

The strategy document states that it is a result of discussions between the Home Office, the Department of Health, and “other departments.” This communication is praiseworthy. The strategy does offer a general policy framework that is in many ways reasonable. I have long supported the adoption of a coherent harm reduction approach to alcohol related problems.¹⁵ It is apparent that big increases in the price of alcohol are not politically realistic. This does not justify the strategy document’s curt dismissal of the possible role of taxation to prevent the future rise of alcohol consumption and its associated problems. We should consider what the role of tax might be if the already alarming situation deteriorates and other measures fail to check this. The best solution is to make harm reduction work.

Martin Plant *professor of addiction studies*

Alcohol and Health Research Trust, Centre for Research in Public Health & Primary Care Development, University of the West of England, Blackberry Hill, Stapleton, Bristol BS16 1DD (Martin.Plant@uwe.ac.uk)

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Evidence based policy or policy based evidence?

Willingness to take action influences the view of the evidence—look at alcohol

What should we do about alcohol? It is a major threat to the health of the public. Alcohol consumption in Britain has risen by more than 50% in the last 30 years, and alcohol associated deaths, particularly liver cirrhosis, have risen as a result.¹ Alcohol is, in addition, responsible for much morbidity, crime, family disruption, and harm to children. A simple prescription would be to review the scientific evidence of what would make a difference, formulate policies, and implement them—evidence based policy making. Unfortunately this simple prescription, applied to real life, is simplistic. The relation between science and policy is more complicated. Scientific findings do not fall on blank minds that get made up as a result. Science engages with busy minds that have strong views about how things are and ought to be.

In the 1980s when debates about fatty diets and heart disease risk were raging, I was struck that individual scientists seemed to have taken entrenched positions on the issue. One new piece of evidence would be even more reason for one camp to call for action to change the nation’s diet; but, for the other camp, the same evidence represented a further nail in the coffin of a defunct hypothesis which strengthened the view that people should be left to enjoy their fish and chips without the interference of the food police, or the nanny state. It seemed to me then that people’s willingness to take action influenced their view of the evidence, rather than the evidence influencing their willingness to take action.²

When it comes to government action, we find the same phenomenon. The topic of inequalities in health

was unpopular in Britain in the 1980s. An impressive review of evidence was insufficient to convince a government to act.³ A change of government in the 1990s meant that government was willing to take action on health inequalities. A review of the scientific evidence and accompanying policy recommendations⁴ were sufficient for a government to implement many of them.⁵ It is true that the science base had improved between Black’s review at the end of the 1970s and Acheson’s 20 years later. As a scientist with an obvious interest, I would like to think that this improvement in the science, despite some shortcomings,⁶ helped with evidence based policy formation. I have to acknowledge that, in addition, Acheson’s recommendations went with the grain of government policy. This no doubt helped. Government’s willingness to take action influenced their view of the science.

Although it is understandable that governments should do what they want rather than what a group of scientists suggests they should do, it means that the model of evidence based policy in the first paragraph is something of a parody. Consider the recent example of alcohol. Two reports were published in England in March: one by the Academy of Medical Sciences, the other by the prime minister’s strategy unit. The academy’s report concluded that to control alcohol problems one needed to control alcohol; that is, reduce the average level of consumption in the population. The academy reached this conclusion on the basis that a strong correlation exists between average consumption, the prevalence of heavy drinking, and associated harm. It found the evidence for education

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unconvincing and therefore called for raising the price and limiting availability.¹ The prime minister's strategy unit, with access to the same evidence, concluded that controlling average consumption through the mechanism of raising the price and limiting access would have unwanted side effects and was not a viable option. They therefore called for education, more policing, improved treatment, and the alcohol industry entering into voluntary agreements to behave reasonably.⁷ The academy working group would agree that all of these actions were necessary. But they took the view, based on evidence, that such actions should complement measures to control overall level of consumption.

Two reports, same evidence, and yet such different conclusions. As scientists, steeped in alcohol (as it were), we who prepared the academy's report no doubt came to the issue with our own set of prejudices. The prime minister's strategy unit had a different set. It is reasonable to surmise that they found the prospect of raising the tax on alcohol unattractive, as they did reversing the trend of making it ever easier to buy alcohol. The policy implications of the science may well have influenced their view of the evidence.

This leads me, naively perhaps, to want to separate two issues: what the science shows and its policy implications. It is perfectly reasonable for governments to balance a number of interests in forming policies. Scientific evidence on dose response relations between exposure and risk is only one consideration. Others include analysis of costs and benefits, risk analysis, and appreciation of the degree to which policies fit with public values.⁸ It is helpful, however, to keep these distinct.

Public values are important. There is much discussion now of individual responsibility for behaviour. This informs the government's call for consultation as it develops a white paper on public health. A healthy

tension exists in a democratic society between individual responsibility and the role of government. Smoking is a matter of individual responsibility but successive British governments have taken beneficial action by raising the price for health reasons, restricting advertising and promotion, and restricting smoking in public places. Unlike smoking, the healthiest amount of alcohol is not zero. Nevertheless, the 50% rise in alcohol consumption in Britain means that as a population we are drinking well above the optimal level for health. As it develops its white paper on public health the government has another opportunity to look at the evidence linking harm with average alcohol consumption and consider that government has a responsibility alongside that of individual citizens.

Michael G Marmot *professor*

International Centre for Health and Society, Department of Epidemiology and Public Health, University College London, London WC1E 6BT (m.marmot@ucl.ac.uk)

Competing interests: MM chaired the working group that produced the Academy of Medical Sciences' report, *Calling Time*, and was a member of the Scientific Advisory Group of the Acheson committee.

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Growth hormone: uses and abuses

It has anabolic effects, but its use in ageing and other conditions is not established

The therapeutic use of human growth hormone was first shown 45 years ago.¹ In these years the number of approved and proposed uses of human growth hormone has grown from one to more than a dozen, and the number of patients being treated with it has increased from a handful to tens of thousands worldwide. The officially approved uses of human growth hormone vary from country to country, but it is commonly used for children with growth hormone deficiency or insufficiency, poor growth due to renal failure, Turner syndrome (girls with a missing or defective X chromosome), Prader-Willi syndrome (usually due to uniparental disomy in chromosome 15), and children born small for gestational age with poor growth past 2 years of age (table). Recently the Food and Drug Administration in the United States has also approved the use of human growth hormone for short children with idiopathic short stature who are more than 2.5 standard deviations below the mean or the shortest 1.2% of children. In adults the approved uses include AIDS related wasting and growth hormone deficiency (usually due to a pituitary tumour). The evidence supporting

these uses of human growth hormone comes from double blind controlled studies, clinical observations, and systematic meta-analyses.^{2,3}

In addition to the generally accepted therapeutic uses of human growth hormone, many proposed uses have not been established. Human growth hormone is undisputedly a potent hormone with a wide variety of biological effects. The anabolic actions of human growth hormone have made it attractive as a potential agent for catabolic problems in a wide range of clinical conditions, including severely catabolic patients in an intensive care environment, burns, cystic fibrosis, inflammatory bowel disease, fertility problems, osteoporosis, and Down's syndrome, and also for people wishing to reverse the effects of ageing and promote athletic prowess. These last two potential uses have received the most attention as abuse of growth hormone.

The definitions of the word abuse include "improper or excessive use." The classic form of "abuse" of human growth hormone are athletes or bodybuilders who use it as a way to gain an unfair advantage over their competitors. No good evidence