

This response was submitted to the consultation held by the Nuffield Council on Bioethics on *Public Health: ethical issues* between May and September 2006. The views expressed are solely those of the respondent(s) and not those of the Council.

Institute of Biology

Introduction

1. The Institute of Biology is an independent and charitable body charged by Royal Charter to further the study and application of the UK's biology and allied biosciences. It has 14,000 members and over 50 specialist learned Affiliated Societies (see www.iob.org). This response has been prepared by the Biomedical Sciences Committee, which has a number of Affiliated Societies and individual members with specialist interest in the area of this consultation.

Comments

Prevention and control of infectious diseases through vaccination

2. The proposal of compulsory vaccination to attain herd immunity in the UK, as demonstrated successfully in the USA, seems a sensible option in preventing the spread of infectious diseases. Given the previous success rate of vaccines such as MMR (before 1998) in England and Wales, the health benefits of a compulsory vaccination scheme outweigh any health risk.
3. Furthermore, in the interest of protecting the country as a whole, some form of forced quarantine upon hosts of severe infectious diseases seems sensible. Similarly, mandatory testing for life threatening infectious diseases, such as HIV/AIDS, would protect the interests of the majority.

Obesity and a balanced lifestyle

4. The growing level of obesity in the UK is becoming a serious issue. Despite efforts to 'halt the rising rates of obesity' by the Department for Culture, Media and Sport through targeting children under the age of 11, there is speculation as to whether this is achievable. Guidelines for compulsory sport/exercise in schools (emphasising that it is enjoyable) might be necessary to encourage a balanced lifestyle from a young age. A scheme of free entry for all children at local leisure centres could give parents an incentive to take all their children regularly (not simply those already suffering from obesity, as is currently in place).
5. It is not only the concept of a balanced diet, but also the idea of an active lifestyle, which forms the basis of a healthy lifestyle. If sport and activity are firmly offered from a young age, they are more likely to remain intrinsic for a lifetime. Despite criticism that these methods may prove 'particularly intrusive' it seems lifestyle changes mark the way forward.

Obesity and a balanced diet

6. The salt/sugar/fat content of foods, particularly processed foods, should perhaps be labelled on packaging. This may further encourage people to moderate their intake. This also raises the issue that many catered foods in restaurants and

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7. snack bars lack nutritional labelling, highlighting the fact that people have no real knowledge of what is in their prepared meal. It must also be recognised that people of different sizes, specifically weight, for example an 8 stone woman compared to a 14 stone man, will get the same size food portion at a restaurant. Thus the smaller person is obtaining more food than is necessary, resulting in weight gain. Consumption of 100 excess calories per day (approximately one packet of crisps) may result in a weight gain, in one year, in excess of 5kg (14 lb).¹ With year on year increase in the popularity of catered meals, as opposed to home cooking, these issues harbour increasing significance.

Smoking as a risk to public health

8. From a biological point of view smoking is not only unnecessary, but highly damaging. The evidence confirming the risks of smoking is overwhelming. Smoking related diseases, such as lung cancer, cardiovascular disease and emphysema account for 'over 120,000 deaths' and 'more than 225,000 hospital admissions' per year. Furthermore passive smoking may have adverse health effects in children. Merely 'educating' people is clearly not having the desired effect.

9. Ultimately it is the NHS which foots the bill of a lifetime of smoking for thousands of people across the country. Thus banning smoking in public places seems the only effective solution. The choice smokers make has a significant effect on those around them. So in part it is difficult for them to argue that they fund their health care through a lifetime of cigarette taxes and thus can do as they please, because arguably there are still thousands of passive smokers suffering as a result.

Alcohol Consumption

10. Alcohol consumption serves no known medical purpose; however, if consumed in moderation, it causes little harm. Nonetheless it is a drug and can become addictive. This addiction is often highly destructive to the mind and body. However, it is likely, given the established roots alcohol consumption has within society, that banning advertisements for alcoholic drinks on television, radio, bill boards and so on may have little reduction in its overall use. The majority who drink moderately and safely should not suffer as a result of any restrictions.

11. It is the 'binge drinking' culture, mainly among the 16-24 age group, which is worryingly prominent in the UK. In short, binge drinking refers to the consumption of twice the daily benchmark given in the government's guidelines in a short period of time. Overall, it can often lead to severe alterations in mood, motivation, memory, learning and attention – thus, importantly, affecting performance in the work place.

¹ *Fat Chance*; The Economist, August 26th 2006 (p. 28)

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Supplementation of food and water

12. Supplementation of food and water has, for many years, provided substantial benefits. Folic acid supplements recommended for pregnant women potentially reduce the chance of neural tube defects. Supplementing bread or cereals with folic acid will allow for daily recommendations to be met, particularly regarding unplanned pregnancies. It is also thought that folic acid may provide some protection from coronary heart disease. However, there is concern that the presence of folic acid in high concentrations in the blood may prevent vitamin B12 deficiency from being recognised.
13. Fluoridation of water is another example of a supplement which has health benefits: in strengthening teeth and thus reducing the chances of tooth decay. This advantage is particularly prominent for children. However, there are still risks: fluorosis is one known side effect affecting the enamel on teeth, particularly in children; there have also been suggestions that fluoridation causes bone fractures and even cancer.
14. With these risks in mind it is difficult to justify imposing this kind of collective medication on society. People react differently to the same medicines and until these concerns have been satisfactorily allayed, it will be unwise to impose supplemented food and water. This is particularly so in the case of water, where people have little choice.

Openness

15. The Institute of Biology is pleased for this response to be publicly available and will be shortly placing a version on www.iob.org. Should the Nuffield Council on Bioethics have any queries regarding this response then they should in the first instance address them to Dr Caroline Wallace, Science Policy Advisor, Institute of Biology, 9 Red Lion Court, London, EC4A 3EF, email: c.wallace@iob.org.

Affiliated Societies represented by the Institute of Biology

Anatomical Society of Great Britain & Ireland
Association for Radiation Research
Association for the Study of Animal Behaviour
Association of Applied Biologists
Association of Clinical Embryologists
Association of Clinical Microbiologists
Association of Veterinary Teachers and Research Workers
British Association for Cancer Research
British Association for Lung Research
British Association for Tissue Banking
British Crop Production Council
British Ecological Society
British Inflammation Research Association
British Lichen Society

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British Marine Life Study Society

British Microcirculation Society

British Mycological Society

British Society for Ecological Medicine

British Society for Cell Biology

British Society for Medical Mycology

British Society for Neuroendocrinology

British Society for Parasitology

British Society for Plant Pathology

British Society for Proteome Research

British Society for Research on Ageing

British Society of Soil Science

Fisheries Society of the British Isles

Freshwater Biological Association

Galton Institute

Institute of Horticulture

Institute of Trichologists

International Association for Plant Tissue Culture & Biotechnology

International Biodeterioration and Biodegradation Society

International Biometric Society

International Society for Applied Ethology

Laboratory Animal Science Association

Marine Biological Association of the UK

Nutrition Society

Primate Society of Great Britain

PSI - Statisticians in the Pharmaceutical Industry

Royal Entomological Society

Royal Zoological Society of Scotland

Scottish Association for Marine Science

Society for Anaerobic Microbiology

Society for Applied Microbiology

Society for General Microbiology

Society for Low Temperature Biology

Society for Reproduction and Fertility

Society for the Study of Human Biology

Society of Academic & Research Surgery

Society of Cosmetic Scientists

Society of Pharmaceutical Medicine

UK Environmental Mutagen Society

UK Registry of Canine Behaviourists

Universities Federation for Animal Welfare