculated as a decrease of 2% in alcohol consumed for a 1% decrease in the number of licensed premises.⁵

LOCAL ACTION

National policy needs to be supported by local action. Indeed local action may help set the agenda for national policy. Broad based community multisectoral programmes are the key to achieving community wide changes in lifestyle and support for programmes managing the sale and use of alcohol.²³ That such programmes are successful is shown by the impact of a promotional campaign on the intention to comply with a policy to manage alcohol in the municipally owned recreation facilities in Thunder Bay, Ontario, Canada.²⁴ The policy, which was introduced in three stages from May 1980 to October 1982, recommended that alcohol be regulated so that alcohol consumption was not permitted in some recreational facilities, was limited to special occasions in other facilities, and to fully licensed use in still further facilities. A publicity campaign promoting the policy ran from May to July 1983. The impact of the policy on attitudes towards legal controls of alcohol was studied. The attitudes of the experimental group in Thunder Bay became less liberal while those of the control community did not change. This suggested that the promotional campaign had the effect of making people in Thunder Bay more receptive to the idea of managing the sale and use of alcohol.

PRIMARY CARE SERVICES

Primary care is an important setting for identifying people at risk from heavy drinking and assisting them in reducing alcohol consumption. A high risk strategy based on primary health care can complement a national and local population based strategy. Primary health care has been shown to be effective and efficient. Intervention at the primary care level leads to reductions of alcohol consumption of around 15% and reductions in proportions of excessive drinkers of around 20% and cost one twentieth of the cost of specialist services.²⁵

Problems in achieving targets

NATIONAL LEVEL

Central government—The government needs to accept that it has a legitimate role in determining and implementing policy related to alcohol consumption. This was most clearly stated in the 1979 report by the central policy review staff, which was never published.²⁶ The first three items of a seven point programme outlined in the report's recommendations are given in the box.

The alcohol industry is large, well established, and powerful. In 1986-7, tax revenue from alcoholic drinks sales was £6447 million and in 1987 the industry provided jobs for over 1 million people.²¹ The industry's structure is such that a few firms control

Central policy review staff recommendations on alcohol

The government should announce a positive commitment to counter the rise in consumption of alcohol to reduce alcohol related disabilities

The approach should be interpreted widely. It should influence alcohol policies in general and not only those concerned with the health consequences of misuse

Trends towards making drink cheaper by not increasing revenue duties should be stopped. As a minimum duty should be kept in line with the retail price index

most of the market—for example, 80% of the market share for beer is divided between just six companies. This allows the industry to take a consistent position and to lobby the government with considerable success. However, it should also allow negotiation of a common approach towards policies for the marketing and distribution of a product which causes society not only harm but also some benefit. National negotiation is complicated by the internationalisation of the industry. The advent of an open European market in 1992 will compound the difficulties of dealing with the industry nationally. Furthermore, the increasing corporatism of large industries with the industry having interdependent ties with other corporate interests results in an ownership structure of such complexity that it is difficult to identify a simple set of alcohol industry owners.

Public awareness needs to be increased, particularly the understanding of the need to change the population distribution of alcohol consumption rather than target high risk drinkers. Current education campaigns which focus on sensible levels of drinking may be counterproductive to this population based approach.

LOCAL ACTION

The main impediment to adoption and implementation of local alcohol policies and strategies is the will and the perception that something can be done. Every local community, however, has largely untapped preventive services which can be mobilised. Means of achieving this include disseminating examples of good practice and providing resources to maintain programmes once adopted.

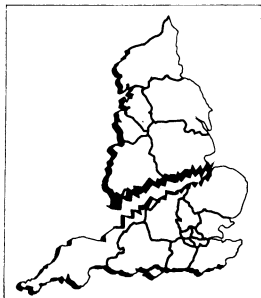
Action at the primary health care level and the introduction of the new general practitioner contract will support the implementation of a health strategy for England. The adoption of national targets for a health strategy will need to be complemented by the adoption of general practice based targets for activity and outcome.

Conclusion

Alcohol is an important cause of death and ill health in the United Kingdom. The risk associated with alcohol consumption can be reduced by adopting national and local population based policies that are supported by risk reduction initiatives based in primary health care. The adoption of targets can be monitored and if implemented a health strategy incorporating alcohol as a key area will go some way towards improving the health of the nation.

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Role of diabetes

K G M M Alberti

*The Health of the Nation*¹ is ostensibly a consultative document, but in the past such documents have been taken on as established policy all too rapidly. The document is none the less to be welcomed as it shows, firstly, a welcome move from administrative and financial priorities to real health issues and, secondly, a clear indication that prevention is to be targeted rather than disease. Sixteen key areas of interest have been chosen. The sting in the tail, however, is that only a few of these will be targeted initially. The criteria for final selection are, sadly, likely to be largely financial as well as health oriented, and payment for any new ventures will inevitably be at the expense of other aspects of health care or come out of so called "cost improvements." Below I present the case for and against including diabetes in the final list and discuss suggested targets and the strategy needed to achieve those targets.

Should diabetes be included?

The main criteria for selecting key areas are that the area should be a major cause of avoidable ill health, that effective interventions should be possible, and that it should be possible to set objectives and targets and monitor progress. Diabetes meets all these criteria.

The known prevalence of diabetes is about 0.3% for insulin dependent diabetes and 0.7% for non-insulin dependent diabetes.² A known prevalence of about 1% does not at first seem important when compared with other targeted conditions such as ischaemic heart disease and cancer. But 1% is undoubtedly an underestimate. It has been estimated that for every known person with non-insulin dependent diabetes there is another undiagnosed. Hence the real figure is closer to 2%, or 1 million diabetic people in England and Wales. With the increase in screening programmes in primary health care more of these unknown cases will inevitably be picked up. The numbers magnify in certain high risk groups.³ For example, the prevalence of non-insulin dependent diabetes increases with age: 5-10% of those over 70 years will have the disorder. With the increase in the proportion of elderly people in the population the total prevalence of diabetes will also increase. Similarly certain immigrant groups such as Afro-Caribbeans and Asian Indians have overall prevalences of 5-10%.⁴ Those with hypertension, heart disease, dyslipidaemia, and obesity are also more likely to have diabetes.

LONG TERM COMPLICATIONS

The striking feature of diabetes is the risk of developing long term complications: nephropathy, retinopathy, and neuropathy together with macroangiopathy. Overt nephropathy develops 10 to 20 years after the onset of insulin dependent diabetes⁵ and five to 15 years after the onset of non-insulin dependent diabetes, the shorter time in the second type probably

reflecting the delay in diagnosing non-insulin dependent diabetes in many people. Clinical nephropathy develops in only about a fifth of those with insulin dependent diabetes and fewer of those with non-insulin dependent diabetes, although incipient nephropathy, reflected by microalbuminuria, is more common.^{6,7} The importance of the nephropathy lies in the progress to end stage renal failure and the consequent need for continuous ambulatory peritoneal dialysis or renal transplantation, or both. Diabetes is now one of the major causes of renal failure, particularly in younger subjects.⁸ This results in a large social, personal, and economic burden.

Retinopathy eventually develops in most patients with diabetes of both forms. In most patients, however, only background retinopathy develops, which generally does not impair vision. Proliferative retinopathy, particularly in insulin dependent diabetes can cause blindness, and it makes diabetes the commonest cause of blindness in people under the age of 60 in Britain.⁹ Patients with non-insulin dependent diabetes are particularly prone to develop maculopathy, again with serious impact on vision. There is also an increased risk of cataract.

Neuropathy, both somatic and autonomic, also occurs in diabetic patients. This has particular effects on legs and feet. Sensation is diminished, and this can lead to ulceration and, generally in combination with peripheral vascular disease, gangrene and the need for amputation. Finally, macrovascular disease in the form of ischaemic heart disease, stroke, and peripheral vascular disease is two to five times more common in diabetic patients than in the general population and, indeed, is the main cause of premature death in diabetes.¹⁰

ACUTE COMPLICATIONS

Diabetic patients may also have acute complications. Diabetic ketoacidosis is an important cause of death in diabetic subjects aged under 50¹¹ and mortality rises sharply with age.¹² Hypoglycaemia is also common, particularly in insulin dependent diabetes. Mild hypoglycaemia occurs with monotonous regularity, on average one episode every two weeks, whereas episodes requiring admission to hospital occur at a rate of 0.1 admission per patient year.¹³ Even mild chronic hypoglycaemia may cause subtle neurological damage. Recently there has been emphasis on young patients dying of nocturnal hypoglycaemia—the "dead in bed" syndrome—which is rare but important as it occurs in young people.¹⁴ In addition, hypoglycaemia is almost certainly much commoner than previously thought in non-insulin dependent diabetic patients taking sulphonylureas and contributes to confusional states in elderly people. Poorly controlled diabetes also increases susceptibility to infection.

Diabetes of both types is thus an important cause of morbidity and death. The economic costs of diabetes

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