

FORESIGHT

Drugs Futures 2025?

Public Perspectives

OFFICE OF SCIENCE AND TECHNOLOGY

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Executive Summary

The Foresight project on Brain Science, Addiction and Drugs commissioned OPM to consult with members of the public and seek their views on psychoactive substances and the future. The findings informed the question set to itself by the Foresight Brain Science, Addiction and Drugs project (BSAD):

How can we manage the use of psychoactive substances¹ in the future to best advantage for the individual, the community and society?

There were three stages to the project:

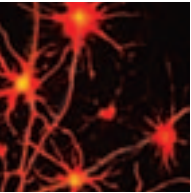
- 1 six discussion groups – introduction to the issues
- 2 six workshops – exploring the issues
- 3 a one-day forum – exploring trade-offs and preferences.

Participants included members of the general public; people with, or caring for children with, ADHD; users of illicit psychoactive substances; young people from school year 9–13. Eighty-seven people took part in the project, and work was carried out in Glasgow, Swansea, Derry and London during February and March 2005.

The research explored attitudes towards four classes of psychoactive substances:

- mental health drugs
- mood-altering drugs
- pleasure drugs
- cognition enhancers.

1 We understand a psychoactive substance to be 'any substance or surrogate intervention that affects brain function through its chemical neurotransmitters. The term includes recreational, psychiatric, cognitive-enhancing or mood-altering drugs and also future technology such as transcranial magnetic stimulation or neural prosthetics' (Foresight BSAD general briefing, September 2004).



Because many substances fall into more than one of these classes, participants focused on the reasons for, and context of, use i.e.:

- medical use – to alleviate suffering, whether physical or mental
- social use – a majority of participants placed their own substance use in this category
- illegitimate use – licit and illicit substances fall into this category
- lifestyle use – a majority of the substances in this category are seen as 'natural' and their use is approved on the grounds that it demonstrates care of self.

Participants' knowledge of science was not extensive but their attitudes towards it were largely positive. Some concern was expressed about science 'going too far', with technologies such as cloning and nanotechnology being cited as examples of this. Genomics met with most scepticism. Some participants were unconvinced about the possibility that specific genetic tendencies could be identified and measures taken to prevent or mitigate their future expression. The positive role of pharmaceutical companies was acknowledged but there was considerable suspicion of the profit motive.

The group felt that the development of future policies in this area was best guided by the principle of openness. Deliberative discussion of the benefits and disadvantages of specific new technologies and of the general principles that might govern their use will contribute to improved decision making. These discussions should involve the public, specific interest groups, scientists and policy makers.

Three core trade-offs emerged during the course of the project:

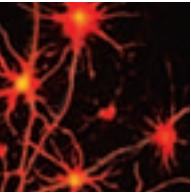
- individual rights vs the rights of society
- community safety vs preventing a 'normalised' society
- preventing problems in advance vs dealing with problems as they arise.

Participants showed a preference for options that protected individual choice:

- they felt that limited awareness of how decisions that impact on individual lives are made engendered suspicion about 'them' – Government, science, and society itself
- ceding decision-making power on the use of psychoactive substances, especially where these might have a coercive use, was seen as a possible invitation to loss of choice
- protecting people who are vulnerable, preserving public health, social order and community safety were seen as vital. Equality of access and fair distribution of resources were seen as elements in achieving such protection

- great concern was expressed over the use of psychoactives leading to a 'normalised' society bereft of creativity and diversity. This was behind much of the resistance to coercive use of drugs to manage behaviour.

Attitudes towards currently illicit psychoactive substances are informed largely by media coverage and are generally condemnatory. Arguments made in favour of other psychoactive substances were rejected in the case of illicit substances, and participants with experience of ADHD, and illicit substance users, were more likely to view illicit substance use as a form of self-medication.



Organisation of report

This report presents the research in reverse chronological order: Section I reports on the final stage of research and the Section III reports on the first stage of research. This structure will allow readers to gain a comprehensive overview of the research outcomes from the first chapter.

Section I offers the highest-level analysis of the debates that recurred throughout the research. These are articulated through the three trade-offs which captured most effectively the tensions that ran through discussions from the start of the project:

- individual rights vs the rights of society
- community safety vs preventing a 'normalised' society
- preventing problems in advance vs dealing with problems as they arise.

In addition, this first section outlines participants' suggestions on how the public might best engage with these issues in the future, including both how communication should take place and what information should be provided.

In Section II we look in more detail at some of the debates that led to the trade-offs. The information in this section is drawn from responses to a series of brief case studies, each of which presented participants with a possible future substance use or with a revised approach to regulation – for example, the use of cognition enhancers by employers as a way of regulating employee performance, or the legalisation of currently illicit substances. The case studies were designed to place possible future substance use in easily accessible and familiar contexts. Supporting materials accompanying the longer case studies provided participants with information to help them structure presentations that would require them to argue against some of the assumptions and views that had informed the first stage of the discussion. A full set of case studies is appended to the online version (www.foresight.gov.uk).

Section III provides details of the first stage of research. This was designed to provide participants with an initial overview of the issues to be addressed during the project as a whole and to provide researchers with information on participants' understanding of and attitudes towards them. The focus was on the attitudes towards different regulatory models and reasons for regulation.

Acknowledgements

Our thanks go to all the participants in the research and to others who contributed to its success, including:

- Jeyavani Atchuthan from the Heathland School, who organised contact with the younger participants and gave up her own time to attend events
- Andrea Bilbow at ADDISS who organised contact with members of this group and took part in the research
- Martin Ince, the project's science writer who provided valuable feedback on research materials and the report.

Objectives

This project was designed to inform the question set to itself by the Foresight Brain Science, Addiction and Drugs project (BSAD):

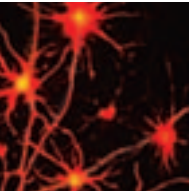
How can we manage the use of psychoactive substances in the future to best advantage for the individual, the community and society?

The primary objectives of the project were to:

- test the draft scenarios for robustness
- identify any reactions to future science or approaches to management which might have a significant impact on future policy
- explore whether there are any scenario-specific or cross-scenario outcomes that would be preferred
- identify any common principles from the discussions which might help to guide development of future policies in this area
- set out any key trade-offs which are identified
- explore how best to engage in discussions with the public on the issues raised by the scenarios.

The scenarios intended to form the basis for this discussion were unavailable for use in the project and their robustness could not, therefore, be tested. In their place, OPM, in discussion with the Foresight team, developed scenarios and case studies² that pulled out some of the issues of most importance to the project. These are appended to the online version of this report.

2 Scenarios and case studies help people imagine the future more effectively. They highlight the uncertainties surrounding an area and explore how those uncertainties *might* play out in the future.



Approach and sample

A three-stage approach was designed for this project:



Stage 1: Discussion groups

- General public:
 - Woolwich, south London (13)
 - Social grade³ C2DE
 - 8 female, 5 male
 - 3 Asian, 1 Afro-Caribbean, 9 white
 - Glasgow (14)
 - Social grade BC1
 - 8 female, 6 male
 - 2 Afro-Caribbean, 1 Pakistani, 11 white
 - Swansea (15)
 - Social grade C1C2
 - 8 female, 7 male
 - 3 Asian, 3 Afro-Caribbean, 9 white

3 Social grade (SG) is a classification system used by much social research in the UK. It classifies households according to the occupation of the chief income earner, as below:

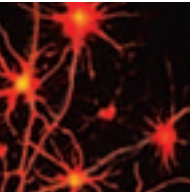
- AB Higher and intermediate managerial/administrative/professional
- C1 Supervisory, clerical, junior managerial/administrative/professional
- C2 Skilled manual workers
- D Semi-skilled and unskilled manual workers
- E On state benefit, unemployed

- Derry (14)
 - Social grade C1C2
 - 8 female, 6 male
 - All white
- Users of illegal psychoactive substances⁴ (3)
 - London
 - 2 male, 1 female
 - All white
- Young people (15)
 - The Heathland School, Hounslow
 - 8 female, 7 male
 - 4 from years 9–11; 6 in lower-sixth form, 5 in upper-sixth form
- Users/carers of people using mental health/behaviour modification psychoactive substances (13)
 - North London
 - 12 female, 1 male
 - mixture of parents, carers, relatives of children with ADHD or having ADHD themselves.

Stage 2: Workshops

- General public
 - London (8)
 - Glasgow (13)
 - Swansea (13)
 - Derry (13)
- Users of illegal psychoactive substances (1)
- Young people (14)
- Users/carers of people using mental health/behaviour modification psychoactive substances (11).

4 Throughout this report, the terms 'drug', 'substance', 'psychoactive substance' and 'psychoactives' are used interchangeably.



Participants received a small 'thank you' of cash (or vouchers, for the young people) for Stages 1 and 2 of the project. Stages 1 and 2 took place in February 2005.

Stage 3: Forum

Eighteen people took part in the Forum. They came from Glasgow, Derry and London and included members of the national Attention Deficit Disorder Information and Support Service (ADDISS) and eight young people from the Heathland School in Hounslow. Those who attended were largely self-selecting and thus not representative of the wider general public. It should be noted that the attitudes expressed by those at the Forum tended to be more liberal than they were during the consultation as a whole, reflecting perhaps the nature of participants who were able to travel to London. Many who would like to have attended could not do so because of family or work responsibilities. Others were not able to attend due to places being limited. Few showed no interest at all.

The Forum was held at the Institute for Mechanical Engineers in London on Saturday 12 March 2005. Participants' costs and expenses for travel to London were covered.

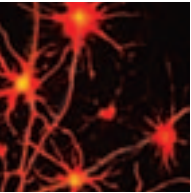
Introduction

Ideas of life in the UK in 20 years' time vary from individual to individual and depend on things such as access to information, their view of the world as it currently stands, knowledge of global trends and understanding of history. Conventional wisdom is notoriously difficult to escape and we analyse today's world with the theories and concepts of the past. Looking into the future, we are likely to bring those same theories and concepts to bear.

These difficulties are compounded when seeking to extend a vision of the future development of an area about which the general public is at present under-informed. Science is remote from most people's lives, though it may touch them every day through the technologies it makes possible. Attitudes towards psychoactive substances, licit and otherwise, are informed largely by popular media coverage, which is, in varying degree, hysterical, devoid of context, over-complex, poorly presented for general audiences, or just plain incorrect. Occasionally, it must be noted, it is accurate and informative. Only those whose lives are beset by problems that bind them on a daily basis to the products of science have the time or inclination to seek out trustworthy information and follow new developments.

There are terminological hurdles to overcome too. The word 'drugs' is for most people synonymous with 'illegal drugs'. To widen the field of reference by use of the term 'psychoactive substances' is to introduce a new and unfamiliar word into an already complex area. In addition, the common terms for products in everyday use can disguise their underlying make-up. This complicates discussion of, for example, nicotine, which is almost exclusively thought of in terms of tobacco and the damage caused by smoking. To accept that nicotine, associated with dependency and lung cancer, might have positive benefits, means overturning current views. A first response to learning that diamorphine (heroin) is a highly effective and safe painkiller used in palliative care often meets with the response: but won't they become addicted?

All of this might suggest that attempting to involve the public in a project that aims to explore the potential influences from society on how advances in science might be used and how science might shape the future management of psychoactive substances by society is a futile exercise. This is far from the case.



The general public brings to this debate great enthusiasm and a fascination with the social and ethical questions it presents. While it might be true that discussions are based on existing experience and knowledge – could it be otherwise? – and that the attitudes of some are entrenched, this is not really so different to similar discussions among the 'experts'. The project demonstrates the capacity of the general public to engage seriously with an intricate and involved topic, to amend their views in the light of information and to bring wit and pleasure to the process. Information overload can lead people to take refuge in familiar arguments: 'all drug users are evil,' and 'scientists are not like us' being two of the most frequent bolt holes. However, these retreats became less frequent as the project progressed and attitudes were revised. A young woman with ADHD talked to an A-level student from Hounslow and an engineer from Glasgow listened to a front-of-house theatre manager from Derry; people shared experiences and this informal conversation enriched the overall debate.

Reactions to future science are largely informed, as noted, by existing knowledge and attitudes. Past change is recognised; for example, in attitudes towards smoking, and some forecast similar changes in attitudes towards alcohol. However, for the most part, the present persists and frames debate. For example, discussing cognition enhancers, participants familiarise themselves with the idea of using psychoactive substances for this purpose by reference to current herbal or other over-the-counter preparations. Changing attitudes and possible future changes are acknowledged and then put aside.

Participants with ADHD, or with experience of it through caring responsibilities, were extremely well informed as a result of personal investigations into the science and medicine that might deliver them positive, and sometimes not so positive, benefits. Many of the younger people showed considerable faith in science. All studying one or more sciences at A level, they were accustomed to discussing science and related issues and aware of contemporary developments. Younger participants were also the only group to raise the question of conflict between science and religion. Older participants who had lived through or been personally affected by the thalidomide disaster, food scares or medical errors tended to be more sceptical. Their reactions to future science combined curiosity, anticipation and wariness.

Of the science relevant to this project, the most difficult to accept was the possibility that knowledge about the human genome would allow for the identification of specific individual predispositions and that steps might then be taken to prevent their expression. This in itself indicates something about the extent of existing knowledge. Only those who had personal experience of this technology could accept easily that this is likely to have a major impact on future science in this area – for example, the woman who had had breast cancer in her thirties and was now considering genetic testing for her daughter.

The principal standard for future policy development to emerge from the project is that of openness. Clarity of intention, provision of lucid information, explanation of the reasons for taking a particular policy direction, public access to candid and comprehensible scientists and a willingness from all involved to respond to and address public concerns are all aspects of this.

Openness is also at the heart of a trade-off which was not discussed in the project. Acceptance, or at least understanding, of scientific and pharmaceutical development is more likely to be forthcoming if the public can see evidence that its views have been heard and played a role in these developments. A possible and understandable temptation would be to go the other way and refrain from public engagement, on grounds either of the difficulties of the topic or for fear of suggesting certainty where none exists. The most interesting and knotty arguments lie on the threshold of uncertainty. This researcher believes that an emphasis on openness will encourage public recognition that science does not and cannot provide solutions to all that ails society and that it thrives best when certainty is missing. That is when the testing questions arise. In terms of policy, enabling and encouraging participation in debate and discussion of these questions will not only help to increase understanding of science as a pursuit but also lead to improved decision making.

A concern raised early in the project was that of the 'poor use of good science'. Though the precise intricacies of the science itself may be difficult for non-experts to get to grips with, the social implications of the use of psychoactive substances developed on the back of that science are not.

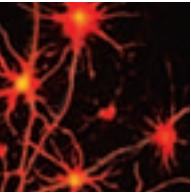
The research explored attitudes towards four classes of psychoactive substance:

- mental health drugs
- mood-altering drugs
- pleasure drugs
- cognition enhancers.

Many substances fall into more than one of these classes and discussion over the course of the project reflected this. Matters pertaining to any one class were difficult to isolate from those relating to the other three. Participants attended instead to the reasons and context behind use and divided these into four broad groups:

1. Medical use

Use of psychoactives to alleviate suffering, whether physical or mental, was largely uncontroversial. While there was some concern about over-reliance on pharmaceutical solutions to health problems, this tended to relate only to minor



conditions that might be relieved by increased exercise, an improved diet or other changes to lifestyle. Use of psychoactives for these lesser conditions was seen as opting for a 'quick fix'.

More controversial was the range of substances that might be included in this category. For a majority, it was confined to prescription-only drugs and over-the-counter drugs for headaches or flu. For those using illicit drugs and for participants with ADHD, or caring for someone with ADHD, the picture was less straightforward. They argued that many people turn to illicit substances to counter mental suffering in particular.

2. Social use

A majority of participants placed their own substance use in this category. Moderate and involving only licit substances i.e. alcohol and nicotine, social use was seen as largely unproblematic. But attitudes towards nicotine use have hardened and for many it has come to occupy a space on the boundary between social and illegitimate use. The only query about the overall legitimacy of the category itself was voiced by the young people. Their disapprobation was due at least in part to religious or cultural beliefs.

3. Illegitimate use

Licit and illicit substances fell into this category. All the following were seen as illegitimate:

- cognition enhancers to improve children's performance in exams or to make employees perform more productively
- chemical blockers designed to nullify the effects of illicit substances
- illicit substances themselves (heroin, cocaine, ecstasy, cannabis, amphetamine)
- licit substances acquired off-prescription.

Added to this was over-consumption of alcohol, such that users become dependent and of potential harm to either themselves or those around them. As noted above, nicotine use is also becoming more suspect.

4. Lifestyle use

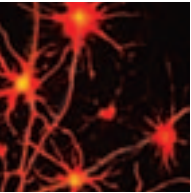
This category is the most imprecise of the four. It includes substances taken to address stress, to improve mental functioning (e.g. ginseng, ginkgo biloba) or general health (vitamin and mineral supplements, herbal preparations such as echinacea) and to help people 'start the day', which generally means consuming caffeine. A majority of the substances in this category were seen as 'natural' and their use was approved on the grounds that it demonstrates care of self.

The distinction between 'natural' and 'unnatural' substances is behind the difficulty in defining lifestyle use, since use of 'chemicals' for the same purpose was frowned upon. The distinction between a natural psychoactive substance and a chemical one was made with reference to production. At what stage in the production process a substance derived from a natural source becomes unnatural is unclear.

The collision of category of use with the natural/unnatural distinction is either less evident or absent in the case of categories other than lifestyle. For example, it did not arise at all in discussions of illicit substance use, where illicit means 'currently not legal', perhaps because knowledge among the general population of the origins of these substances is limited. However, it does appear to play a role in distinguishing between illicit and licit lifestyle use. 'Natural' cognition enhancers are seen in a different light from 'chemical' cognition enhancers. The distinction appears to be unproblematic in medical use, perhaps because it is overridden by the recognition that relief of suffering and restoration of health are too fundamental to tolerate such a nice distinction.

Power plays a critical role in debates and most participants thought its distribution was not in their favour. Two things underpin this view. The first is limited knowledge; 'they' (scientists, government, pharmaceutical companies) know more than us. The second is suspicion about the intentions behind principles implying structures that would potentially impede individual choice, whether these are social, political or economic. Participants were more circumspect about options that appeared to favour social or community interests than they were about those that privilege individual rights.

Fear of impotence in the face of science and Government coexists with the desire for both to offer reassurance. Desire is strongest in areas of greatest uncertainty. The law provides the greatest reassurance, serving as a boundary against uncertainty and against the need to entertain or make arguments that run against the stream of wider opinion. Or at least, the law as it currently stands provides reassurance, most particularly in discussions of the pros and cons of legalising controlled substances which are often ended by reference to the law. Controlled substances provide a counter-example to the prevailing view that individual choice should be privileged. The prospect of future laws regulating substance use, which might potentially restrict individual freedom of choice is less reassuring. As noted above, confusion in this area might be reduced, if not resolved, if the public was engaged in debate on future legislation – and on whether there is a need for it.



Section I: The Forum

Introduction

Section I offers the highest-level analysis of the debates that recurred throughout the research. These are articulated through the three trade-offs that captured most effectively the tensions that ran through discussions from the start of the project:

- individual rights vs the rights of society
- community safety vs preventing a 'normalised' society
- preventing problems in advance vs dealing with problems as they arise.

Before looking in detail at the debates surrounding the trade-offs, this first section outlines participants' suggestions on how the public can best be engaged with these issues in the future. In addition to involvement processes, including workshops and seminars, these suggestions cover how communication should take place and what information should be provided.

Talking with the public

Overall, participants showed a preference for options that protect individual choice. This was not, however, because they have no care for society. Rather, lack of information about and understanding of how decisions are made that impact on individual lives engenders suspicion and anxiety over 'them' – Government, science and sometimes society itself. In all three trade-offs, ceding decision-making power on the use of psychoactive substances, in particular where these might have a coercive use, was seen as a possible invitation to loss of choice.

For choice to be exercised responsibly and for individuals to understand the ramifications for wider society of their choices, information and dialogue is necessary, in particular with scientists and policy makers. At the end of the Forum, participants posted notes on the information they would like communicated to them and on the type of dialogue they would like to have. Members of the ADDISS group had quite specific requirements and asked for quite detailed information. This may be something they share in common with others who have an ongoing health need. ADDISS comments have been noted separately. Table 1 and Box 1 show the suggestions made by participants.

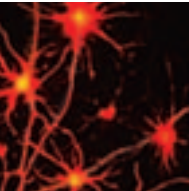
Table 1: Communication suggestions from participants

| WHAT TO COMMUNICATE | HOW TO COMMUNICATE IT |
|--|---|
| The reliability of scientific information | Use the media, including advertising: <ul style="list-style-type: none"> ■ TV ■ Internet ■ Newspapers ■ Radio |
| How to keep fit – promote a healthier lifestyle | On packaging – simplify and expand information |
| Benefits and disadvantages attached to psychoactive substances (prescribed and over-the-counter) | On books, leaflets and drug packaging Through education in schools and through GPs |
| Health forum with doctors and nurses, for different age groups | In workshops |
| NOTE: there is no correlation between the two columns – appropriate medium will depend on audience, content to be communicated, reasons for communication etc. This applies also to the chart on the following page. | |

Box 1: Information requests from participants from ADDISS

- Undertake surveys and research that are relevant, to prove drugs are reliable; censor poor media 'hyped' drugs
- Make new-product updates easily available
- Provide information on addiction and current developments in knowledge and treatment (including addiction to prescribed drugs)
- Give information on the reasons for prescribing certain drugs and expected effects of use
- Make current developments in science known
- Make available all information about a particular drug i.e. the positive and the negative, including:
 - the probability and nature of side-effects
 - chemical make-up of drugs
 - scientific name of drug (not just the brand name)
 - known uses for drug.

Even information which appears useless may be of great use to an individual user.



The opportunity to discuss the issues surrounding the management of psychoactive substances was seen as something that should be offered more widely. Involving sympathetic experts able to translate complex scientific developments or policy decisions is crucial. Professor Trevor Robbins, a science adviser to the project, attended the Forum and demonstrated clearly the value of involving experts with a genuine interest in hearing the views of the public. In addition to conveying in a lucid manner up-to-date information on developments in the area, Professor Robbins was enthusiastic about joining in discussions and responding to questions. This was of unmistakable value to the participants.

Finally, dialogue is seen as something that should take place primarily at a local level (see Table 2).

Table 2: Dialogue suggestions from participants

| WHAT DIALOGUE SHOULD COVER | HOW DIALOGUE SHOULD TAKE PLACE |
|--|--|
| How to reduce dependency on drugs | In workshops and seminars; education in schools |
| Discussion on the good and bad effects of drugs; how drugs work and the dangers associated with them | With GPs and pharmacists and scientists |
| Advances in research | |
| Everything to do with drugs, legal and illegal; health issues and scares about drugs | In easily accessible venues, for example, local health centres |
| Discussion about removal of prohibition | Through mailing campaigns, telephone calls or one-to-one discussions |
| How certain drugs are performing | Through community projects or websites |
| Long-term effects; research evidence; how regulation would work | In parliament and the media |

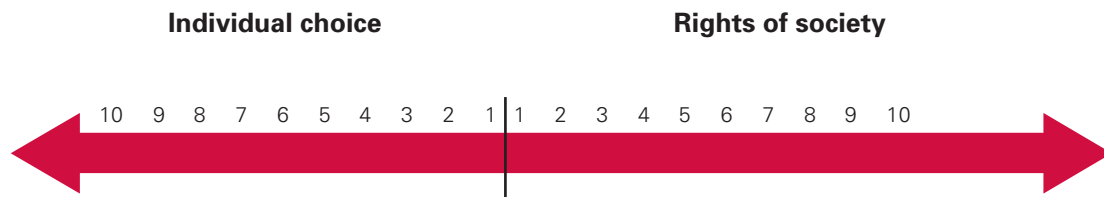
Exploring the trade-offs

While the range of debates widened as the stages progressed and participants took on or argued against others' opinions and developed or reconsidered their own, some central themes shaped participants' views and were consistent throughout the entirety of the project. The three trade-offs:

- individual rights vs the rights of society
- community safety vs preventing a 'normalised' society
- preventing problems in advance vs dealing with problems as they arise

captured these themes and provided a spine for debate in the Forum. Before and after the debate, a ballot was taken to see where each participant stood in relation to the three trade-offs. A scale of 1–10 in the direction of either argument was used (see Figure 1). Each participant had a numbered, coloured dot which they placed at the point on the scale they felt best represented their position.

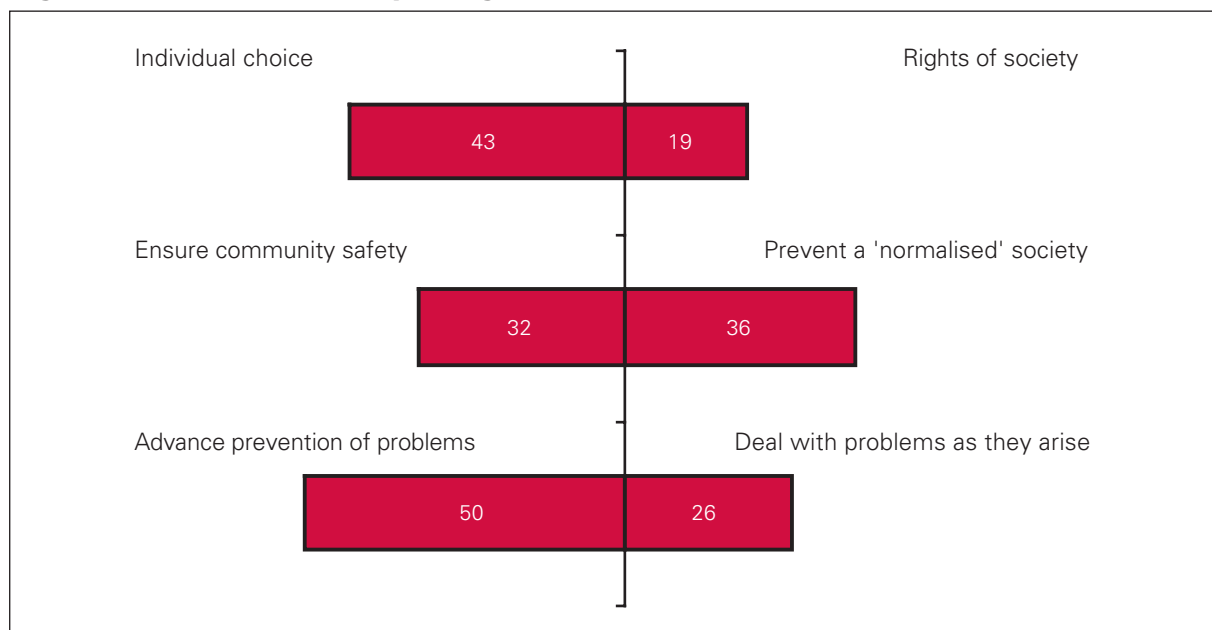
Figure 1: Example of scale for trade-off 1



The numbers on the bars in Figures 2 and 3 are the sum of the positions in which individuals placed themselves on the scale for each trade-off. For example, on the scale in Figure 1 for trade-off 1, one individual might place themselves at '5' in favour of individual choice. Another might place themselves at '5' in favour of the rights of society.

Between the first and second ballot, attitudes shifted quite considerably on all three trade-offs (compare Figure 2 to Figure 3).

Figure 2: Results of the opening ballot



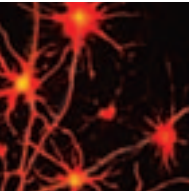


Figure 3: Results of the closing ballot



The debates that led to the closing ballot were complex, informed and interesting. Participants worked in three small groups to explore the benefits and disadvantages of each pole of the trade-off, through three scenarios, each of which presented a different possible future. Each group looked in turn at one trade-off in relation to one scenario and then moved onto the next scenario and trade-off.

The closing ballot shows opinion consolidating around the poles which privilege the individual. Individual choice is valued more highly than the rights of society as a whole; an eccentric (that is, not 'normalised') society, which might include dangers and discomfort, is valued more highly than community safety; and finally, an approach that deals with problems as and when they arise is preferred to attempts to prevent them arising in the first place. It should be noted, of course, that this ballot is taken to reflect the views of participants only on the issue of managing the use of psychoactive substances. To what extent it reflects their wider views is not known.

Individual choice vs the rights of society

The final ballot suggests a straightforward preference for individual rights over the rights of society. However, it is important to dig beneath the rating scale to get a more accurate picture of participants' views.

Supporting the right of individuals to make their own choices was seen as a way of contributing to community diversity and vibrancy, rather than as leading to fracture, isolation and selfishness. Protecting people who are vulnerable, and preserving public health, social order and community safety were seen as vital but the

difficulties of reconciling individual choice with the wider well-being of society were acknowledged. Participants' preference appears to be based on the assumption that the rights of society will fall out of the individual exercise of choice. In contrast, giving privilege to the rights of society is seen as leading to the restriction of individual choice.

This concern is evidenced in some of the comments posted in favour of individual choice. One participant referred to the dangers of a 'police state' and others expressed similar worries about having to cede their right to make decisions about their own life and future to 'faceless bureaucrats'. As the options for regulation were discussed, distrust of governance grew and support hardened for individual choice.

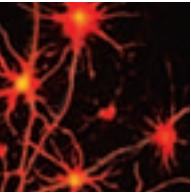
Substances falling within the category of illicit use (Category 3, described in the Introduction), present the greatest challenge to the preference for individual choice. This difficulty tends to be circumvented by reference to legal status; use of non-medicinal substances is either prohibited, as in the case of cannabis, for example, or its distribution is controlled. Reference to the law serves to close discussion of its use for reasons other than personal shortcoming or misguided hedonism. However, as some of the participants from ADDISS pointed out, these substances may be used by people with mental health problems to alleviate their condition, either because prescribed drugs are found inadequate or because conditions are not recognised and go untreated. This highlights the importance of context of use over the specific nature of the substance itself.

Advance prevention of problems vs deal with problems as they arise

The positive aspects of advance prevention were seen as limited. Participants focused on the social benefits of eradicating 'selfish' lifestyles or habits – for example, smoking or substance dependency. In the extreme case, an advantage was seen in being able to identify people who may at some future point be a real danger to society, as suggested by one of the scenarios (*Testing new ground*).

Concerns raised about the preventive use of psychoactive substances related both to the individual and to society as a whole. For the individual, the downsides were seen as the possibility of long-term negative effects arising from the use of preventive vaccines; removal of choice; lack of access to potential future and positive uses of a drug, the effects of which an individual has been immunised against (nicotine was cited as an example); possible changes in personality; and finally, the use of a drug to deal with a problem that might be better dealt with by other means.

Identified disadvantages to society of the preventive approach included loss of diversity and opaque decision-making processes. The elimination of what were acknowledged to be possibly dangerous habits or proclivities was seen as leading to



a less interesting society. Participants were clear that hazard is part of life and that the attempt to eradicate it completely is likely to produce a dull and uniform world. This argument did not, however, apply to the use of illicit substances.

Who makes decisions, how and for what reasons are questions that recur throughout the project. Suspicion about government, and a tendency among some to use 'government' and 'society' as synonyms gives rise to the fear that individuals already seen as relatively powerless will be further weakened if societal rather than individual needs are favoured. The power of science, of the pharmaceutical industry and of the black market, and this cautious attitude towards government combine to generate anxiety about any steps that appear to be removing choice. Advance prevention appears to be seen as one of these steps. There is support for voluntary use of this technology but assurances of safety are required.

If drugs are designed to combat deviant behaviour, where does it stop?

Yesterday's deviants are today's philosophers!

Participants favoured dealing with problems as they arise.

The changeable nature of society is seen as something to value and protect. Since the substances under discussion act on the brain, concerns arise over the possibility that their use will affect personality in a manner that will reduce the capacity of society to change. Some respondents identify cost benefits to this approach too, arguing that advance prevention might mean that resources are wasted on people who might not go on to develop any problems. This points to a further theme that persisted through all three stages of the project, that of uncertainty over how risk and benefit are assessed. While the reason for immunising babies against future illness is well understood, the prospect of immunisation that impacts on the way the brain works is seen as more threatening and, perhaps, the balance of benefit and risk viewed differently. The brain is implicated with personality and a major anxiety is that advance prevention will alter this in unknown, unwanted and perhaps permanent ways.

The principal downside of waiting until problems arise before addressing them is that, by that stage, it may be too late to do anything.

A combined approach was suggested by one participant. This approach would gather genetic data and identify potential problems but, rather than seeking to prevent them before they arose, the individual would have access to health-monitoring processes, support, guidance and advice so that problems could either be avoided completely or be identified and treated at an early stage.

Members of the ADDISS group in particular felt there was a need for more competent professionals and more money in the mental health field and saw this in itself as a form of advance prevention.

Community safety vs preventing a 'normalised' society

This trade-off was designed to explore concerns that psychoactive substances such as cognition enhancers and behaviour modifiers would lead to a 'normalised' society from which eccentricity and creativity had been squeezed out.

The limited benefits associated with privileging community safety are reduction in crime and the consequent reduction in harm to the individual. The negatives were expressed more forcefully and included the possibility that parents might be criminalised if they refused to immunise children whose genetic make-up identified them as a potential future danger. Current attitudes towards brain dysfunction and mental illness, which members of the ADDISS group were clearly familiar with, also informed views. Their fear was that people with epilepsy or perhaps even diabetes might end up being targeted in the interests of 'community safety'. Some presented a 'slippery slope' argument. Once the use of a substance is accepted in one field, it is more easily transferred for use elsewhere. Once a substance is accepted for the prevention of medical problems, its use may be seen as more acceptable for the prevention of social problems. The boundary between the two is not sharp and the impact on individuals of its being drawn in a particular place may be severe. The costs of an eccentric and varied community may start to suggest use of psychoactive substances to address mental health problems such as dementia, Alzheimer's or even just old age, not in the interests of the individuals themselves but for economic reasons. Compulsory treatment, the use of psychoactive substances by the criminal justice system and their use as 'quick fixes' were further worries.

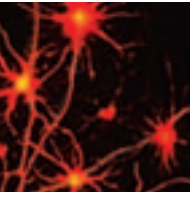
The anxieties generated by a community safety approach were expressed in the same terms as those used by some participants in relation to developments in science: 'where does it stop?' As knowledge grows, along with the ability of science to intervene in what is seen as 'natural', so, too, do worries about the creation of a society of clones and, possibly, worse.

How many people are a danger to society? This is a blanket approach.

It'll be a 'bipolar society', normal and abnormal – no variation!

Preventing a 'normalised' society

From what has been said above, the arguments made in favour of this will be apparent. Some pointed out that community safety and preventing a 'normalised' society are not necessarily incompatible; whether they are depends on the uses to which future psychoactive substances are put.



Section II: Debating the issues

Introduction

In Section II we look in more detail at some of the debates that led to the trade-offs. The information in this section is drawn from responses to a series of brief case studies, each of which presented participants with a possible future substance use or with a revised approach to regulation – for example, the legalisation of currently illicit substances or the use of cognition enhancers by employers as a way of regulating employee performance. The case studies focused on exploring issues raised in the discussion groups and were designed to elicit participants' responses and attitudes to potential future developments in psychoactive substances, genomics, brain science, social attitudes and legislation. Further information was provided to aid discussion and help participants think outside the familiar landscape of 2005. The difficulties inherent in attempting to second-guess future attitudes and behaviours, combined with the complexities of the subject matter itself, suggested case studies that were couched in terms of individual experiences with which participants could identify or at least recognise.

In the period between the first and second stages of the project, some participants read materials made available at the end of Stage 1 and many participants had paid more than usual attention to related issues covered in the media. They had given thought to how different substances were regulated and to the possible effects of some everyday consumer products. For example, chocolate was described by one participant as releasing 'happy hormones' in the brain. There was also considerable surprise at recent coverage in the media of illicit psychoactive substances use by people who were seen as falling outside the media stereotype of the 'junkie' or the person whose life had been destroyed by drugs – recent media coverage of middle-class drug users.

The case studies

Overall the case studies were seen as believable. The dilemmas they presented and the science behind them were thought to be realistic and they generated interesting and thorough debate.

Developments in genomics were seen by a majority as the least convincing aspect of the science behind the case studies. Some participants were sceptical that it

would have developed sufficiently, even over the next 20 years, to provide accurate information on the predisposition of an individual to develop a dependency on particular substances or for personalised psychoactive substances to be available in that timescale. This scepticism may, at least in part, arise from the tendency among participants to see dependency in terms of personal moral failing rather than as having any underlying physical basis. The question of the relative importance of genetic make-up and social and environmental triggers or influences on the development of dependency was raised in the first stage. A majority of participants blame dependency almost exclusively on poor parenting giving rise to poor decision-making skills in later life, or to other environmental factors. The puzzle of why two children, growing up in very similar environments, may go on to have completely different futures is one to which, for many, genetic make-up is not the most immediate answer – though an answer would be welcome.

The difference between the disposition to develop dependency and 'having a gene for addiction' was also unclear to some participants. The exception to this was the ADDISS group, whose knowledge of this area in general was far greater than that of many other participants. This suggests there is a need for greater clarification in this area, particularly since some technology in this area currently exists. While the moratorium on the use of predictive genetic test results by insurance companies has recently been extended to 2011, future public debate on this issue will require greater knowledge than appears currently to exist.

I think it's a bit of a cop out saying [dependency is] a gene thing – it makes it somebody else's fault.

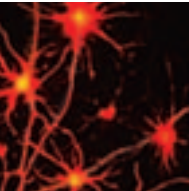
Two boys growing up together, going to the same school, one takes drugs, one doesn't, one smokes, one doesn't. Why is that, when they're both from the same environment? Is it from the house? Is it from peer pressure? Is it because the parents smoke in one house and not in the other? Research into that is important.

Aside from these two issues, the debate on the case studies focused primarily on the social and personal implications they raised.

Issues raised by the case studies

Context of use

As noted, attitudes towards psychoactive substances are, for the most part, influenced by the context of use rather than by the specific properties of the substance itself. This is most clear in the case of illicit drugs that have beneficial uses. Many of those in the ADDISS group, of people with or caring for people with ADHD, recognised the harm caused by cocaine, but pointed out that it can have a



positive effect on some ADHD sufferers. Attitudes are also affected by views of the user and their motivation for use – though, again, this is complicated in the case of illicit substances. Acceptance of their legal use for medical purposes appears less easy, because of their current controlled status and the prevailing view of the inevitable consequences of their use.

Accepting new substances appears easier if they are used for already-established reasons. This was clear in the case of cognition enhancers. Participants referred to herbal preparations and some over-the-counter drugs with widespread current use. Understanding the circumstances in which they are used and the reasons for their use seem to be stronger influences on attitudes than the substance itself, with the proviso that safety and no risk of dependency need to be assured. Some could accept the use of cognition enhancers on safety grounds too. Discussion of an article about pilots using a drug developed for Alzheimer's Disease led to the conclusion that this was quite acceptable since it would make travel safer. This use appears to be in a category of its own.

It's got to be a good idea, if they're more alert and better at their job then we're all safer because of it.

In some contexts, use of psychoactive substances was seen as 'unnatural'. This is addressed in more detail later in this section.

The use of psychoactives on children for reasons seen as non-medical – for example, to address concentration problems or 'naughtiness', was seen as illegitimate, for three primary reasons.

First, it is viewed as an easy way out, possibly leading to a worsening of an underlying problem of which this behaviour was a symptom. Related to this argument was the worry that, as new substances are developed, people will increasingly look for a 'quick fix' to life's stresses and abdicate responsibility for their children, medicating rather than taking the time and effort to resolve difficulties without the use of drugs. The exception to condemnation of the use of psychoactive substances for 'concentration' problems was children with ADHD. A majority of participants recognised that psychoactive substances could make a huge difference to their ability to participate in normal childhood activities and saw their use as purely medical. However, some participants questioned whether ADHD was a 'real' problem or a consequence of poor parenting. ADDISS participants were aware of this scepticism and challenged it.

Second, non-medical use of psychoactive substances on children was seen as unacceptable for reasons of safety. The tests for safety are more stringent for children than they are for adults and the long-term consequences of substance use of more concern. Cognition enhancers that are used to improve exam performance, for example, is looked on very harshly.

Finally, the freedom of children to choose what to take or not to take is likely to be more limited than that of adults.

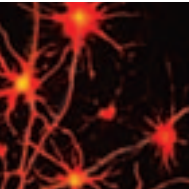
Science, industry and society

Participants wanted science and pharmaceutical companies to recognise the social context in which they operate. They wanted public involvement in discussions about the development of new psychoactive substances at an early stage and opportunities to learn about and debate possible uses and their potential impact on society as a whole. There was great concern over fairness and equality in the distribution of drugs and resistance to the idea that private profit might take precedence over social well-being.

Increased scientific understanding of the human brain and genetic make-up was seen, on the whole, as socially beneficent. Science itself was viewed as largely neutral; the use to which its products are put and the profits accruing to those able successfully to exploit them were treated with more suspicion. One of the benefits to society from growing scientific knowledge is the development of more personalised drugs which were seen as potentially both more effective and safer, since they are less likely to be used on individuals in whom they could trigger unpleasant or dangerous side-effects. The link between this and the capacity to identify and treat potential problems on the basis of genetic information was not made.

Pharmaceutical companies were seen as benefiting in a range of ways from the future development of new psychoactive substances. Higher profits are the primary benefit to them and the drive to profit was seen as potentially leading companies to bring products to market before they have been tested exhaustively. Thalidomide is still used by many as an example of the devastating consequences of not considering 'all the angles'. Other benefits include a boost to corporate reputation through association with leading products, and an increased workforce.

The debate that gave rise to the most heated expression of the need to ensure equality and fairness, in both the development of new psychoactive substances and access to existing ones, surrounded a case study involving the cessation of research into drugs for Alzheimer's Disease. This was on the grounds that the quality of the increased lifespan made possible by cognition enhancers was not sufficiently great to warrant the cost of continuing research. The resources released were to be put into research into drugs to relieve chronic conditions among the younger population such as diabetes and asthma. This infuriated some participants who saw it as unfair to restrict the development of possibly beneficial substances on such grounds. They were incensed, in particular, because they felt that older people had paid into a system over a long period of time and deserved to be well treated by it in return. Some questioned whether they should even be discussing



such a controversial issue. Participants in the ADDISS group were most annoyed, perhaps because they are closer to the impact on their lives of decisions about where to target resources. Some remarked, only half in jest, that this could be their own future.

Stepford Wives?

There was considerable concern about psychoactive substances leading to a 'normalised' society, in which individuals, whose behaviour does not closely align with certain norms, would be coerced into using substances to rectify their peculiarities. The term 'Stepford wives' was used to describe people adjusted in this way. Some participants felt that dependency itself may have benefits, suggesting that the struggle to overcome it can lead to stronger individuals. There was also some suggestion that the creativity within society would be eliminated if people's freedom to behave oddly, which might include taking illicit substances, were removed completely. For a majority, however, the current law, together with media coverage of illicit drugs, tends to mean that discussion of any benefits attaching to their use are closed down by reference to their legal status.

Safety

The safety of psychoactive substances is a crucial matter. Participants pointed to declining trust in science and doctors which, in part, was seen as a consequence of the coverage of the MMR debate and BSE. Understanding of risk is limited and access to level-headed discussion of these high-profile cases may be hard to find for many people. Their willingness to accept the assurances of GPs and scientists about the safety of newly developed drugs may be affected by this.

Dependency and unknown side-effects were the primary concerns. Dependency was a frequent concern raised in the early stages of discussion about possible new substances and new uses for existing substances. Speculatively, this is linked to the desire to retain individual choice, with dependency leading to the limitation of, or less choice. Unknown or unanticipated side-effects are more acceptable if substance use is for the alleviation of a severe medical condition.

Other issues raised included 'getting wired' as a consequence of taking cognition enhancers, resulting in the use of other substances to counteract their effect. These worries were highlighted in discussions of the use of psychoactive substances to improve quality of life, rather than to address a medical condition. Arguments against these drugs were made primarily on the grounds of safety.

Unnatural advantages

Case studies involving cognition enhancers often led to discussions about their use being 'unnatural'. There was little explicit moral condemnation of this class of substance, perhaps, as mentioned elsewhere, because substances to 'keep you alert' or 'improve your brainpower' are available commercially and used by the public at large. However, many participants made a distinction between the substances that are currently available, largely in healthfood stores, which are seen as natural and therefore as harmless, and cognition enhancers. The latter were seen as drugs while the former were not.

The distinction appeared to be based on the nature of production undergone by a substance. A substance synthesised in a laboratory stands at one end and a substance picked from a garden or from the wild at the other. There was no clear line between 'natural' and 'unnatural'.

In addition to the unnatural nature of the substance itself, its use was seen as providing unnatural advantages and this in itself was thought to carry a risk. It might be that the benefits were not seen as sufficient to warrant the potential risks involved. This is not an issue that arose in discussions of the use of psychoactive substances for recognised medical needs. However, there was clearly also a deeper fear, which attaches also to genomics, that 'messing with nature' can carry unspecified and perhaps dire consequences. 'Nature' in this context is situated inside the body and, more specifically, in the brain.

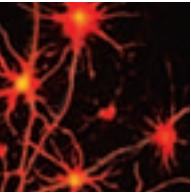
Illicit substance use

The media was seen as having great power in shaping debate on illicit substance use and some participants acknowledged that their views were based on media coverage alone. The use of illicit psychoactive substances was seen as leading inevitably to problems, ranging from dependency, to criminal activities, to neglect of family. Those using illicit substances argued that the current approach demonises users and that there is inadequate recognition of the reasons for use. They argued for a public health approach, based on the needs of the user looked at in the round, rather than simply on their dependency. Other participants recognised the legitimacy of arguments in favour of legalisation, but their gut reactions were strongly against it.

We have free will. We are all thrill seekers. Whether it's legal or not, people will still buy drugs.

Immunisation against the effects of psychoactive substances

Support for immunisation either to prevent a potential future dependency or to block the effects of specific substances was very limited, primarily on the grounds that it



would infringe freedom of choice. Even where people were making decisions that were harmful either to themselves or to others, the majority view was that it is necessary to protect freedom of choice.

The majority concluded against childhood immunisation of this type after discussion of a range of issues. Parents' desire to protect their child against harm and the release of money for the health service were given as possible arguments in favour of immunisation. On the other hand, safety was a major concern; the fear that the immunisation itself might have unintended negative effects was voiced. Even if the effects of some substances could be blocked, a genetic predisposition to dependency could lead to use of other, more dangerous substances. They also thought that limited knowledge and some scepticism of science in this area, combined with uncertainty over whether a predisposition to dependency would lead to actual dependency and the removal of future choices for the recipient. The ADDISS group pointed out that, unlike MMR, debate around which was framed within the context of public health, immunisation against potential future substance dependency was a human rights issue.

The already-noted scepticism about genomics was also central to the above debate.

This looks like technology getting out of control – can lead to further problems in the future with negative outcomes.

People must be able to make their own decisions, even if they are the wrong ones.

If it's someone's free choice to kill themselves by diving off a mountain, then it's the same with smoking.

Using blocking vaccines on illicit substance users, in the interests of protecting the wider community against crime, was also viewed negatively. It was seen as coercive, open to abuse by authority and, in the end, ineffective for reasons similar to those voiced above. Those with the inclination to use illicit substances would find other drugs to use in place of those rendered ineffective by a blocker. There was, however, considerable support for voluntary use of blockers.

The Government is too corrupt to execute it fairly.

People in positions of authority would be using it indiscriminately and for self-gain.

Everybody's entitled to human rights, even prisoners. It's not ethical or moral to force them to do this.

Section III: Laying the ground

Introduction

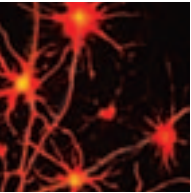
Section III provides details of the first stage of research. This was designed to provide participants with an initial overview of the issues to be addressed during the project as a whole and to provide researchers with information on participants' approach to some of the background issues involved in managing the use of psychoactive substances. Understanding of and attitudes towards possible approaches to regulating substance use were explored. Knowledge, experience, attitudes and concerns about science, the pharmaceutical industry and different types of substance use were also discussed. This information provided initial learning on the issues that might be most profitably addressed in the case studies and scenarios to be used in later stages of the research.

Participants had not been told the precise topic they were to explore. On arrival at the discussion groups they were both curious and a little apprehensive. However, they did know that the project had been commissioned by the Office of Science and Technology and were enthusiastic about being involved in discussions that would contribute to government understanding of public perceptions in this area. Some expressed surprise that the public would be given the opportunity to take part in this kind of event.

Once informed of the topic of the project, participants showed great interest. While specific knowledge was quite limited, many were aware of relevant media coverage and brought personal experience to bear. Media coverage mentioned at this early stage included:

- the decision by the National Institute of Clinical Excellence (NICE) to withdraw from use some of the psychoactive substances prescribed to people with Alzheimer's Disease
- the debate over the benefits and disadvantages of methylphenidate e.g. Ritalin, for children with ADHD
- research on heroin use by Glasgow Caledonian University.

Several participants were also nervous about their ability to contribute much to the debate, feeling that their knowledge of science was too limited to allow them to take part in the discussion. However, nervousness soon passed. Debate was animated, purposeful and, at times, heated.



Regulating the use of psychoactive substances

Participants supported regulation in some form, but recognised that each method would bring with it some disadvantages. The tension between preserving the right of individuals to make choices over the psychoactive substances they might use and protecting the rights of wider society was evident in the earliest stages of the project, though arguments initially favoured societal rather than individual rights. Underlying the explicit concerns raised, there seemed to be a largely, though not completely, unspoken worry that regulation would be made against the interests of individuals who had little power. This concern ran through each stage of the research.

Participants in the ADDISS group expressed this fear most forcefully. Their attitude to the use of illicit psychoactive substances was noticeably different from that of other participants (apart from the users of illicit psychoactive substances), since they were aware that some substances that may be of benefit to them were available only through black market sources. This had a considerable impact on their views. The ADDISS group members appeared to place illicit substances at the boundary between medical and illegitimate use, rather than wholly within the category of illegitimate use. Younger people tended to see both Government and their parents as wholly benign and acting solely in their interests.

In all groups and in most discussions at this early stage of the project, the focus tended to default to illicit psychoactive substances and the debate on regulation was no exception. Language is partly responsible for this. Despite encouragement to use the term 'psychoactive substances' rather than 'drugs', throughout the project, participants fell into shorthand and used the term 'drugs' which they associated primarily with heroin, cocaine, crack and cannabis. However, conclusions that seemed workable in the case of illicit psychoactive substances became less tenable when considering both currently legal recreational substances or vitamins and herbal regulations. Cases made against the use of illicit substances could also be applied to licit recreational drugs such as alcohol. Despite recognition of the high costs attached to the use of alcohol and tobacco, however, their legality protects users from association with the dependency and degradation they associate with the use of illicit psychoactive substances.

In discussing regulation, participants returned continually to two issues. The first was education for young people on the potential harms of recreational psychoactive substances, licit and illicit. Many felt that this was currently inadequate and that reliable information should be more widely available. While a few participants argued that young people would experiment with drugs, no matter how good and widely available information was made, this was not seen as a reason for failing to provide it.

The other question concerned dependency. The extent to which a substance leads to dependency or requires the use of other drugs to mitigate its effects was a crucial factor in attitudes towards managing use. For example, presented with a hypothetical drug that produced the same effects as heroin but did not lead to dependency, some participants could see no reason not to allow its use for recreational purposes.

Approaches to regulation

Protecting vulnerable people

Initially, this was seen as positive. Participants saw advantage in regulation designed to safeguard the interests of older people, children, people with mental health needs and other vulnerable members of society. On further examination, however, questions arose over how vulnerability would be defined, who would be involved in developing the definition and who would determine whether a particular individual should be classed as vulnerable according to that definition. The young people saw regulation of this nature as a way of arming themselves against peer pressure to take illicit psychoactive substances. They suggested that being able to point to the law as a reason not to do so might be easier for some people than leaving it a matter of personal choice. To that extent, it is perhaps providing exactly that protection, seen as positive by the older participants.

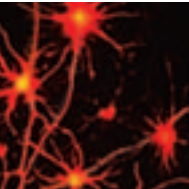
Should it be the next of kin's decision or should it be a medical professional who says, her lungs are in that state or her liver or kidneys in that state, because of the alcohol. So we feel it's in their best interests that they stop. Who makes that decision?

Preserving social order

This was seen as important and was viewed as the primary reason behind existing legislation against the use of certain psychoactive substances. Recent changes to the laws on the sale of alcohol were discussed in relation to the preservation of social order, with mixed views on whether the changes would aggravate or alleviate binge drinking and associated social problems. Again, the issue arose of who makes the decisions and according to what criteria. Young people in particular felt that maintaining social order would have benefits for the individual too and would lead to a safer country with reduced crime and a healthier workforce.

Preserving public health

Considered in the abstract, regulation to preserve public health was seen as positive. Dependency on illicit psychoactive substances was seen as leading to illness and reliance on public money. The Government was seen as having some duty to regulate



in the interests of the wider public. The need for good scientific advice and research was stressed in relation to this issue. Referring to the changing state of knowledge on the effects of tobacco and alcohol over the years, some participants said that public health had suffered because scientists have not been sufficiently involved in decision making. Taking this argument further, they suggested too that this may be because of the tax income accumulated from the sale of licit recreational drugs such as alcohol and tobacco and that the voice of science may be heard less clearly when loss of substantial income is the consequence of listening. Some saw a contradiction in the current situation, with Government continuing to raise taxes on tobacco while restricting consumption. Presented with the hypothetical situation in which science discovers hidden harms in coffee and tea, however, participants drew the line at the regulation of these substances.

It's difficult – you can't say, you can't have a cup of coffee 'til you're 16.

Participants from Derry commented on two initiatives in Northern Ireland that had changed the patterns of consumption of licit recreational drugs. One was the recent introduction of a smoking ban in public places in the Republic of Ireland, which was felt to have encouraged people to cut down or stop smoking – and to have led to an increase in cross-border traffic as hardened addicts drive north to find an atmosphere in which to drink that is more conducive to their nicotine habit. The other example was that of using pricing mechanisms to change choices at the bar. The cost of soft drinks had been reduced in some pubs to encourage their consumption instead of that of alcohol.

The smoking ban (in the Republic of Ireland) is very good because people don't smoke so much when they are not around people smoking.

There are people who go into bars and don't want to drink alcohol, but it's cheaper to buy an alcoholic drink than a soft drink. But some pubs have reduced prices on soft drinks to encourage less alcohol drinking.

Making sure that drugs that are available are pure

This was discussed initially with reference to prescribed and over-the-counter drugs and it was taken as unarguable that this is a good thing. If purity is regulated, users can make choices based on their individual need without worrying about side-effects that might arise from adulterated psychoactive substances.

You want it to do exactly what it says on the tin.

In the context of illicit drugs, this argument tended to lose persuasive force and two positions emerged, with participants split fairly evenly between them. Some felt that providing testing kits for people intending to take illicit substances to ensure their purity indicates implicit approval of that behaviour. Making such kits

commercially available, or free at clubs where young people might take drugs, was felt to send out messages that are contrary to the wider attempt to stamp out the use of illicit psychoactive substances .

Others argued that protecting young people should take precedence over the legal status of the substances they choose to ingest. Those supporting this view felt that people have always used and always will use psychoactive substances and that the law will not prevent this. They felt that society has a responsibility to protect even those who break the law, especially when, very often, these are young people. Providing testing kits was seen as a way of allowing individuals some greater protection and also as a possible disincentive to suppliers against the adulteration of drugs, so reducing the harm that can arise from impurities.

We were discussing the Leah Betts campaign – how much more heartbreaking is it to see a young girl at the beginning of her life on a life support machine. That won't stop people taking ecstasy – that's the sad thing – no matter what you tell people, they think, I'm smarter than that, I know what I'm doing. That's what you need to deal with.

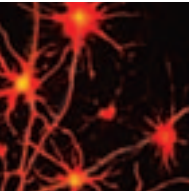
It sends a message that it's acceptable. That it's ok to go and sniff up some cocaine.

Preventing harm to drug users and others

Regulation for this purpose was seen within the context of prescribed and over-the-counter drugs referring to dosage information. For recreational drugs, the required information on tobacco packets about the dangers of smoking was seen as helping people avoid harm, to both themselves and, where information is about passive smoking, others. The tension between individual choice and harm to self and others was seen as hard, if not impossible, to resolve. Younger participants felt that individuals should have the right to take harmful substances if they choose, but recognised the difficulties in drawing a firm line between harm to the individual consumer and harm to those around them.

Some participants argued that regulation of this type should not be necessary, especially in the case of tobacco. They felt that manufacturers should be duty-bound to reduce the harmful effects of their product and if they were unable to do this, they should not be allowed to sell it. There was some disagreement with this, on the basis that it would restrict individual choice to an unacceptable degree.

If it affects the rest of the family then maybe there's a need for it to be regulated, but if it's only affecting you, then that's personal choice.



Raising taxes

Regulating substance use to raise taxes was seen as a way of deterring the consumption of potentially 'anti-social' drugs and thus as having a protective function. Reference to tobacco and alcohol was made in this context. There were, however, some questions raised about the use to which tax monies are put. Many felt that taxes raised in this way should be channelled into education and information campaigns about the dangers of some substances. There was also a degree of cynicism about the regulation of tobacco through taxes, as noted above.

Some argued that Government is the only beneficiary of tax-raising regulation. They saw it as exploiting addiction, because, no matter how high taxes are raised, people who are addicted to nicotine will pay what they have to for their drug.

The ADDISS group looked further forward and considered a possible time when cannabis or cocaine might be legal. Both of these drugs were seen to have positive benefits for some people with ADHD and, in this case, it was felt the substances should not be taxed.

Preserving economic productivity

There was very limited discussion of this reason for regulation. It was seen as a difficult question, about which participants had little knowledge. If regulation of this type is used in the interests of people who wish to overcome dependency and return to work, it was seen as positive; otherwise many saw it as potentially coercive.

For religious or cultural reasons

This was seen as a matter for the particular groups in question and one in which wider society should not have a voice. Other groups were expected to respect decisions made for these reasons.

Restricting use to particular groups of people

Regulation to restrict the use of some psychoactive substances to particular groups of people was seen as a way of looking after the interests of more vulnerable members of the population, for example, young people, who are more likely either to be harmed by substances or not to understand the implications of using them. The young people in the discussion saw this type of regulation in a slightly different way, arguing that there could be social benefits to targeting some substances at some groups of people. They argued that there would be a social benefit in altering the testosterone levels in aggressive males.

Initial understanding of the area

This section provides an outline of participants' initial understanding of and attitudes to some of the key issues and players involved in this topic (summarised in Tables 3 to 7).

Science

Table 3: Summary of participants' perspective on science

| Knowledge | Experience |
|---|---|
| Limited | Personal experience through own and children's education |
| Immediate top-of-mind references to cloning, nanotechnology, progress, potential, benefits, specific branches of science, intellectual difficulty and frightening possibilities | Personal research (students and ADDISS) Media coverage |
| Strong bias towards experimental science in mental health area in ADDISS group | Lobbying and support groups |
| Attitudes | Concerns |
| Mostly positive and some sophisticated; but there is a call for balance, introduced primarily by evaluation of the social and ethical context within which science takes place | Unintended consequences arising from over-zealous approach – though also seen by many as intrinsic |
| The least knowledgeable tend to be least positive | How to achieve an appropriate balance of benefit and risk Poor use of good science, seen as driven in part by profit |

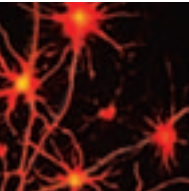
We have the capabilities but we don't always put them to the right use.

Science is what brought this country to where we are today – it's why we are as far as we are and not a third-world country.

Science is not enough – that's inflexible. You need to take into account personality and lifestyle.

How far is science about making somebody richer and how far is it about helping humanity and curing illness?

After a while you don't know what to believe.



Science was thought, on the whole, to bring great benefits to society. Most of the top-of-mind references were drawn from media coverage of recent developments such as cloning and nanotechnology, and participants demonstrated awareness of some of the issues that characterise discussion in these areas. Those with more limited knowledge were more likely to use words such as 'frightening' and 'pain'.

The high profile given by the media to BSE, the possible dangers of radiation from mobile phones, MMR and the legacy of thalidomide acted as counters to the generally positive attitude. They highlighted to most people the need for a precautionary approach, whereby the negative side-effects and potential long-term damage of new developments are researched in full before the release of new psychoactive substances onto the market. The difficulties of this are acknowledged, for example, people might be deprived of a potentially beneficial psychoactive substance while research and trials are ongoing. It may be that greater knowledge of the process by which psychoactive substances are brought to market and more nuance in the media coverage of these issues would allow people to develop their understanding of the balance between benefit and risk in this area.

Given the overall theme of the project, it is perhaps not surprising that the differences between science, medicine (e.g. GPs, psychologists) and the pharmaceutical industry were blurred. Often, concerns raised about science related more directly to prescribing practices and the use of psychoactive substances, rather than the science behind their development.

Adult participants' recollection of science at school tended to be limited – and not, on the whole, very positive. This was in marked contrast to the views of the young people, since many were taking higher-level sciences at school. The range of debates within science to which the young people referred was considerably wider than that of adults and included the relation of science to religion, with specific mention of the creationism debate and the use of scientific knowledge for 'social engineering' or, as one young person expressed it, 'messing with the soul'. This resonates with the concerns mentioned above, about the use of some substances being 'unnatural'.

Participants using or caring for people using psychoactive substances for mental health purposes were noticeably more informed, less awed by and more sceptical of science. Their knowledge of the breadth of scientific opinion on the benefits and disadvantages of many psychoactive substances and the search for accessible and reliable information has left them with considerable understanding of specific substances and the debates surrounding their use. It has led also to some practical confusion about what might be the best treatment for them or those they care for. Some expressed resentment at being used as 'guinea pigs' for psychoactive substances whose side-effects they see as insufficiently well researched. Many were very angry about the misinformation of some media coverage of drugs, methylphenidate e.g. Ritalin, in particular.

Sensationalism makes for a good story – whether or not the facts are right.

The context of science

References to the wider context within which science takes place were frequent. The gap between levels of knowledge among the broad population and advances in science, together with very little sense that scientists are interested in bridging that gap, left many participants feeling that the ability of society to influence the direction and speed of developments is limited. This was particularly clear in discussions around vitamins and herbal remedies, about which there has been considerable recent debate in the media.

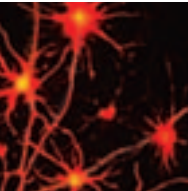
Some members of the ADDISS group had a perspective on science resonant with debates within the philosophy of science. They felt that science at any particular time is informed by a prevailing view linked to organisational policies and budgets, rather than deriving simply from the interests of pure research, or the needs of society. It is not clear whether this was informed by experience, or by reading the philosophy of science.

The pharmaceutical industry

Table 4: Summary of participants' perspective on the pharmaceutical industry

| Knowledge | Experience |
|---|--|
| Limited | No first-hand knowledge – experience is limited to word of mouth and media coverage |
| Some knowledge of research and development (profits ploughed back into research) | |
| Attitudes | Concerns |
| Scepticism, mainly traceable to the perception that research is driven by profit rather than social/medical needs | Lack of access to drugs due to cost |
| The industry provides as little information on side-effects as possible, which is against users' interests | Government subsidies for research and development that profits companies, rather than individuals or society |
| The industry is able to control research and the publication of research results | Monopolistic – ownership is concentrated in hands of a very few large companies |

In the capitalist world you have different industries and some, like the drugs industry, are very, very controlled, to the extent that they're a monopoly. They don't just let anybody come in and compete with them. All these many, many companies that we know, if you get down to the bottom of it, you find that only very few people own all of them and they're subsidiaries. They control them and you can't do anything.



I've got a friend who works as a salesman for a drugs company and he's never stopping taking doctors to the Caribbean and the south of France – now how is that right?

Participants' views of the pharmaceutical industry were mixed. All recognised that the industry has, over the years, developed cures and treatments for ailments that would previously have been fatal. But the pure profit motive, to the exclusion of wider social issues, was seen as suspect and, in general, was felt to drive the industry.

Concerns focus primarily on information. Many participants questioned whether published research results are as honest about the harmful side-effects of drugs as they are about the positive benefits. What was seen as limited competition between a few very large companies was felt to have concentrated power in the hands of industry to the extent that information that might inform choice can be withheld from the public.

Prescribed psychoactive substances

Table 5: Summary of participants' perspective on prescribed psychoactive substances

| Knowledge | Experience |
|--|---|
| Media – including newspaper reports, TV drama (mention of methylphenidate e.g. Ritalin on <i>Desperate Housewives</i>) | Personal use (for example, methylphenidate e.g. Ritalin/child using Ritalin, medicinal opiates) |
| Word of mouth | |
| Personal research | |
| Attitudes | Concerns |
| Broadly positive | 'Postcode lottery' |
| Minority suggested over-reliance on prescribed medications and the need to seek more 'natural' solutions through diet, exercise or herbal preparations | Poor/over-prescribing e.g. antibiotics, behaviour modifiers |
| GPs have to consider the nation's productivity when prescribing – keep people sufficiently healthy to work | Insufficient/inadequate testing prior to release of medication |

They need to look at other ways of treating illnesses rather than just prescription drugs.

We are living in a consumer society. To compete with each other we end up getting in more and more debt. Stress builds as a result of this. Unless you can find a way of easing that stress, it's very easy to fall for drugs and before long you are addicted.

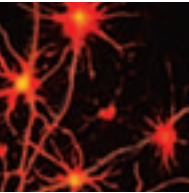
Two concerns were raised about prescribed drugs. The first questioned the extent to which society as a whole had come to rely on them and, as a consequence, ceased to invest in measures such as diet and exercise as a way of dealing with health problems. Some participants felt that GPs could be over-eager to prescribe rather than spend more time with a patient but placed this within the wider context of financial pressures facing the NHS.

The second concern was over the 'postcode lottery'. It was seen as unfair that access to specific medications might be dependent on where a person lived.

Legal recreational psychoactive substances

Table 6: Summary of participants' perspective on legal recreational psychoactive substances

| Knowledge | Experience |
|---|---|
| Caffeine, alcohol, nicotine, vitamins, herbal preparations all seen as psychoactive substances | <p>Many ex-smokers – now significant majority non-smokers</p> <p>Majority consume alcohol</p> <p>Many take vitamins or herbal supplements</p> <p>Peer pressure seen as changing behaviour</p> <p>Majority of young people anti-smoking and non-drinkers</p> |
| Attitudes | Concerns |
| <p>UK policy on smoking – some saw it as cynical, others as positive</p> <p>Recognition of problems associated with legal recreational psychoactive substances</p> <p>Awareness of changing social attitudes</p> <p>Parenting felt to influence behaviour</p> | <p>Binge drinking, drink driving</p> <p>Young drinkers</p> <p>Social costs of alcohol abuse</p> |



The problem we have is that we think alcohol is socially acceptable. But in 40 years' time that will have changed, same as smoking has changed. If you think back to when we were kids, everyone smoked, everyone, and people smoked anywhere. But now it is unacceptable and you are a social outcast if you're trying to smoke somewhere and you're made to feel it. But at the moment, alcohol is fairly acceptable, in moderation.

People who are drinking a good bottle of Scotch don't usually go out and mug someone to get it.

Participants tended to place the use of licit recreational psychoactive substances within a social context – which is unsurprising, given that the great majority used these substances. The social cost of alcohol abuse was recognised, as were the harmful effects of tobacco use. However, as noted above, these were seen by a majority as being of a different order to the social costs of illicit psychoactive substance use.

Illicit psychoactive substances

Table 7: Summary of participants' perspective on illicit psychoactive substances

| Knowledge | Experience |
|---|---|
| Media | No personal fears (e.g. local drug use) |
| Glasgow research on heroin | Awareness of drug use in local schools (London) |
| Cannabis use by MS sufferers | |
| Attitudes | Concerns |
| Majority adopted hard line (more likely to be men) | Illegality is the basic issue |
| Some more liberal – called for need to understand reasons for use | Illicit psychoactive substances seen as morally wrong |
| | Social cost, crime in particular |

These drugs should be free and that way it would be people's choice. It's because they're unavailable that 99% of the people want to try them.

If kids are seeing people that are staggering in the road, throwing up, dirty, filthy, being scorned by society or doing anything in the road for money, then it seems a completely different thing to the young successful business man who sneaks the odd line of cocaine off a toilet top when no one's looking – it doesn't have the glamour.

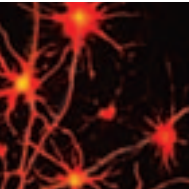
Many people with undiagnosed mental health problems and who are genetically predisposed turn to psychoactive substances as a way of controlling their symptoms.

I think society has become too soft.

Attitudes towards illicit psychoactive substances were, with few exceptions, hard line, with men tending to be more negative in their attitudes towards users than women. Media coverage of 'the war on drugs' informs most views. Two participants in the general public groups referred to personal experience of illicit psychoactive substances. One participant argued openly in favour of legalisation. His views were respected, but not influential.

While it was recognised that dependency and the ability to self-regulate use may present problems with all psychoactive substances, the general view was that the initial use of illicit substances is a choice not driven by need, as it is with prescription psychoactive substances, but by some kind of individual failing or, among younger users, by peer pressure. Debates were therefore largely framed within a moral and legal context, with use seen primarily as straightforwardly wrong. Women were more likely to temper their condemnation with the appeal that the underlying reasons for use of these drugs are sought out and addressed. One group included participants who lived in areas where illicit substance users are more visible and their views were informed by this presence. Again, the attitudes between men and women differed. One woman worked on a voluntary basis with drug users and appeared to be saddened, rather than outraged, by personal familiarity with users.

This attitude means that, for many participants, a harm-reduction approach, focused on encouraging safe use and involving, for example, needle exchanges or testing kits to measure purity, was seen as 'sending the wrong messages'. While it was acknowledged that attitudes towards illicit substances change, with the recent reclassification of cannabis from Class A to Class C cited as an example, the 'hard drugs' such as heroin, crack and cocaine were placed within a different context. It is interesting to speculate whether the 'natural'/'unnatural' distinction mentioned earlier plays any role in this or whether it is exclusively due to awareness of the recent relaxation in laws governing possession and its lower classification.



The only participants to take a different view were those using illicit substances and some from the ADDISS group. They saw motives other than hedonism as behind the use of illicit psychoactive substances, principally mental health problems.

Attitudes of illicit psychoactive substances users

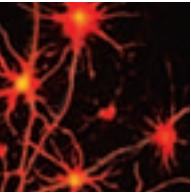
The participants using illicit substances, including heroin, ecstasy, amphetamine, ketamine and cannabis, were as knowledgeable about their drugs as participants using or caring for users of behaviour modification and mental health drugs were about theirs. Like the latter, the illicit substance users have researched the science of the psychoactive substances they use and keep up to date with developments. This researcher's experience of previous work involving illicit substance users highlights the difference that individual situation can have on the course and nature of use; these users were informed, articulate and engaged in the debate over their use, rather than crushed by it.

Participants using illicit psychoactive substances were extremely critical of legislation in this area and of the way illicit drug use and users are portrayed by the media. The media were seen as misrepresenting the reasons for use, the dangers and nature of the substances themselves, their effects on users and the consequences of use for wider society. Like those in the ADDISS group, these participants were highly critical of the media's 'hysterical' approach to the coverage of drugs, licit and illicit. They felt that the complexities around use are submerged under a blanket moral condemnation, which demonises users and leads to ignorance of the medicinal benefits of currently illegal psychoactive substances. They argued too that the media representation of illicit psychoactive substance users as worthless, weak, out of control and irresponsible people highly likely to mug passers-by or burgle their houses is internalised by users themselves, exacerbating mental health problems that may have led to use in the first place.

The illicit psychoactive substance users also argued that the social and physical harms associated with the use of these drugs is a consequence of the context of use, rather than of the use itself. Changing that context would, they said, change the consequences. Greatly reducing, if not completely eliminating, black market trade in illicit psychoactive substances by legalising supply through licensed outlets was seen as the most effective ways of addressing these harms. Providing accurate information about the variable effects of the substances in question and what might influence these effects, initiating a balanced debate on the benefits and disadvantages of use, and normalising social use were suggested as healthy alternative approaches to the current situation.

Attitudes of young people

The young people involved in this research produced, along with illicit substance users, the most sophisticated arguments on this topic. Their views ranged from the libertarian, proposing that adults should be free to use whichever substances they choose, with the proviso that this did not cause harm to others, to total condemnation of the use of any recreational psychoactive substances, including alcohol and tobacco. Condemnation appeared to be based on perplexity as to why people would choose to use these drugs, rather than the more straightforward moral disapproval voiced by older participants. Their attitudes aligned most closely with those of the older female participants.



Conclusions

This consultation demonstrated the capacity of the public to engage with a complex topic. There are difficulties intrinsic to assessing the plausibility of future scenarios in any area and judgements are necessarily based on existing knowledge. The futures envisaged in this project involved psychoactive substances whose possible social effects are unknown. Participants were asked to express preferences and develop principles that might inform the management of these substances in the best interests of society. Their views were informed by personal experience, media coverage, briefing materials used in the consultation, and conversation with other participants.

The importance of personal experience in this area was highlighted by the difference in attitude between participants recruited as 'members of the public' and those from specific interest groups – in this case people with or caring for people with ADHD and illicit substance users. These participants had considerably more knowledge of the science behind the project. Their attitudes towards illicit substance use was also very different. They tended to classify it as self-medication and to see use of illicit psychoactive substances as a response to mental health needs, rather than being indicative of a personal moral failing or hedonistic tendencies.

The difference made by personal experience was evident too in the younger participants. As students of science, they were accustomed to discussing the issues science raises, both as a practice and in relation to wider society. For example, they alone raised the question of conflict between science and religion. They also showed more faith in science and government than older participants. The latter, who had lived through or been personally affected by the thalidomide disaster, food scares or medical errors, tended to be more sceptical and their reactions to future science combined curiosity, anticipation and wariness.

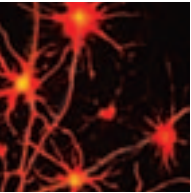
The principal standard for future policy development to emerge from the project is that of openness. The enthusiasm shown by participants for the project as a whole demonstrates a desire for both knowledge and a role in decision making in this area. Deliberative consultation that engages the public in open discussion of the implications, for society as a whole, of developments in science – and there can be few developments, if any, that have no social implications – can contribute to improved decision making and better policy.

The preference for individual choice expressed by the majority of participants was based on the concern that ceding choice in this area could lead to psychoactive substances being used coercively. While it was acknowledged that this preference brought dangers with it, a vibrant, creative and diverse society was seen as more desirable than a society based on the principle of community safety. The use of psychoactive substances to regulate behaviour regarded as 'unusual' or 'abnormal' was seen as leading potentially to a 'normalised' society from which excitement had been eliminated.

Individual choice was preferred, too, because of concern over the power of government to intervene in people's lives. This concern highlights the need for open discussion, to assuage misplaced fears or, possibly, to alert the public to fears that are not misplaced. The project was looking 20 years into the future. One of the messages sent by participants is that it may be dangerous to assume that the future management of the use of psychoactive substances will be benevolent. Questions over who might be classed as 'vulnerable' and who might be doing the classifying, worry over the potential for the coercive use of psychoactive substances and over the tendency for profit, rather than need, to drive research, all feed into this message.

The project began by looking at four classes of psychoactive substance: mental health drugs, mood-altering drugs, pleasure drugs and cognition enhancers. However, many substances fall into more than one of these classes and participants' discussion made it clear that the reason for use and the context behind it were more relevant to them than the specific class of substance. Four broad groups of use were identified: medical use, social use, illegitimate use and lifestyle use. Potential new substances used for reasons already established were most easily accepted. Voluntary use by adults of cognition enhancers was less troublesome than immunisation of children against the potential future expression of genetically identified predispositions. A distinction between 'natural' and 'unnatural' pharmaceutical interventions was not evident in the case of medical use, where alleviating suffering was of primary concern. It was evident in discussions of lifestyle use; herbal preparations were seen as natural, whereas substances produced in a laboratory were not.

The focus on use, rather than class of substance, suggests that the public cuts up the world and conceptualises it differently from those who work in this area. This in itself is a valuable lesson for any future public engagement on this and other topics. Flexibility and a willingness to accept an agenda different from that initially established are important to open discussion.



List of publications: Drugs Futures 2025?

All publications are available in hard copy and/or can be downloaded from the Foresight website except those marked *** which are available only from the website (www.foresight.gov.uk).

1. Executive summary and project overview
2. State-of-science reviews ***
 - I. Cognition Enhancers
 - II. Drug Testing
 - III. Economics of Addiction and Drugs
 - IV. Ethical Aspects of Developments in Neuroscience and Addiction
 - V. Experimental Psychology and Research into Brain Science and Drugs
 - VI. Problem Gambling and other Behavioural Addictions
 - VII. Genomics
 - VIII. History and the Future of Psychoactive Substances
 - IX. Life Histories and Narratives of Addiction
 - X. Neuroimaging
 - XI. Neuroscience of Drugs and Addiction
 - XII. Sociology and Substance Use
 - XIII. Social Policy and Psychoactive Substances
 - XIV. Psychological Treatment of Substance Abuse and Dependence
 - XV. Pharmacology and Treatments
3. State-of-science reviews (2 page summaries)
4. Ethical issues and addiction overview ***
5. Horizon scan
6. The scenarios
7. Public perspective
8. Perspective of the pharmaceutical industry
9. Modelling drug use



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