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Public Health Group, Institute of Health and Society, Newcastle University

List of questions

1. The definition of public health

- Do you agree with the definition of public health introduced above ("[W]hat we, as a society, collectively do to assure the conditions for people to be healthy"[1])? If not, please explain why. What alternative definition would you propose?

The words 'strive for', 'provide' or 'achieve' might be better than 'assure'. The word 'assure' suggests that it actually works, which is an open question.

An alternative might be to use one of the popular, existing definitions of public health, such as that coined by Sir Donald Acheson: 'the science and art of promoting health and preventing ill health through the organised efforts of society'.

2. Factors that influence public health

- Do you agree that interactions between the following five factors are the main influences affecting public health: the environment, social and economic factors, lifestyle, genetic background, preventative and curative health services? If so, do you think some are more important than others? Are there other factors we should include? If so, what are they?

It seems necessary to distinguish the notion of 'public health' as defined above from the 'health of the public'. For example, the question of how our lifestyles affect our health may be different from the question of how our lifestyles affect what we, as a society, do or do not do to improve health.

The information in section 3 on 'lifestyle' is deficient. For example, people are not just consumers of a service culture that is provided to them. People also create facilities. This could be stressed more. The section also does not consider food and drink choices (so important in other parts of the paper) to be aspects of 'lifestyle'.

3. Prevention of infectious diseases through vaccination

- Some countries[2] have a compulsory rather than voluntary system of vaccination. On what basis can such policies be justified to achieve herd immunity? Should they be introduced in the UK?

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1 (Institute of Medicine (1988) *The Future of the Public Health* (Washington, USA: The National Academies Press).

2 Countries with mandatory vaccination policies include the USA and France. In these countries children must have received certain vaccines before they can start school.

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If a democratic system is preferred to alternative political systems, compulsory systems can be justified provided they are favoured by the majority of the population. However, even if the majority decides that vaccination should be mandatory, the strength of feeling of both the majority and the minority must be gauged as well, since vaccination might be regarded as more invasive compared to other measures to promote public health. For example, compelling a vegetarian to take a vaccine that includes animal products might be regarded as unnecessarily invasive. The reservations that such a person might have can still be outweighed by the strength of feeling of others who fear the consequences of any decision that might be taken to the effect of not establishing herd immunity. Wide consultation about the benefits and risks of vaccination is necessary, but also about the ways in which the vaccines were developed and the reasons why they are held to be effective. Many researchers have documented that public confidence in institutions is in a crisis. More qualitative research is needed to examine why this is the case, and to make sure that people's concerns are taken into consideration when any proposal for compulsory vaccination is drafted. However, research is also needed to examine concerns over the current system of voluntary vaccination. Such a system might ignore health inequalities, which could be reduced by a mandatory system. For example, in a voluntary system, some children may miss out on the benefits of vaccination not because their parents object to it, but because they are constrained by factors outside their control (e.g. time and employment constraints).

- For childhood vaccinations, parents make decisions on behalf of their children. Are there cases where the vaccination of children against the wishes of their parents could be justified? If so, what are they?

Parents need to be consulted adequately about the risks and benefits, as well as of the uncertainties. To promote equity, it must not be assumed that all parents have the same needs regarding the provision of information and advice to develop their understandings of vaccination. When parents still withhold consent after proper consultation, mandatory vaccination of children could be justified if there is strong support for the view that this would increase significantly the chances of protecting their own children as well as others.

4. Control of infectious disease

- Control measures for specific diseases depend on how infectious a disease is and how it is transmitted. For infections that are directly transmitted from person to person, what justification would be required to render interventions such as forced quarantine, which helped to control the outbreak of Severe Acute Respiratory Syndrome (SARS) in Asia, acceptable in countries such as the UK where such measures may be considered to infringe civil liberties? If you think such measures cannot be justified, what are the principal reasons?

Forced quarantine would be acceptable only if there was a significant risk of infection which could not be controlled otherwise. Ideally, a pro-active government would set up a public consultation to establish a wide consensus about potential situations which would allow for forced quarantine, in particular determining how the benefits and costs could be weighed up.

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The methods considered in the consultation paper 'for dealing with non-human sources of infection', for example 'in the case of avian flu, banning live bird imports and culling potentially infected birds' (p.21), are narrow. Not enough is done to prevent the outbreak of many highly infectious diseases. Many of these diseases are transmitted from nonhuman animals to humans, and the likelihood of transmission increases with intensive systems of animal husbandry, as well as a range of other practices. It is plausible that those who have strong moral objections to such systems, for example, might not be happy about the idea of being quarantined after being infected with a disease they would not have contracted had such systems not existed. This poses the question of whether it is acceptable to subject those who have moral objections to intensive systems of animal husbandry to the risk of being infected with potentially lethal diseases caused by such systems. More public consultation and debate on this and related issues is necessary. Any debate about the control of infectious disease needs to include a debate about steps that could be taken to reduce the risk of the occurrence and spread of infectious disease, and about alternative systems of agriculture, industry, and trade.

- In general, the earlier that an outbreak of disease is detected, the easier it will be to control. What would be suitable criteria to determine in what circumstances, and to what extent, the state should provide more resources to develop methods of preventing outbreaks of serious epidemics in other countries?

Citizens of each state should make sure that the state does not accumulate wealth at the expense of citizens in other states. While other states should decide relatively autonomously about how to prevent outbreaks, there is also a need for global governance structures to deal with international issues. Many people have not yet become accustomed to the idea that local actions can have global consequences, exemplified for example by the recent outbreak of new-variant Avian flu. While it is not acceptable for one state to rule over other states, governments should enter into dialogue with governments and citizens in other countries about practices that might lead to serious epidemics, and the values underlying these practices. If a government feels unable to cope with preventing outbreaks and appeals to other countries for help, help should be provided wherever this is possible.

Restitutive justice also demands from citizens and governments in rich countries that they make up for any wealth accumulation at the expense of others that occurred in the past, which may result in more resources being provided to poorer nations to help their fight against disease outbreaks (should this be valued by them).

A global organisation such as the World Health Organisation should also strive to ensure that all people are given the means to satisfy basic health needs (should they want to satisfy these), irrespective of any decisions made by the Government of the country in which one happens to live. This should be done in recognition of the belief, likely to be shared by many, that basic health care should be allocated on the basis of need, not on the basis of wealth.

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- Travel and trade are key factors in the spread of infectious diseases. Global travel and exchange of goods are increasing rapidly. Each day, two million people travel across borders, including around one million per week between developing and developed countries. Disease-causing organisms and vectors can therefore spread quickly around the world.[3] Are new measures needed to monitor and control the spread of infectious diseases? If so, what would be promising strategies?

A holistic approach is needed. Firstly, air travel could be reduced to prevent the incidence of rapid spread of disease. This seems unlikely in the present climate. However, the impending crises of fossil fuel depletion and climate-change seem likely to drive up the cost of air travel in time (as an aside - these environmental crises have profound implications for public health and the ethical behaviour of governments and corporations with regard to the environment might also be considered a legitimate topic for discussion of public health ethics).

Secondly, the unnecessary international trade of a range goods could be curtailed using trade barriers and financial disincentives. The transport of animals and animal products over large distances poses risks for the spread of zoonotic diseases. New tax revenues could be used to promote sustainable farming, industry, and trade.

Thirdly, intensive animal husbandry might be reduced. The rearing of animals in intensive systems is associated with a higher incidence of zoonotic disease compared with extensive systems.

Fourthly, there is a need for research and debate about cross-species spread of novel human infections, in particular from species such as non-human primates in Africa and Asia, where contact with humans occurs in many contexts unfamiliar in the west.

- Under which circumstances, if any, would mandatory testing for highly infectious and life-threatening diseases such as tuberculosis or HIV/AIDS be justified?

If a democratic system of government is preferred over other political systems, mandatory testing would have to be approved by the majority. Mandatory testing for tuberculosis is more likely to gain approval in view of the fact that people have relatively less control over the risk of contracting the disease compared with HIV/Aids. In a political system where personal autonomy is valued highly, mandatory testing would have to benefit the individuals concerned (e.g. it would have to guarantee the provision of access to treatment).

5. Obesity

- Food is closely linked with individual satisfaction and lifestyle. This means that any strategy that seeks to change people's behaviour is likely to be perceived as particularly intrusive. How should this sensitivity be considered in devising policies that seek to achieve a reduction in obesity?

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[3] USA National Intelligence Council (2000) *The Global Infectious Disease Threat and Its Implications for the United States – Factors affecting growth and spread: International trade and commerce*, available at: www.cia.gov/cia/reports/nie/report/nie99-17d.html, accessed on: 19 Apr 2006.

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Food may not be a more sensitive issue than exercise, smoking, or drinking. Food is also linked with individual dissatisfaction. One hypothesis is that people may be more reluctant to consider changing dietary habits if they feel that other aspects of their lives are not in their control. While many people might know that they are not happy with their food choices, they may be reluctant to change anything if they do not feel empowered to control other aspects of their lives. Suggestions to change dietary patterns may also be regarded as intrusive if they are perceived as ignoring the social dimensions of food choice. This includes the question of whether or not healthier food is easy to access, affordable, and socially acceptable.

Secondly, an important issue is the difference between actual and perceived choice. Whilst technically most people have huge choice in what they can buy from supermarkets (for example), the extent to which these choices are presented to them are dictated largely by a relatively small number of major corporations (Coca Cola, Nestlé, Kellogg etc.) using aggressive aspirational marketing. The result is that people feel that they actually have very little choice. Lower socio-economic groups in particular feel obliged to purchase branded products at premium prices in order to satisfy their desire to participate in mainstream society. The regulation of major corporations and their manipulative advertising tactics may be a legitimate target for public health intervention.

Lastly, policies to promote healthier diets have often been preoccupied with the direct health benefits and risks for the individual concerned. While it is important for such policies to provide evidence for the links between diet, obesity, and disease, less attention has been paid to the indirect health benefits and risks (that is: how the way in which food is produced impacts on social and environmental factors, which may then affect human health, including the health of those who are affected by food choices made by others) and to ethical issues which go beyond a concern with human health, for example the question of how food choice affects nonhuman others. Since many campaigns to alter dietary patterns have had limited success, the question must be asked if these campaigns have been too narrow by focusing on direct health implications for the individuals affected. There is a dearth of empirical research to examine how food choice might be affected by wider concerns, which is regrettable, since food choice cannot be isolated from other lifestyle choices. Research is needed to examine which obstacles prevent people from making adequate food choices, how these interface with other perceived barriers that impede the making of adequate lifestyle choices, and how these obstacles can be overcome. The deliberative exchange method provides a method to explore these wider issues, as participants are challenged to probe deeper and to scrutinise their choices more than has been the case with more traditional methods of qualitative research. (See D. Bell, N. Thompson, J. Deckers, T. Gray, M. Brennan, Deliberating the Environment. Scientists and the Socially Excluded in Dialogue, University of Newcastle: Centre for Rural Economy, 2005).

- While there is clear evidence about the extent and scale of obesity, there is far less clarity about what measures should be adopted by the government and other stakeholders to prevent it. In view of this uncertainty, what would be suitable criteria for developing appropriate policy?

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Evidence-based criteria must be used to promote policies that work, are cost-effective, long-lasting, and that benefit all population groups (in particular the most socio-economically disadvantaged). More research must be funded to examine the links between diet, lifestyle, obesity, and disease. More research must be funded to examine the factors which prevent people from adopting healthier diets. The suggestions on p. 25 may be too narrow. Our view is that more substantial changes may be required to tackle obesity, including profound changes about the ways in which society is organised, job changes, changes in physical activities, etc … Increasing obesity rates may only be one aspect of a wider societal problem.

- What are the appropriate roles and obligations of parents, the food industry, schools, school-food providers and the government in tackling the problem of childhood obesity?

If these parties agree with our view that childhood obesity is a concern, they must help children to make healthier food choices and to choose appropriate levels of physical activity. If these parties share a concern with the indirect health and environmental implications of dietary choices, they must also promote dietary choices that reduce disadvantages for all affected by those choices. Government could encourage industry and school-food providers to produce and provide not just healthier, but also better diets, and create financial incentives, disincentives, and regulations to this effect.

- Is it acceptable to make the provision of NHS services dependent on whether a person is obese or not (see example in Section 4.2 of Part B)? If so, what criteria should govern whether or not interventions are provided, and should similar criteria be developed for other lifestyle-related health problems that are significantly under the control of individuals?

No consensus was established on this issue within our Public Health Group. Some argue that, at least to the extent that these lifestyles are personally chosen (without pressure from social factors), and people are told in advance, the answer should be positive. This stems from the view that there must be a proportionality between the degree to which a person values health (relative to the degree to which it is valued by others) and the degree to which others should pay to protect that person's health. For example, someone who deliberately chooses to drink excessively because he or she values some other good more than good health should, if they are consistent and value consistency, not expect others to value their health more than they do themselves. Others in our Public Health Group thought that the answer should be negative. This is based on the view that, since lifestyles choices are not independent of society and culture, it would not be reasonable to withhold NHS services from people on the basis of lifestyle. Such a policy would affect the more socio-economically disadvantaged disproportionately as they are the most likely to lead unhealthy lifestyles. Policies that aim to de-normalise unhealthy lifestyles and make healthy choices easier to pursue would be more sensible.

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6. Smoking

- The effects of smoking on health have been known for a very long time. Comprehensive measures by governments to prevent harm to the population are relatively recent. In your view, what are the reasons for this delayed response? Are there any lessons that can be learned from other countries, or from strategies pursued in other areas of public health?

The delayed response may be related to lobbying by powerful groups, the government generating significant tax revenue from the sale of tobacco, a lack of research into how many people welcomed a ban, a relative lack of consideration for the health of passive smokers compared to the desire to protect the pleasures of smokers, and previous governments' relatively greater commitment to relying on people making their own choices over health matters.

There is an emerging body of evidence on the effectiveness of policy measures to promote health in a range of areas and, given appropriate consideration of the public health ethics, such approaches should be routinely considered in relation to all public health risks.

- What are the responsibilities of companies that make or sell products containing hazardous substances, such as nicotine, that can be addictive? Should they be prosecuted for damaging public health or required to contribute to costs for treatments?

To the extent that these companies put pressure on people to use their products, they can be held liable. The notion of 'hazardous substances', however, may be hard to define. If any product is 'hazardous' beyond any reasonable doubt, then it should not be produced or marketed if this is what is decided democratically (if democracy is the favoured political system). Prosecuting companies for damaging health when society, through its government, has sanctioned the production and sale of such highly dangerous products (such as tobacco) seems untenable. Dangerous products need to be banned before they can be prosecuted, unless there is evidence that they have deliberately misled government or the public.

- Should smokers be entitled to higher than average resources from the public healthcare system, or should they be asked for increased contributions? Would similar charges be justified for other groups of people who deliberately or negligently increase their chances of requiring public health resources, such as people engaging in adventure sports?

If higher contributions are considered, this should be in proportion to the amount of extra resources which are required for the treatment of lifestyle-related health problems, provided that the degree to which such lifestyles were chosen freely can be determined. However, not all members of our Public Health Group agreed that asking some people to pay increased contributions should be considered. For example, the concern was raised that poor people might be charged more since poverty decreases health and increases the use of health services. Such a system would thus become a regressive tax on the poor.

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- Smokers argue that they choose to smoke. What rights does the state have to impose sanctions to prevent them from smoking? Does the state have the right to prevent the sale of tobacco, which is known to be addictive and highly dangerous? How vigorously is it reasonable for the state to act to prevent children and teenagers from smoking?

The state has the right to ban the sale of tobacco if this is what is agreed by the majority (at least if a democratic government is a legitimate political institution). If this is not agreed by the majority, then the state could decide that the right to smoke comes with a duty to pay (higher contributions) for health problems caused by smoking. Helping people to choose not to smoke might be a better strategy than preventing the sale of tobacco, although the evidence for banning tobacco as a hazardous substance is clearly stronger than for many already banned substances (e.g. commercial weed killers, some food additives etc.).

7. Alcohol

- The effects of excessive consumption of alcohol on the health of individuals and society have been known for a very long time. It can be argued that in view of the significant harm to individuals and society, comprehensive measures by governments to prevent harm are lagging behind those for tobacco. In your view, what are the reasons for this?

The public health message on alcohol is not as clear as for smoking. There are some health benefits from moderate consumption (e.g. CHD in older men and post-menopausal women) and a great deal of perceived social benefit amongst the 90% of the population that drinks. However, there is also an extensive list of risks and harm resulting from heavy drinking. Given the popular appeal of alcohol, it is simpler for policy-makers to give the impression that drinking problems are about a small minority – in the past this was 'alcoholics' but in the present this tends to be 'binge drinkers' who are generally assumed to be young people.

While heavy drinking has been strongly linked with aggressive behaviour resulting in injuries to the drinker and to others, heavy drinking does not necessarily result in violence and injury; social context is also highly important. Also, some of the violent behaviour resulting from heavy drinking occurs in private contexts (e.g. domestic violence in the home) and so may often be undetected. Thus the causal connection between heavy drinking and injury to others is complex and difficult to fully quantify. This complex causal relationship between alcohol and aggressive behaviour may be one reason why the government is reluctant to act on this issue.

It has been estimated that the alcohol market creates £30bn annually through revenue, taxation, job creation and sponsorship activity etc; some of this money has public benefit and some private benefit (to the industry and shareholders etc). Set against this, heavy drinking costs the UK public purse about £20bn through a combination of social, health, work, crime and public disorder related costs. The annual cost to the NHS is estimated to be £2bn per annum, although this is generally estimated on 'drinker' costs and premature mortality rather than all affected individuals and morbidity. In essence, as long as the perceived income/benefits exceed expenditure/costs then there will be a lag in public measures to control heavy drinking.

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Affluent people often drink heavily and this group includes the policy makers themselves. Smoking, by contrast, is more common in more deprived groups. Thus it may be easier to avoid policies that affect one's own lifestyle and that may be unpopular with a large (influential) sector of the population, and this might explain why restrictive policies related to alcohol intake are difficult to make. Regarding public health interventions to reduce heavy drinking, there is evidence to suggest that health professionals under-recognise alcohol problems in certain sectors of the population (e.g. in higher socio-economic status groups and in women) and also that health professionals' own drinking behaviour can influence their recognition of alcohol-related risk and their tendency to intervene to reduce alcohol-related harm. (See Kaner E, Heather N, Brodie J, Lock C, McAvoy B. Patient and practitioner characteristics predict brief alcohol intervention in primary care. British Journal of General Practice 2001; 51: 822-7 and Kaner E, Rapley T, May C. Seeing through the glass darkly? A qualitative exploration of GPs' drinking practices and their alcohol intervention practices. Family Practice 2006; 23: 481-7.)

Finally, alcohol is a very much shared behaviour across the population and one that is accompanied by a great deal of social judgement and expectation. Many social events include the consumption of alcohol and its absence is often regarded either negatively or with disappointment. Furthermore, hosts are generally expected to provide alcohol and guests to consume it. Thus there are relatively few public pressures encouraging alcohol-free environments or moderation in consumption.

- In view of the impact of excessive consumption of alcohol on individuals and society, what are the roles and responsibilities of agents other than the government to limit consumption? Are there different responsibilities for producers and, for example, retailers? If so, which?

Both producers and retailers would seem to have a duty to make sure that potential consumers are warned about the potential effects of alcohol and the amount of alcohol which is deemed safe. Moreover, there is an additional role to make public drinking venues safe and appealing for all consumers (including moderate drinkers and those who choose not to drink alcohol). Government and Industry should make it easier for members of the public to make healthier drinking choices, and discourage the normalisation of excessive drinking and the idea that alcohol is a necessary part of having fun. Current Government policy is that Public health experts should work in partnership with the alcohol industry. However, there is a potential conflict of interest that should be openly debated. The new Drink-Aware Trust has been developed to pursue the partnership approach to preventing alcohol-related harm but this logo can now be found on advertisements promoting alcoholic beverages. The current emphasis appears to be on labelling the alcohol content of products more clearly and promoting safer drinking messages. However, there is little independent evidence that this works. Future partnership working may be a realistic way forward, but any initiatives that are funded should be based on evidence of effectiveness, and preferably, cost-effectiveness.

8. Supplementation of food and water

- Fortification of some foodstuffs such as flour, margarine and breakfast cereals has been accepted for some time. Why has the fluoridation of water met with more resistance? What are the reasons behind international differences in the

acceptance of fluoridation of water? What criteria are there that determine acceptance?

While people can (to some extent) avoid the consumption of fortified foodstuffs, it may be more difficult to avoid the consumption of fluoridised water. Many people may be unwilling to accept enforcements they can hardly control (which may vary internationally).

Fluoride as a substance is well known to the public, since it frequently is used to market toothpastes as 'healthy'. The reason why fluoridation of population water supplies has been problematic in the UK is that there is a very vocal and powerful lobby against fluoridation which has consistently and over a long period fed false evidence into the public domain concerning potential harmful effects of fluoridation. This has resulted in repeated 'scare-mongering' and received more media attention than the real and scientifically sound evidence that fluoride is safe and beneficial for health. Sadly politicians and water companies have also been more susceptible to this scare-mongering than the real evidence, resulting in a general unwillingness to legislate effectively. The truth is that many areas of the UK are already naturally or artificially fluoridated and have been for decades without ill effects, and with profound advantages for the dental health, especially of children and lower socio-economic groups (like other 'compulsory' interventions, this is one of the few that can actually reduce health inequalities).

- Which democratic instruments (for example, decision by Parliament or local authority, consultations or referenda) should be required to justify the carrying out of measures such as fluoridation?

In order to avoid forcing a decision on people, as many people as possible should be involved. This could be done through consultations or referenda, or – to the extent that people agree to decisions being made more centrally -, through appointed authorities, including for example NICE.

- Achieving population benefits of fluoridation means restricting choice of individuals. Children benefit the most from fluoridation. However, as with vaccinations, adults, rather than children, are making decisions about whether or not to receive the intervention. Under what circumstances is it acceptable to restrict the choice of individuals in order to protect the health of children?

In a democratic country, the decision is usually made that children should not be allowed to be neglected by adults. Whether or not deciding to oppose fluoridation constitutes neglect is another matter. If strong evidence is presented in support of fluoridation, it would seem to be unwise to object to it. Underlying value assumptions of different parties involved in the discussion could be clarified to explore if it is possible to come to a wider consensus.

9. Ethical issues

- In your view, is there one of the following principles that is generally more important than the others: autonomy, solidarity, fair reciprocity, harm principle, consent, trust (see Section 5 in Part B)? If so, which one and why? Are there any other important principles that need to be considered?

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These principles are fine and individually justifiable. Different people will no doubt rank them differently.

- Can these principles be ordered in a hierarchy of importance? If so, how would such an order relate to the five case studies (infectious diseases, obesity, smoking, alcohol, and the supplementation of food and water)? Would the order have to be redefined for each new case study? Are there particular principles that are of special importance to some case studies?

The principle of solidarity should be given more weight. Solidarity goes much further than providing 'mutual support' to 'those we acknowledge as being 'one of us''. Most nonhuman animals may lack the ability to make a conscious decision to support us and are different from us (yet also 'one of us', to varying degrees), but we can be loyal to them and support them. A direct reference could also be made to future generations of humans, who cannot support us, but who many feel they need to be taken into consideration by us. A significant deficiency of the background and policy context of the consultation paper is that there is no recognition of how our choices might impact upon the health of future generations and on nonhuman others.

- In cases such as vaccinations or fluoridation parents decide on behalf of their children. Which ideas or principles should guide parents in their decisions?

Parents could consider the views of the child, the best interests of the child, and what others think the child's best interests are, as well as the best interests of the population (i.e. all children).

The case studies have been chosen because we think that they highlight a number of important ethical tensions and conflicts between different agents, ranging from individuals to families, to NGOs, companies, healthcare professionals and the state. Other case studies could have been chosen to illustrate the same types of tensions and conflicts. We would be interested to hear if you think that there are other types of ethically relevant issues concerning public health that we should address.

Some of the questions asked with reference to a specific case study also apply to other case studies, for example whether people who accept some kind of damage to their health as part of their lifestyle, such as smokers, should be entitled to fewer resources from the public healthcare system, or be asked for increased contributions. Respondents are welcome to comment on these specific questions in a general manner.

There are four principal ways in which we can bring about changes in behaviour at individual and societal levels in order to improve the health of the populations:

1. Educational interventions – 'Learning experiences that enable people to increase control over the determinants of health, health behaviours, and the conditions that

affect their health status'. These can take a variety of forms, use a range of media and be aimed at changing knowledge, attitudes, skills etc.

2. Policy measures – 'Legal or fiscal controls, other regulations and policies, and voluntary codes of practice aimed at enhancing positive health and preventing ill-health'

3. Technologies – 'Any mechanical, chemical, electronic, biological or other technological innovation that can be used to promote positive health or prevent ill-health'

4. Resources – 'Any discrete, identifiable resource gain by an individual or population, however caused, that facilitates or enables health gain'

Of these, policies and technologies can be used to enforce change (e.g. through means such as seat belt laws coupled with the fitting of effective seat belt technology in cars). Resources can be used to facilitate change by incentivising change (e.g. by making nicotine replacement therapy available free at point of use). Educational interventions attempt to persuade people to change and fulfil an important facilitating role.

Evidence seems to suggest that: (a) it is difficult to get people to change their behaviours (which may be lifetime habits and conform to cultural norms) voluntarily, so compulsory means may be more effective; and (b) voluntary behaviour change is more likely to occur among higher socio-economic groups when an intervention is delivered in the same way to all socio-economic groups.

Since it is generally accepted that modern public health has two aims (improving health AND reducing inequalities in health), then we might argue that we have an ethical imperative (as well as an economic one on ground of efficiency) to choose interventions that result in the greatest change for unit cost AND are most likely to reduce inequalities in health outcomes or least likely to result in widening inequalities in health outcomes.