



Home Office

ADVISORY COUNCIL
ON THE MISUSE
OF DRUGS

Further consideration of the classification of cannabis under the Misuse of Drugs Act 1971

ADVISORY COUNCIL ON THE MISUSE OF DRUGS
Home Office, 2 Marsham Street, London SW1P 4DF

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Dear Home Secretary

In March 2005, you asked the Council to review the classification of cannabis products that are controlled under the Misuse of Drugs Act 1971. In particular, you asked the Council to examine recent evidence (published since our last report in March 2002 on this issue) about the effects of cannabis on mental health. You also sought the Council's advice on the alleged increase in the potency of cannabis products currently available. On behalf of the Council, I have pleasure to enclose its report on both these matters.

The Council's report has been prepared after extensive consideration and discussion. This included a special day and a half meeting at which the Council (Annex 1) had an opportunity to consider and discuss oral evidence from a wide range of external experts with special knowledge of the field. The Council would like to record its appreciation to those experts and others (see Annexes 2-4) who so generously assisted its deliberations.

After a detailed scrutiny of the evidence, the Council does not advise the reclassification of cannabis products to Class B; it recommends they remain within Class C. While cannabis can, unquestionably, produce harms, these are not of the same order as those of substances within Class B. Nevertheless, the Council wishes to emphasise that cannabis is harmful. We therefore recommend that: a) further efforts are made to discourage consumption through the development and delivery of a sustained education and information strategy; b) the availability of appropriate treatment services, for those individuals who are experiencing difficulties arising from the use of cannabis, is reviewed by the Health Departments; and c) research into the relationship between cannabis use and mental health problems continues to be supported by public and private funds.

The extent to which the potency of cannabis products, as used by consumers, has increased over the past few years is unclear. The available evidence is based solely on material seized by law enforcement

officers. This suggests that, while the potencies of cannabis resin and “traditional” imported herbal cannabis have remained unchanged over the past 10 years, the average potencies of sinsemilla seizures have increased more than two-fold. There is, however, too little information about the potency and pattern of use of cannabis products by consumers. Further research in this area is also urgently needed.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Michael Rawlins', written in a cursive style.

Professor Sir Michael Rawlins
Chairman

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1. Background

1.1 The Advisory Council on the Misuse of Drugs (the Council) was established under the Misuse of Drugs Act 1971 (the Act) to keep under review the drug situation in the United Kingdom and to advise ministers on the measures to be taken for preventing the misuse of drugs and/or dealing with the social problems connected with their misuse. Its current membership is shown in Annex 1.

1.2 The Council is required to advise, in particular, on the classification of drugs that are controlled under Schedule 2 to the Act.

1.2.1 Substances are grouped, on the basis of their harmfulness to individuals and society, into one of three classes:

Class A (most harmful) includes cocaine, diamorphine (heroin), 3,4-methylenedioxymethamphetamine (ecstasy) and lysergic acid diethylamide (LSD).

Class B (an intermediate category) includes amphetamines, barbiturates and codeine.

Class C (less harmful) includes cannabis, benzodiazepines, anabolic steroids and gamma-hydroxybutyrate (GHB).

1.2.2 The system of classification of drugs, under the Act, is related to determining the penalties for their possession and supply. The current maximum penalties are as follows:

Class A drugs: for possession – 7 years' imprisonment and/or a fine; for supply – life imprisonment and/or fine.

Class B drugs: for possession – 5 years' imprisonment and/or a fine; for supply – 14 years' imprisonment and/or fine.

Class C drugs: for possession – 2 years' imprisonment and/or a fine; for supply – 14 years' imprisonment and/or fine.

1.3 Since January 2004, police action in respect of cannabis possession has been subject to the Cannabis Enforcement Guidance issued by the Association of Chief Police Officers (ACPO). Under the Police and Criminal Evidence Code of Practice (G) for the Statutory Power of Arrest by Police Officers, which comes into force on 1 January 2006, arrest is subject to necessity criteria and will remain an operational decision at the discretion of the police officer, taking into account the particular circumstances.

1.4 In March 2002, the Council recommended that all cannabis products be reclassified from Class B to Class C. The Home Secretary accepted the Council's advice and the legislative changes came into force on 29 January 2004.

- 1.5** In March 2005, the Home Secretary asked the Council (Annex 5) to review its advice on the classification of cannabis-related products in the light of recent research – published after the Council’s report (1) – suggesting a causal link between cannabis use and the development of mental health problems. In his letter, the Home Secretary also sought the Council’s advice on claims of an increasing prevalence of cannabis-containing products with high levels of the most active psychoactive ingredient, ⁹-tetrahydrocannabinol (THC).

2. Introduction

- 2.1** The plant *Cannabis sativa* (also known as hemp) is principally available in the UK as either herbal cannabis (marijuana) or as cannabis resin (hash). Cannabis oil (hash oil), a concentrate of cannabinoids obtained by solvent extraction of the crude plant material, now accounts for less than 1% of usage.
- 2.2** Herbal cannabis in the UK is available in two forms. “Traditional”, imported herbal cannabis is primarily a mixture of leaf, flowering tops and seeds of *Cannabis sativa*. Sinsemilla, a higher potency preparation, which is both imported and home-grown, comprises the flowering tops from unfertilised, female *Cannabis sativa* plants and is most commonly produced by intensive indoor cultivation methods. Skunk is a form of sinsemilla with a characteristic odour.
- 2.3** Cannabis produces its effects on the human brain through interactions between THC and specific proteins on the surface of cells known as cannabinoid receptors. Other psychoactive components of cannabis, especially cannabidiol, interact with other receptors in the brain. Different preparations of cannabis have different proportions of THC and other psychoactive constituents; the consequences of using cannabis may, therefore, vary depending on the relative proportions of the psychoactive substances that are present.
- 2.4** It has recently been shown that there is a naturally occurring endogenous cannabis neurotransmitter system in the brain, whose role is still unclear but which may have effects on appetite and memory.
- 2.5** Because it is unlawful to possess or supply cannabis, it is difficult to obtain precise estimates about the extent of its use. The most reliable information comes from self-reported use in the British Crime Survey. Data from the 2003/04 survey suggest that over 3.3 million people used cannabis in the preceding year (2). As discussed in our previous report (1), cannabis use is particularly prevalent among people aged 16 to 24 years. Recent trends in reported use (3) among this age group are shown in Table 1. It should be noted that interviews for the 2004/05 report were carried out in April 2004 (corresponding to the March 2004 to March 2005 survey period). Consequently, respondents’ recall for “use in the past year” will include periods both before and after reclassification. However, the recall period for “use in the past month” covers only the post-reclassification period. The slow decline in cannabis use since 1998 has been sustained following reclassification and there is no evidence at present of any short-term increase in consumption among young people since reclassification.

Table 1: Trends in cannabis use among people aged 16 to 24 years (3)

Year	Percentage reporting use in past year	Percentage reporting use in past month
1996	26.0	16.1
1998	28.2	18.0
2000	27.0	17.4
2001/02	26.9	17.1
2002/03	25.8	16.2
2003/04	24.8	15.6
2004/05	23.5	14.1

Source: Drug Misuse Declared: Findings from the 2004/05 British Crime Survey.
Home Office Statistical Bulletin. London: Home Office.

3. Effects of cannabis on physical health

3.1 In its previous report (1), the Council made it abundantly clear that cannabis is potentially harmful with short-term risks to physical health.

3.1.1 Cannabis increases heart rate and has an effect on blood pressure that is similar to that of exercise. While not constituting a significant risk to healthy young people, these effects of cannabis may be dangerous to those with coronary artery disease, irregularities of heart rhythm or high blood pressure.

3.1.2 Smoking cannabis may worsen asthma.

3.1.3 Smoking cannabis causes damage to the respiratory tract that is at least equal to, and possibly greater than, that from smoking tobacco cigarettes. There is increased incidence of chronic bronchitis and a potential long-term risk of lung cancer. Severe cases of lung damage have also been reported in young, very heavy users (4).

3.1.4 Exposure to cannabis during pregnancy produces adverse effects on the child that are similar to those of tobacco. Use in pregnancy should be particularly discouraged.

4. Effects of cannabis on mental health

4.1 Several associations between the use of cannabis and psychological and psychomotor performance, as well as mental ill-health, have been described or postulated:

- impairment of psychological and psychomotor performance
- acute intoxication
- relapse in individuals with established schizophrenia
- dependence
- precipitation of psychotic symptoms (including schizophrenia)
- depression and anxiety.

Psychological and psychomotor performance

4.2 Cannabis impairs the performance of tasks that require sustained attention and motor control such as driving, operating heavy machinery or flying aircraft (1). In these circumstances, cannabis can be dangerous to the individual and to others (especially when taken with alcohol). Unlike alcohol, however, cannabis does not seem to increase risk-taking behaviour. Rather, it tends to produce relaxation and social withdrawal as opposed to the aggressive and disinhibited behaviour that commonly occurs under the influence of alcohol. Cannabis rarely contributes to violence, either to the self or to others.

Acute intoxication

4.3 As discussed in our previous report (1), acute cannabis intoxication occurring immediately after consumption can lead to panic attacks, paranoia and confused feelings, and some users may seek medical help. These effects, however, are generally short lived and respond to reassurance or treatment with a minor tranquilliser. In a small number of instances, acute cannabis intoxication produces a psychotic state requiring hospitalisation for a few days and treatment with antipsychotic drugs. The number of patients admitted to hospital with a diagnosis of acute cannabis intoxication in England has remained stable (at between 107 and 140 per year) over the past 5 years (5).

Relapse in individuals with established schizophrenia

4.4 As also discussed in the Council's previous report (1), there is clear evidence (6, 7) that the use of cannabis may worsen the symptoms of schizophrenia and lead to relapse in some patients. The high prevalence of cannabis use, as well as use of other controlled substances, among those with schizophrenia or psychotic disorders (8, 9), is not understood. It may be cultural or related to peer pressure; and it has been postulated that cannabis either helps deal with certain aspects of the condition, or that it even ameliorates some of the adverse consequences of medication (10).

Dependence

4.5 Drug dependence is a complex phenomenon whose nature differs from drug to drug. It is related to the duration and amount of the drug used, as well as by the characteristics of the user. It is also related to the pleasure that a drug gives. Generally, dependence is associated with an

increasing reliance on the drug, and by symptoms of withdrawal and craving when consumption is reduced or stopped.

- 4.6** Dependence on cannabis has been established (1) as a real phenomenon and one for which people may seek help. In cannabis-dependent users it has been shown that when they stop they experience psychological craving as well as decreased appetite, weight loss, lethargy, irritability, mood changes and insomnia. Reinstating cannabis use terminates these symptoms. Recent work has shown that cannabis dependence is associated with alterations of the functions of cannabinoid receptors in the brain and that withdrawal symptoms, in dependent users, can be precipitated by the administration of a cannabis receptor antagonist.
- 4.7** The extent of cannabis dependency in the UK is unknown but anecdotal evidence suggests that it is more prevalent than previously suspected. Nevertheless, the risks of dependency are substantially less than those of heroin and crack cocaine (1).

Precipitation of psychotic symptoms and illnesses (including schizophrenia)

- 4.8** Psychotic symptoms are classically defined as disordered thinking, delusions (abnormal beliefs) and hallucinations (abnormal perceptual experiences). Many people – perhaps up to 20% of the population – experience psychotic symptoms at some time during their lives. To meet the criteria for a “psychotic illness” these symptoms generally need to meet a threshold level of severity, last for a significant period of time and have an adverse impact on the person’s social function.
- 4.8.1** Schizophrenia is a serious mental illness affecting less than 1% of the population over the course of their lifetimes. It is at one end of the spectrum of individuals with psychotic symptoms. In addition to psychotic symptoms (which are usually marked), patients with schizophrenia characteristically have other problems such as loss of motivation, disturbances of behaviour and cognitive deficits. These symptoms tend to be enduring and disabling and, in a proportion of those affected, they persist life-long.
- 4.8.2** The term “schizophreniform disorder” is used to describe a condition in which psychotic symptoms characteristic of schizophrenia are present but only for a relatively short period. For some it is a transient condition from which they make a complete recovery.
- 4.9** Over the past few years, there has been growing concern as to whether cannabis use might precipitate chronic, or enduring, psychotic illnesses, including schizophrenia. In view of the ability of cannabis to precipitate relapse in individuals with established schizophrenia (see paragraph 4.4), it is clearly a biologically plausible hypothesis. However, research in this area is fraught with problems of both study design and interpretation.
- 4.9.1** Because schizophrenia is comparatively uncommon, most of the studies on the effects of cannabis on mental health have used the presence of psychotic symptoms to study the effects of the drug. It is important to note that the conditions described in the literature as schizophreniform psychoses and psychotic symptoms do not necessarily lead to the long-term disability that is so common with schizophrenia. In this report, the

Council uses the term “psychotic symptoms” to encompass the full range of symptomatologies.

- 4.9.2** Studies have, inevitably, been observational. But exposure, followed by the development of psychotic symptoms, is not necessarily causal. For example, the onset of schizophrenia usually occurs in the late teens or early twenties; and it is at that age that cannabis use is most prevalent. A temporal association – which is not necessarily a causal one – is therefore inevitable.
- 4.9.3** Generally studies have relied on self-reported use of cannabis, which may either overestimate or underestimate actual consumption. Further, studies have not necessarily sought information about the use of other drugs of misuse (such as amphetamines). And, even where they have done so, there may be significant discrepancies (8) between self-reported patterns of substance misuse, and the results of objective tests of consumption (e.g. from analyses of hair samples).
- 4.9.4** There are differences between studies in the methods of detection of psychotic symptoms (see paragraph 4.8). Only one study (11) has used the appropriate measures, and has had the statistical power, to assess whether cannabis use precedes the onset of an illness that meets the full diagnostic criteria for schizophrenia. Others with smaller numbers of subjects have sought information about the frequency of schizophreniform or other psychotic illnesses, and the presence of psychotic symptoms.
- 4.9.5** There have been common causes that may confound the association between schizophrenia and substance misuse. It has also been suggested that in some individuals the use of cannabis might be a consequence of an emerging psychotic illness (sometimes called the “reverse causality” hypothesis).
- 4.10** Since the Council’s previous report (1), several independent studies have been published which attempted to overcome these inherent problems. Those studies given particular attention by the Council (11–15) possess the following features (16): they have been based on a well-defined sample of the general population; data on cannabis use and adult psychosis have been obtained prospectively in relation to the development of mental health problems; and the results have been expressed as odds ratios statistically adjusted to take account of actual or potential confounding factors. One previous publication (17), with similar features, was also included in this group. The Council also commissioned a report from experts in the field of modelling drug-related outcomes (18). A very recent publication fails to meet these criteria (19).
- 4.10.1** Collectively, the weight of evidence from these studies suggests an association between cannabis use and the development of psychotic symptoms which is consistent between studies and which remains after adjustment for confounding factors. While bias and residual confounding factors cannot be entirely excluded, these are unlikely fully to explain the findings.
- 4.10.2** For individuals, the current evidence suggests, at worst, that using cannabis increases the lifetime risk of developing schizophrenia by 1%. Some individuals are at higher risk than others for developing

schizophrenia from the use of cannabis, but there is currently no means by which these individuals can be identified (but see paragraph 6.5).

4.10.3 In the Council's judgement, the evidence for the existence of a dose–response relationship (an association between frequency of cannabis use and the development of psychosis) is, on the presently available evidence, weak. This is because of the difficulty in distinguishing, among very frequent users, between those with persistent psychotic symptoms due to continuing acute intoxication and those with an emerging chronic psychotic condition. There could also be an effect that is related to potency but there are no clear data available on this.

4.10.4 The Council was not convinced by suggestions (12) that the prevalence of psychotic symptoms at age 26 years was greater in those first using cannabis before the age of 15 years compared with those using cannabis before the age of 18 years. The Council considers that the number of individuals that have been the subject of relevant studies is too small for reliable conclusions to be drawn about extra risks in those aged 15 years old or less at their first use. Nevertheless, the use of cannabis in adolescents of all ages must be strongly discouraged.

Depression and anxiety

4.11 An association between the use of cannabis and the subsequent development of depression, bipolar disorder and anxiety has been examined in a number of studies. The interpretation of this association is no less problematic (21) than that between cannabis use and schizophrenia (see paragraph 4.8).

4.11.1 In some studies, little or no attempt has been made to distinguish the use of cannabis from that of other controlled substances. Many have failed to distinguish between “ever” users and those who used cannabis frequently. Some investigations have been limited to estimating the incidence of depression among individuals with cannabis dependence. Furthermore, a wide variety of approaches has been used in the assessment of depression (and other related mental health problems), which makes it difficult to combine studies for analytical purposes.

4.12 The most recent data (12, 20, 23–25) are not, overall, persuasive of a causal association between cannabis use and the development of depression, bipolar disorder or anxiety. Although some investigators have observed statistically significant associations, there is a lack of consistency between the results of studies and even those with positive findings show only small effects.

5. Potency of cannabis products

- 5.1** As discussed in paragraph 1.5, the main psychoactive constituent of all cannabis products is THC, although other components may make some contribution. There have been claims that the THC content (potency) of cannabis products has dramatically increased over the past few years (26, 27).
- 5.2** Scientific studies of the potency of cannabis products pose both technical and practical problems (28).
- 5.2.1** In most countries, including the UK, the estimation of cannabis potency is based on analysis of material seized by law enforcement agencies. Data on submissions to the Forensic Science Service may not accurately reflect the market share of cannabis products. Home Office data show that cannabis resin accounts for 60–70% of seizures, both in terms of numbers and total amounts. The remaining 30–40% is herbal cannabis, but there is uncertainty about how much of that is represented by sinsemilla and how much by “traditional”, imported herbal cannabis. Limited surveys based on cannabis users suggest that sinsemilla is becoming a major product in the community.
- 5.2.2** The quantitative analysis of THC in cannabis products is beset with difficulties (28). These include the inhomogeneous distribution of THC within cannabis plants, its extraction from crude plant material, and the precision (reproducibility) and accuracy of the measurement techniques themselves.
- 5.2.3** There has always been a wide variation in the THC content of samples of both “traditional”, imported herbal cannabis and sinsemilla (29, 30). Sampling error, with only small numbers in individual studies, may therefore be considerable.
- 5.3** The THC content of cannabis preparations examined by the Forensic Science Service since 1995 (29–32) is shown in Table 2. There is no evidence that, during this period, the potency of cannabis resin has changed in any significant way. Changes in the potency of “traditional”, imported herbal cannabis are difficult to interpret in view of the absence of recent data. Evidence from other European countries shows that there has been no significant change in the potency of “traditional”, imported cannabis over the past 5 years (28). There has, however, been an increase in the potency of sinsemilla (32).

Table 2: Mean THC content of cannabis products seized in the UK (1995–2005)

Year	Sinsemilla (%)	Resin (%)	“Traditional” imported herbal (%)
1995	5.8	No data*	3.9
1996	8.0	No data*	5.0
1997	9.4	No data*	4.0
1998	10.5	6.1	3.9
1999	10.6	4.4	5.0
2000	12.2	4.2	8.5
2001	12.3	6.7	No data*
2002	12.3	3.2	No data*
2003	12.0	4.6	No data*
2004	12.7	1.6	No data*
2005	14.2	6.6	No data*

* “No data” reflects the limited demand for THC analysis by law enforcement officers
 Source: Forensic Science Service

5.4 Furthermore, although it has been assumed that the use of higher potency preparations carries an increased risk to health, this is not inevitable (28). In particular, it is not known whether regular users adjust their intake of cannabis in order to achieve particular blood levels of THC. Also, and as mentioned in paragraph 2.3, the relative proportions of THC and other components, especially cannabidiol, may affect individuals’ responses to cannabis.

6. Discussion

6.1 This report concentrates, as requested by the Home Secretary, on the classification of cannabis-related products in the light of recent research – published after the Council’s last report (1) – suggesting a causal link between cannabis use and the development of mental health problems. It also considers claims of an increase in the prevalence of cannabis-containing products with high levels of THC. In addition, the Council has taken the opportunity to summarise, briefly, the harmful effects of cannabis on physical health.

Effects of cannabis on mental health

6.2 The mental health effects of cannabis are real and significant. They include adverse effects on psychological and psychomotor performance, acute intoxication reactions, dependence, and the precipitation of relapse in individuals with schizophrenia. These are well-recognised and were considered fully in the Council’s previous report (1).

6.3 Since the publication of the Council’s last report (1), further evidence has emerged about the possible link between the use of cannabis and the subsequent development of psychotic symptoms. While these studies do not of themselves prove beyond reasonable doubt that such a link exists, the accumulating evidence suggests that there is a causal association.

6.4 However, the consumption of cannabis is neither a necessary, nor a sufficient, cause for the development of schizophrenia (33). In the last year, over 3 million people appear to have used cannabis but very few will ever develop this distressing and disabling condition. And many people who develop schizophrenia have never consumed cannabis. Based on the available data the use of cannabis makes (at worst) only a small contribution to an individual’s risk for developing schizophrenia. This risk may, of course, increase over the next decade depending on the extent of cannabis use and, possibly, other factors such as potency.

6.5 It is inevitable that, if cannabis is only partly responsible for precipitating schizophrenia, there must be other predisposing factors. Given the high heritability of the condition (34), these are likely to have a genetic basis. The demonstration (35) of an interaction between a functional polymorphism of the catechol-O-methyltransferase gene and adult psychosis in individuals with prior exposure to cannabis provides an example of why some people may be more vulnerable than others.

6.6 The Council has considered very carefully, and in considerable detail, whether these recent and additional data on the relationship between cannabis use and the development of psychotic symptoms merit a change in its advice on the appropriate classification – within the Misuse of Drugs Act 1971 – of cannabis-containing products. For the following reasons, the Council considers that cannabis products should remain Class C.

6.6.1 At worst, the risk to an individual of developing schizophrenia as a result of using cannabis is very small and, overall, the harmfulness of cannabis remains substantially less than the harmfulness of substances (such as amphetamine, barbiturates or codeine) that are currently controlled as Class B under the Act.

- 6.6.2** Acute intoxication with amphetamine, barbiturates or codeine may cause death.
- 6.6.3** In otherwise healthy people, amphetamine can have very harmful cardiovascular effects; its use commonly leads to aggression and psychosis. Amphetamine not only markedly worsens schizophrenia but can also lead to a schizophreniform illness. Amphetamine use, even at therapeutic doses, commonly results in dependence.
- 6.6.4** Barbiturates are highly disruptive of behaviour and, again, are readily associated with dependence at therapeutic doses. Codeine, which is a pro-drug of morphine, also leads to dependence when used regularly.
- 6.6.5** Acute intoxication with cannabis does not cause death. It produces significantly fewer adverse cardiovascular effects than amphetamines, and, unlike either barbiturates or codeine, it does not cause respiratory depression. Cannabis use rarely provokes acts of aggression and is less associated with acquisitive crime (1). Its dependence-producing potential is substantially less than that of amphetamine, barbiturates or codeine (1).
- 6.6.6** Reclassification to Class C has not, to date, been associated with any increase in reported cannabis consumption among adolescents and young adults. The slow downward trend in use in the past month that has been observed over the last 5 years appears to have been maintained (paragraph 2.5 and Table 1).

Potency of cannabis products

- 6.7** Interpreting the data in Table 2 is difficult. In addition to the problems previously cited (see paragraphs 5.2.1 and 5.2.2 above), requests for analysis of samples by law enforcement agencies mostly relate to cases where there is a prospect of prosecution for importation, cultivation or supply. Nevertheless, while the present evidence suggests that the potency of sinsemilla may have doubled over the past 10 years, the potency of other cannabis products appears to be unchanged. Because sinsemilla is not thought to be the dominant product on the market, changes in the overall “effective potency” of cannabis products do not support the assertions referred to in paragraph 5.1 (28). Nevertheless, further research is required into the potency of those cannabis products used by consumers, as well as those seized by the law enforcement agencies, in order to provide a clearer picture of the extent of users’ exposure to THC. However, there are three conclusions that can be reached.
 - 6.7.1** Claims that users of cannabis are consuming substantially greater quantities of THC than previously are only supported (from current evidence) in respect of sinsemilla (28).
 - 6.7.2** It is not known whether an increased potency of cannabis leads to an increased intake of THC among regular users. If there is a major increase in the potency of cannabis products and people fail to limit their intake to compensate for this, it is possible that more problems may emerge in the long term. The use of alternative delivery systems such as bonges may also change the pattern of consumption.

6.7.3 Users of cannabis should be made aware that the THC potency of the products they purchase is highly variable. Although some may believe themselves to be tolerant of the effects of cannabis, they may have previously only been exposed to low potency products. The information strategy proposed below must emphasise this.

7. Conclusions and recommendations

- 7.1** Cannabis is harmful and its consumption can lead to a wide range of physical and psychological hazards. Nevertheless, the Council does not advise that the classification of cannabis-containing products should be changed on the basis of the results of recent research into the effects on the development of mental illness. Although it is unquestionably harmful, its harmfulness does not equate to that of other Class B substances either at the level of the individual or of society.
- 7.2** Rather than reclassify cannabis-containing substances, the Council urges the development of a sustained public education and information strategy about the hazards of cannabis (building on the “Frank” campaign). This strategy should, in particular, be focused on children, adolescents and young adults across the UK. It should emphasise:
- that the cultivation, supply and possession of cannabis is illegal
 - that cannabis is harmful and its consumption is associated with both physical and psychological harms
 - that because of the variable potency of cannabis products, individuals should be made aware that previous exposure to cannabis, without apparent ill effect, does not mean that subsequent exposure will be equally “harmless”.
- 7.3** The Health Departments should review the services to individuals dependent on cannabis and consider the extent to which further developments might be needed. Research to identify effective means for assisting those with cannabis dependency should be promoted.
- 7.4** Individuals with schizophrenia are particularly vulnerable to the deleterious effects of cannabis on their mental health. Measures to protect them from exposure as in-patients, as well as to help them avoid illicit drug use in the community, should be strengthened.
- 7.5** A substantial research programme into the relationship between cannabis use and mental health should be instituted. This should not only seek to improve the evidence base for determining the contribution that the use of cannabis makes to the causation of psychotic symptoms (especially schizophrenia); it should also provide a better basis for the development of preventative measures. Specifically, the programme should include the following:
- further research, based on experience in the UK, into the relationship between the use of cannabis and the later development of mental illness. This must address the methodological limitations of previous studies and seek to identify factors that predispose cannabis users to develop psychotic symptoms
 - work to establish, in the UK, both the incidence and prevalence of schizophrenia and the contribution(s) of potential risk factors such as cannabis
 - further work to assess the potency of cannabis products currently used by consumers. More research into the consequences of consuming high potency preparations is also required.

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Annex 1: Members of the Advisory Council on the Misuse of Drugs

Professor Sir Michael Rawlins	Professor of Clinical Pharmacology, University of Newcastle upon Tyne and Chair of the National Institute for Health and Clinical Excellence
Dr Dima Abdulrahim	Briefings Manager, National Treatment Agency
Lord Victor Adebawale	Chief Executive, Turning Point
Mr Martin Barnes	Chief Executive, DrugScope
Dr Margaret Birtwistle	Specialist General Practitioner, Senior Tutor – Education and Training Unit, St George’s Hospital and Forensic Medical Examiner
Reverend Martin Blakebrough	Director, Kaleidoscope Drugs Project, Kingston upon Thames
Dr Cecilia Bottomley	Specialist Registrar in Obstetrics and Gynaecology, London
Ms Carmel Clancy	Principal Lecturer for Mental Health and Addictions, Middlesex University
Professor Ilana Crome	Professor of Addiction Psychiatry, Keele University Medical School, Harplands Hospital
Ms Robyn Doran	Registered Mental Health Nurse and Service Director Substance Misuse, Central and North-West London Mental Health Trust
Ms Dianne Draper	Public Health Policy Support Officer, Leeds
Mr Robert Eschle	School Teacher and Magistrate, Kent
Ms Vivienne Evans	Chief Executive, ADFAM
Professor C Robin Ganellin FRS	Emeritus Professor of Medicinal Chemistry, University College London
Dr Clare Gerada	General Practitioner, London and Primary Care Lead for Drug Misuse, Royal College of General Practitioners
Dr Laurence Gruer	Director of Public Health Medicine for NHS Scotland
Mr Patrick Hargreaves	Drugs and Alcohol Adviser, Durham County Council Education Department
Mr Paul Hayes	Chief Executive, National Treatment Agency
Mr Andrew Hayman	Assistant Commissioner, Metropolitan Police and Chair of the Association of Chief Police Officers Drugs Committee

Mr Russell Hayton	Clinical Nurse Specialist and Clinical and Services Governance Manager, Plymouth Drug and Alcohol Action Team
Ms Caroline Healy	Director, ChildLine
Dr Matthew Hickman	Deputy Director, Centre for Research on Drugs & Health Behaviour, Senior Lecturer in Public Health, Bristol University
Mr Alan Hunter	Director – Law, Regulatory & Intellectual Property and Secretary to the Association of British Pharmaceutical Industry
Professor Leslie Iversen	Professor of Pharmacology, Oxford University
His Honour Judge Thomas Joseph	Resident Judge, Croydon Crown Court
Professor Michael Lewis	Professor of Oral Medicine, Cardiff University
Dr John Marsden	Research Psychologist, Institute of Psychiatry
Mr Peter Martin	Former Chief Executive, Addaction
Mrs Samantha Mortimer	Head of Personal, Social and Health Education and Citizenship, St Paul's Catholic High School, Manchester
Professor David Nutt	Professor of Psychopharmacology, University of Bristol
Dr Richard Pates	Consultant Clinical Psychologist and Clinical Director Community Addiction Unit, Cardiff
Mr Trevor Pearce	Acting Director General, National Crime Squad
DCC Howard Roberts	Deputy Chief Constable, Nottinghamshire Police
Mrs Kay Roberts	Pharmacist, Glasgow
Dr Roy Robertson	General Practitioner, Edinburgh
Dr Mary Rowlands	Consultant Psychiatrist in Substance Misuse, Exeter
Dr Polly Taylor	Veterinary Surgeon, Cambridgeshire
Ms Monique Tomlinson	Freelance Consultant in Drug Misuse
Mr Arthur Wing	Assistant Chief Officer, Sussex Probation Area

Annex 2: Additional experts

Professor Thomas Barnes	Professor of Clinical Psychiatry and Head of the Department of Psychological Medicine, Imperial College, London
Professor Stephen Evans	Professor of Pharmacoepidemiology, London School of Hygiene & Tropical Medicine
Professor Peter Jones	Professor of Psychiatry and Head of the Department of Psychiatry, University of Cambridge
Dr John Macleod	Senior Lecturer, Department of Primary Care and General Practice, University of Birmingham
Professor Klim McPherson	Professor of Public Health Epidemiology, Oxford University

Annex 3: Experts who gave oral evidence to the Council at its meeting in September 2005

Dr Louise Arseneault	Division of Psychological Medicine, Kings College, London
Professor Heather Ashton	Department of Psychiatry, University of Newcastle Upon Tyne
Rudi Fortson	Barrister (specialising in drug law) and member of the Police Foundation Independent Inquiry into the Misuse of Drugs Act 1971
Ms Jane Harris	Campaigns Officer, Rethink
Professor John Henry	British Lung Foundation
Dr Les King	Government Advisor and former Head of the Drugs Intelligence Unit, Forensic Science Service
Dr Marcel de Kort	Ministry of Health, Welfare and Sport, The Netherlands
Mr Danny Kushlick	Director, Transform
Professor Glyn Lewis	Head of Academic Unit of Psychiatry, University of Bristol
Dr Russell Newcombe	John Moores University, Liverpool
Mr Cliff Prior	Chief Executive, Rethink
Dame Ruth Runciman	Chair of the Police Foundation Independent Inquiry into the Misuse of Drugs Act 1971 and former member of the Advisory Council on the Misuse of Drugs
Dame Helena Shovelton	Chief Executive, British Lung Foundation
Dr Mike White	Drugs Intelligence Unit, Forensic Science Service
Dr Stanley Zammit	Department of Psychological Medicine, University of Wales, Cardiff

Annex 4: Written evidence considered by the Council

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Submissions from special interest groups and the general public

The Council received submissions from the following special interest groups:

- Rethink
- British Lung Foundation
- Transform
- Release
- UKCIA
- National Drug Prevention Alliance (NDPA)
- Campaign to Legalise Cannabis Association
- Maranatha Community and the Council for Health and Wholeness.

The Council also considered all correspondence received from members of the public.

Annex 5: Home Secretary's letter to the Chair of the Advisory Council on the Misuse of Drugs



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Professor Sir Michael Rawlins
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18 MAR 2005

Dear Sir Michael,

In 2001, my predecessor David Blunkett commissioned the Advisory Council to provide a report on the classification of cannabis. The subsequent publication of March 2002 'The classification of cannabis under the Misuse of Drugs Act 1971' recommended that cannabis should be reclassified to a Class C drug from Class B. The Government was content to accept that recommendation and in January 2004 the necessary legal changes were made with the full backing of the Association of Chief Police Officers.

Since then there is no indication from either the British Crime Survey or the more recent Schools Survey by the Department of Health that use of cannabis has increased.

However, there have been several studies produced since the decision to reclassify cannabis was taken. I am thinking in particular of the longitudinal studies into links and associations between taking cannabis and developing mental problems. The Ferguson study (New Zealand 2004) considered how regular cannabis use increased the risk of developing psychotic symptoms later in life. Professor van Os more recent paper (Maastricht University 2004) concluded "Cannabis use moderately increases the risk of psychotic symptoms in young people but has a much stronger effect in those with evidence of predisposition for psychosis."

I realise that ACMD keeps a close interest in these studies and continue to monitor all the relevant evidence on the effects of cannabis. I want to be clear what influence the evidence presented within these studies has on the overall assessment of the classification of cannabis. I think there is merit in the

Advisory Council assessing whether their position is at all changed by the emerging evidence.

I would also welcome advice on claims of increased prevalence of cannabis with high levels of Tetrahydrocannabinol (THC). Typically these are grown hydroponically and are known as 'skunk' varieties of cannabis. I am aware the Dutch Government are taking a particular interest in very high strength strains and are considering whether cannabis above a certain strength should be a higher classification.

I am grateful for the advice that the ACMD provide on these and other drug issues and look forward to your response.

CC


CHARLES CLARKE

Approved by the Minister,
and signed in his absence.

Annex 6: Glossary of terms

Bong: A water pipe that consists of a vertical tube partially filled with liquid, and a smaller tube ending in a mouth piece. It is used to smoke narcotic substances including cannabis.

Cannabis products: The psychoactive components of the cannabis plant.

Cannabis resin: Material produced by mechanically separating the resinous parts of *Cannabis sativa* from the rest of the plant and typically presented as fine-grained compressed blocks. Cannabis resin is imported into the UK, mostly from certain countries in North Africa and South West Asia.

Confounding: This refers to the influence of an extraneous variable that wholly or partly accounts for the effect that is being investigated. Age, for example, is a confounding variable in some of the studies quoted in this report because it is both a potential “risk factor” for the condition under study (psychotic symptoms) and a “risk factor” for use of cannabis.

Hash oil: A liquid extract of the psychoactive components of the cannabis plant.

Marijuana: A form of cannabis that can be smoked.

Odds ratio: The ratio of the probability of having a disease in a population exposed to a certain risk factor (e.g. cannabis use) and the probability of having the same disease in a population not exposed.

Polymorphism: A genetic variant of a protein such as an enzyme or receptor.

Population – attributable risk: An estimate of the proportion of cases with a specific condition that can be attributed to one risk factor.

Potency: The content of the major active principle ⁹-tetrahydrocannabinol (THC).

Risk factor: A determinant of ill-health that increases the probability of developing a certain disease.

Sinsemilla (literally “without seeds”): The highest potency herbal cannabis, representing the flowering tops of unfertilised female cannabis plants. Sinsemilla is normally produced by intensive indoor cultivation with techniques which may include use of selected seed varieties, hydroponic cultivation, additional lighting and artificial control of ‘day’ length. It is both home-grown and imported, particularly from the Netherlands.

Skunk: A form of sinsemilla with a characteristic odour. It is often of high potency.

Tetrahydrocannabinol (THC): The main psychoactive component of cannabis products.

“Traditional”, imported herbal cannabis: Material consisting largely of the dried leaves, flowering tops and seeds of *Cannabis sativa*, and traditionally imported into the UK from certain countries in the Caribbean, Africa and the Far East. In recent years, some herbal cannabis in the form of sinsemilla has been imported from other European countries. Although the two types of herbal cannabis can often be distinguished, some confounding may occur.

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