Legally flawed, scientifically problematic, potentially harmful: The UK Psychoactive Substance Bill

Introduction

This journal has often analysed legislation in the field of drug policy. Rarely has it discussed a proposed law that has such deep problems in its legal and scientific bases. The Psychoactive Substances Bill, which is currently proceeding through the UK Parliament, will (if enacted) create a 'blanket ban' on the production, importation, exportation and supply of all psychoactive substances for human consumption, except for those that are specifically exempted. The Bill provides for a range of civil and criminal penalties, with a maximum seven-year prison sentence.

This editorial will discuss some of the legal flaws and scientific problems that the Bill displays. It will consider some of the likely adverse consequences of the legislation, alongside the possibility of positive effects. We argue that the extraordinarily broad scope of the Bill, its exclusion of any consideration of harms caused by the substances that it bans, and the difficulty of defining these substances by 'psychoactivity' mean that the legislation bans too wide a range of substances and activities and will be difficult to enforce. Such enforcement may also be disproportionate to the harms caused by some of the banned substances and activities, including 'social supply'. The Bill is also likely to lead to a number of unintended consequences due to displacement between substances and markets. We provide examples of such displacement in the cases of the 2010 mephedrone ban and of more recent action against retail NPS outlets in Blackburn. We conclude with some unavoidably pessimistic predictions.

Legal issues

The Bill was an ideal opportunity for Parliament to pursue (or to trial) a new approach to drug control. It might have adopted a licensing regime modelled on New Zealand's Psychoactive Substances Act 2013 or as proposed by the European Commission ('Regulation of the European Parliament and of the Council', 2013/0305; 17 September 2013). Instead, the government has followed countries such as Ireland and Poland in opting for a blanket ban. In the Bill, as it passed through the House of Lords, a 'psychoactive substance' is one that has a 'psychoactive effect', defined as an effect on a person's 'mental functioning or emotional state'. This includes an extraordinarily broad range of substances. They are not limited to new psychoactive substances (NPS), as had been proposed by the government convened expert panel (The New Psychoactive Substances Expert Panel, 2014). Nor are they limited to substances which may lead to dependence or 'significant' changes in functioning, as is the case with the Irish legislation. The Bill does specify a list of specifically exempted substances. These include alcohol, caffeine, nicotine, food (unless containing an unauthorised psychoactive ingredient that is not naturally occurring), medicines, substances controlled under the Misuse of Drugs Act 1971 (MDA) and other substances that may be placed on the exempted list by the Home Secretary in future. The number of substances that fit the definition of psychoactivity but do not fit into this list of exemptions is probably unknowable, but will be very large indeed.

The Bill does not – unlike the MDA – directly criminalise the simple possession of a psychoactive substance. Given the lack of evidence that criminalisation of possession reduces levels of drug use or harm (Home Office, 2014; Stevens, 2011), this is welcome. But the Bill does criminalises the production, supply (including offers and possession with intent to supply), importation and exportation, of a psychoactive substance. The offences of producing, importing or exporting a psychoactive substance can be committed even if the substance was intended to be for personal use. Under the Bill, a person importing a 'psychoactive substance' via a foreign website would commit a criminal offence, even if it were only for their own use, as would a person who passes such substance to another person, even without payment. Such 'social supply' occurs frequently in the social world of recreational substance use and has the potential to make criminals of many young people. The government has justified its stance so as to avoid 'an open invitation for individuals to import numerous small quantities, which they could then combine together for onward supply' (Hansard, 14 July 2015, HL, col. 539). This overlooks the trust that is routinely placed in investigators and courts to correctly identify persons engaged in the chain of supply for retail. It also ignores the probability that a criminal record would do more harm to many of these young people than would their actions in passing on substances which may be of minimal harm.

In addition to the absence of an offence of possession, another positive aspect of the Bill (relative to the MDA) is the inclusion of a mental ingredient in each of the 'trafficking' offences rather than the clumsy defences provided by section 28 of the MDA. Even so, we would argue that the Bill still goes too far in extending the reach of criminal liability, considering the scientific challenges in identifying psychoactivity and the potential lack of harm from some such substances, as discussed below.

Problems in psychopharmacology

As noted above, the Bill does not make harm or potential for dependence a criterion by which a psychoactive substance is either included or exempted from its scope. This is a substantial change from the MDA, which seeks to control drugs "...which are being or...likely to be misused and of which the misuse is having or...capable of having harmful effects *sufficient to constitute a social problem*" (s.1(2); emphasis added). Thus, there is no 'threshold' of harm beyond which psychoactive substances are brought within the terms of the Bill. The Bill also fails to recognise that even substances which produce profound changes in mental states do not necessarily lead to serious adverse outcomes (e.g. Johansen & Krebs, 2015; Studerus, Kometer, Hasler, & Vollenweider, 2011).

The exclusion of the concept of harm from the Bill is intended to avoid the need for lengthy deliberation on potential harms before a substance is banned; this was the rationale provided by the expert panel (The New Psychoactive Substances Expert Panel, 2014). However, that panel also recognised the possibility of a future substance being discovered that is minimally harmful and is of enough clinical, commercial, cognitive enhancing, or (dare we say) recreational value that legal supply would be warranted. Accordingly, the panel recommended a 'safety valve' provision through which such substances could be placed on the exempted list (Ibid: 38). This provision has not been included in the Bill. Without it, legislative control is irrevocably decoupled from any assessment of the risk of harm. This means that the discovery and fulfilment of potential benefits from psychoactive substances will be impeded. It also means that people may face disproportionate sanctions for offences relating to substances that may be of very little harm.

The simple focus on 'psychoactivity' in the Bill is also problematic. Whilst it is understandable that legislators might be concerned about the emergence of NPS such as synthetic cannabinoid receptor agonists (Seely, Lapoint, Moran, & Fattore, 2012), it is questionable whether many of the non-exempted psychoactive substances that are sold in health food shops (e.g. lavender oil) or garden centres (e.g. morning glory seeds) pose a public health threat (Shulgin & Perry, 2002; Woelk & Schlafke, 2010).

Established recreational substances, some of which have a history of use over several centuries without having been controlled under the MDA (e.g. nitrous oxide), are included in the Bill. In addition to its well established use as an anaesthetic, nitrous oxide is also an EU approved food additive (E942) and so manufacture and sale would be permitted under the Bill for some uses. This is one example of the inherent difficulties in attempting to ban everything that may be psychoactive and then creating exemptions, rather than controlling substances by their pharmaceutical or botanical name or molecular structure or risk profile, as the MDA usually does.

It is not currently possible to predict whether a substance will have a psychoactive effect (as defined by the Bill) simply by examining its chemical structure. Analysis of pharmacological profiles through rapid in vitro screening techniques may allow for qualitative comparison with previously characterised drugs, but this provides no insight into important quantitative pharmacological parameters. The only true test of human psychoactivity is evidence generated from clinical studies, but licensing requirements, adherence to good manufacturing process standards and ethical board review means that characterisation is not realistically feasible for more than a small number of new drugs.

Salvia divinorum, a plant hallucinogen, shows the potential difficulties of the Bill's approach. The properties of *Salvia* have been studied for many years, but if it were newly emerging onto the market it would be difficult to make predictions about its psychoactive effects. In contrast to classic serotonergic hallucinogens, its primary active constituent – salvinorin A – possesses unique pharmacology at kappa opioid receptors (Grundmann, Phipps, Zadezensky, & Butterweck, 2007), is not self-administered by rats given access to it (Serra et al., 2015), is aversive in mice (Zhang, Butelman, Schlussman, Ho, & Kreek, 2005) and is not detected by simple pre-clinical behavioural assays of hallucinogen-like activity (Halberstadt, 2015). Without evidence from clinical or robust naturalistic studies, psychoactivity and human use of salvinorin A would be difficult to predict by comparison with existing drugs. It would be very difficult indeed for a prosecutor to prove that a supplier, producer or importer knew, or even ought to have known, that such a substance was psychoactive.

These legal and psychopharmacological problems will make it difficult to bring successful prosecutions. The intended use of the Bill to shut down the legal trade in NPS also has predictable adverse effects on the use and harms of psychoactive substances in general.

Displacement effects

The government assumes that the Bill will reduce the supply of all non-exempted psychoactive substances (Home Office, 2015). However, as we can see with the example of mephedrone (which was placed under the MDA in 2010), if any psychoactive substance is banned there is the potential for displacement of use to other, potentially more harmful substances. Before 2010, mephedrone's appeal to users related to easy availability and high purity at a time of low purity of cocaine and MDMA (Measham, Moore, Newcombe, & Welch, 2010). After prohibition, many users stopped taking mephedrone either because they did not like its effects enough to seek out a street dealer, or because they sought out alternative stimulants controlled under Class A of the MDA, some of which were then increasing in purity (Measham & Newcombe, 2015; Moore, Dargan, Wood, & Measham, 2013). While the demand for various forms of intoxication continues, banning the trade in currently non-controlled psychoactive substances may have the effect of pushing users back to potentially harmful substances that have already been prohibited under the MDA or to other intoxicants (such as volatile substances, cheap alcohol or diverted prescription medications).

The Bill will enable the closure of retail outlets for NPS, sometimes known as 'headshops'. But closing headshops may not, in practice, actually reduce harms. The English town of Blackburn provides an example of how closing headshops while demand for NPS continues may increase risks for users. When the local authority took action against high street headshops, NPS sales were displaced initially to out of town retail outlets, and then, within days, to an informal street trade. The same users bought the same synthetic cannabinoids from an existing street dealer of Class A drugs. He had bought up the headshop stock and split labelled commercial packages into smaller, unlabelled 'deals' in 'baggies' (small bags used for illegal drug sales) in order to promote sales (Linnell, Measham, & Newcombe, 2015). Some headshops appeared to have operated some safer practices, such as not serving customers aged under 18, selling labelled products with listed ingredients and not offering promotions. The street dealer, in contrast, employed a team of 'runners' who delivered synthetic cannabinoids to customers of any age across the town. His range of promotional offers was reported to include credit, free cigarettes and cigarette papers and exchanging used clothes for NPS at a 'clothes for cash' shop. The users he served were amongst the most vulnerable people in the area; often young, unemployed, homeless, recently released from prison and known to social services.

Possible positive outcomes?

Supporters of the Bill have claimed that it will have positive outcomes through the precautionary banning of all psychoactive

substances that are not considered suitable for recreational human consumption. It is also claimed that the legislation will 'send a message' to potential users of 'legal highs' that these substances are not safe. Both these mechanisms, it is claimed, will have the effect of reducing the use of NPS and therefore will prevent harm; the Home Office (2015) estimates that the Bill will lead to 12 fewer deaths from NPS each year.

The first, precautionary mechanism may indeed have the effect of restricting the ease of availability of NPS if it substantially reduces the legal trade, as appears to have happened in Ireland. But there is little evidence to suggest that NPS use has actually declined in Ireland (what little evidence we do have suggests that it has not fallen since the ban (TNS Political & Social, 2014)). Deaths from NPS regrettably continue in that country (EMCDDA, 2015a).

The second mechanism – using the law to raise awareness of the dangers of NPS and so reduce use – relies on two assumptions: that people use unbanned NPS because they think they are safer than illicit drugs; and that the law is an effective channel for communicating with the public. However, evidence from the field suggests that many young people are already aware that 'legal highs' may be more dangerous than currently banned substances (Bradley, 2015). And a Parliamentary committee has already found that drug bans are not effective in 'sending messages' to the public (House of Commons Science & Technology Committee, 2006).

Even if the Bill does lead to a reduction in the availability and use of NPS, this will not reduce overall rates of drug-related harm if it pushes people towards more dangerous forms of buying and using NPS and the already prohibited substances (MacCoun, Reuter, & Schelling, 1996). It will be very difficult to achieve a reduction of 12 deaths related to currently uncontrolled psychoactive substances, given that this would represent a two thirds reduction of the deaths in which such substances were implicated in 2014 (ONS, 2015). Even if it were achieved, this would be difficult to discern amongst the thousands of deaths that are recorded as drug-related in the UK each year. Many more of them could be prevented by the implementation of evidence-based measures which the government is failing to permit or fully fund, such as supervised injecting sites or take-home naloxone and training provision (EMCDDA, 2015b; Potier, Lapre´vote, Dubois-Arber, Cottencin, & Rolland, 2014).

Conclusion

Parliament may take the view that if headshops are eliminated in the UK that this is 'success'. The less visible truths may be distinctly more unpalatable. Here, we risk making some predictions about the Bill's likely effects.

The threat of civil and criminal penalties may be enough to close down legal retail outlets without the need to go to court. However, prosecutions that are brought will be costly and problematic due to the difficulty in proving psychoactivity. The use of NPS, and related harms, will continue. We are particularly concerned about the potential of new patterns of high frequency injecting of stimulant NPS to emerge, as has been seen in other countries that have banned this trade (e.g. Poland and Hungary) and in some areas of the UK after the ban on mephedrone (EMCDDA, 2013; PHE, 2014). If the police and local authorities focus on closing headshops without simultaneously taking steps to reduce demand, then it is probable that the trade will be displaced to illegal dealers whose sales practices may increase harms. We are likely to see a merger of the markets for NPS and the more traditional illicit drugs, both on the street and online. The harms of these markets and of their control will continue to be concentrated among the most vulnerable and disadvantaged groups.

We hope to be proved wrong in these predictions. The government may amend the legislation as it passes through the House of Commons to narrow the definition of the substances it covers to include, for example, only synthetic substances. This would reduce some (but not all) of the problems relating to the definition. It would not allay our fearsabout other unintended consequences, including displacement. We see the legal and scientific flaws in the Bill in its current form to be so great, and the potential for adverse consequences to be so clear, that we call for readers of this journal to participate in the debate in order to reduce harms, both of NPS and of this legislation.

Note

This editorial was revised on 15th October 2015 and does not take into account any subsequent amendments to the Psychoactive Substances Bill. Alex Stevens, Fiona Measham and Harry Sumnall are members of the UK Advisory Council on the Misuse of Drugs (ACMD). We are writing here in our capacity as independent academics/practitioners. The views expressed in this article do not represent those of the ACMD.

Conflict of interest

We confirm that we have no conflict of interest.

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