



An Executive Summary of an Overview of New Psychoactive Substances and the Outlets Supplying Them

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An Executive Summary of an Overview of New Psychoactive Substances and the Outlets Supplying Them

Commissioned by the National Advisory
Committee on Drugs (NACD)

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Foreword



I welcome the National Advisory Committee on Drugs Report An Overview of New Psychoactive Substances and the Outlets Supplying Them as an important contribution to our overall efforts to curb the use of such substances.

The issue of new psychoactive substances, and the outlets selling them, are of serious concern to societies and to Governments in Ireland and across Europe. Reports such as this highlight the dangers involved and set out a comprehensive list of recommendations for addressing the various aspects of the problems involved.

A number of initiatives have already been taken in Ireland to tackle the new psychoactive substances problem and these have achieved significant success. However, drugs supply and drugs consumption tend to shift in response to legislative changes and the report stresses the on-going need for monitoring and action to tackle any new risks that emerge with appropriate and timely responses.

I would like to express my appreciation to all those involved in compiling this Report. Among them were the research participants who shared their experiences and who contributed valuable insights, the agencies that facilitated their participation, the researchers from the School of Chemical and Pharmaceutical Sciences at Dublin Institute of Technology; the members of the Research Advisory Group; and Dr Des Corrigan, Chair of the NACD, as well as all the staff of the Committee.

Róisín Shortall, T.D.

Minister for State with Responsibility for Primary Care, Department of Health

Preface



The NACD has been concerned about the Headshops issue for a number of years. In conjunction with the then National Drug Strategy Team (NDST) it conducted the first of many briefings for Drug Task Forces on the challenges posed by these outlets and the New Psychoactive Substances (NPAS) they offered for sale through retail and online outlets in December 2007. Intensive discussions with the then Minister for Drugs John Curran during 2009 resulted in a ministerial request to the NACD to prepare a report into all aspects of the phenomenon which would inform a legislative solution to the problem caused by NPAS.

The NACD convened a multidisciplinary Research Advisory Group (RAG) comprised of representatives of An Garda Síochána, Customs Drug Law Enforcement, Dept. of Health and Children, Office of the Minister for Drugs (Dept. of Community, Equality and Gaeltacht Affairs), the Irish Medicines Board, the Food Safety Authority of Ireland, The Health and Safety Authority, the Health

Service Executive, the Forensic Science Laboratory, Citywide Drug Crisis Campaign and the NACD itself. The RAG recommended that the NACD commission an in-depth study of the Headshop phenomenon including laboratory analysis of the products being offered from both online and retail outlets.

The Request for Tender was issued in February 2010 and the contract for this work was awarded to a team from the Centre for Social and Educational Research (CSER) at the Dublin Institute of Technology (DIT). The NACD is grateful to Cathy Kelleher, Rachel Christie, Kevin Lalor, John Fox, Matt Bowden and Cora O'Donnell of the CSER for their efforts, not least in working to a very tight deadline. The NACD also wishes to acknowledge the generosity of Dr Pierce Kavanagh and his colleagues in the Dept. of Pharmacology and Therapeutics, Trinity College Dublin who shared their analytical results with the DIT team and with the NACD.

The review focuses on potential new substances that may come to be sold in head shops and online particularly substances which are not yet controlled under the Misuse of Drugs legislation, and so inform a legislative response to deal with such substances. The project includes the chemical analysis of existing and novel psychoactive substances, a review of emerging scientific literature, an online survey of users and a number of interviews with both 'recreational' and 'problem users'. Risk factors and harm reduction measures and approaches to restricting psychoactive substances in other jurisdictions are also considered.

This is an Executive Summary of the report representing the outcome of a review of new psychoactive substances¹ within the Irish context, including a review of the outlets that supply these substances. The full report is available to download from the NACD website www.nacd.ie. Having considered the Report, the RAG and the NACD formulated a number of recommendations which were presented to the Minister and the Oversight Forum on Drugs (OFD).

¹ According to Article 3 of Council Decision 2005/387/JHA of 10 May 2005 on the information exchange, risk assessment and control of new psychoactive substances, 'new psychoactive substance' means a new narcotic drug or a new psychotropic drug in pure form or in a preparation; 'new narcotic drug' means a substance in pure form or in a preparation that has not been scheduled under the 1961 United Nations Single Convention on Narcotic Drugs, and that may pose a threat to public health comparable to the substances listed in Schedule I, II or IV; 'new psychotropic drug' means a substance in pure form or in a preparation that has not been scheduled under the 1971 United Nations Convention on Psychotropic Substances, and that may pose a threat to public health comparable to the substances listed in Schedule I, II, III or IV.

Key Findings

- The NACD recognises the hugely positive effects of the Government decision in May 2010 to schedule a large number of synthetic cannabinoids and some cathinones (“bath salts”) as Controlled Drugs under the Misuse of Drugs Acts and also the subsequent enactment of the Criminal Justice (Psychoactive Substances) Act 2010. The NACD recommends that the work of the Department of Health in conjunction with the Department of Justice and Law Reform, the Gardaí, the Customs Service, the Forensic Science Laboratory, the Irish Medicines Board and others to closely monitor the emergence of new psychoactive substances with a view to bringing them under the Misuse of Drugs Act should continue to be supported in order to deter efforts to circumvent legislative controls (e.g. the Criminal Justice (Psychoactive Substances) Act 2010) on the import of these materials.
- Ireland should collaborate more closely with initiatives in the UK and other EU Member States to restrict access to new psychoactive substances and to ensure that legislative controls are not bypassed.
- A challenge may exist in terms of the monitoring of online outlets for the sale and supply of new psychoactive substances. In terms of further addressing the issue, efforts could be made to examine existing models of online monitoring which may curtail such trade including, for example, the model of co-operation in place between the Irish Medicines Board and the Customs authorities to monitor the sale of counterfeit medicines.
- The Report includes evidence that many products containing new psychoactive substances are placed on the market as food. These foods also contain drugs such as caffeine, synephrine, 2-PEA and DMAA or else substances which are naturally found in foodstuffs. Consumer protection in respect of such foods should be a matter for the Food Safety Authority of Ireland in the context of food legislation.
- Preliminary contacts indicate that there is no readily accessible national database on the health-related issues experienced by individuals who have consumed new psychoactive substances presenting to Emergency Departments of Acute Hospitals. The development of a centralised national database to collect data from Emergency Departments on alcohol and other drug use, as well as presenting issues and demographic data, which could be developed and managed by an appropriate agency, such as the Health Research Board or the Economic and Social Research Institute (which details hospital admissions each year) is recommended. This would make it possible to verify the harm being caused by existing and newly emerging drugs. Standardisation of information collected by Emergency Departments will be key to implementing this recommendation. This has implications in relation to further data collection in relation to alcohol and other drugs in Emergency Departments.
- The National Drugs Awareness Campaign recently launched by the HSE to raise awareness of the dangers and significant mental and physical health effects that can be caused by psychoactive substances should take account of user experiences of new psychoactive substances as recorded in the project Report.
- Online awareness campaigns, along the lines developed by Drugs.ie which use advertisements on Facebook and Twitter, as well as active engagement with online discussion sites and other online media outlets frequented by young people, play an important role in highlighting the risks of psychoactive substances. In addition to the potential health risks posed by psychoactive substances, users run the risk of unintentionally engaging in criminal behaviour through the purchase of so called ‘legal’ psychoactive substances that in fact contain controlled substances. The National Drugs Awareness Campaign could communicate this issue to users who may otherwise not be aware of the facts and the risks involved.
- Section 5 of the Report highlights the importance of accurate and context-specific harm reduction messages in the early days of emergent drug use, when both scientific and lay knowledge is limited. Given the level of polydrug use reported by survey respondents, it is recommended that harm reduction interventions are designed to target this pattern of substance abuse. Targeted harm reduction messages and guidelines for stimulant use aimed at problematic drug users along the lines developed by the

Ana Liffey Drugs Project are also recommended and should inform public health promotion campaigns. This could be facilitated through better signposting of harm reduction advice on the Drugs.ie website.

- It is recommended that the impact of recent legislative changes is assessed, so that any new risks that may emerge can be identified and appropriate responses made. In this context, it is recommended that research on emerging trends in drug use should be seen as a priority for the social and biomedical science research communities and their funding bodies.
- A standardised system of recording and reporting intoxications would enhance the potential to understand and respond to risks associated with new psychoactive substances. In order to facilitate this, there is a need to have rapid access to a suitably equipped laboratory that can take on the task of rigorous testing of new and emerging psychoactive substances, a laboratory that has the time and manpower to test identity, purity and concentration. Such a laboratory would provide timely information in relation to the detection of new psychoactive substances which would facilitate the early dissemination of harm reduction messages.
- For the purposes of identification of new psychoactive substances by forensic and pathology laboratories, and the development of drug field tests, there is an urgent need to establish a body providing a catalogue of reference standards speedily and at affordable prices. Such a body could provide a dedicated service not just to Ireland but to other EU countries, thus providing a continent-wide service/resource to address the issue of newly emerging psychoactive substances. In the context of the forthcoming review of the Council Decision on information, exchange, risk assessment and control of new psychoactive substances, this needs to be raised by Ireland at EU fora such as the Horizontal Drugs Group.
- The British government announced on August 20, 2010, that it will introduce legislation in the first session of parliament to temporarily ban psychoactive substances that are currently legal, but used by people to become intoxicated. The temporary ban will mean that it will be unlawful to possess with intent to supply, offer to supply, import, export, or produce the drugs in question under the UK Misuse of Drugs Act 1971. The introduction of legislation in Ireland that would allow temporary control of psychoactive substances pending assessment of the risks of the constituents is also recommended. This would prevent adverse health events.

I want to take this opportunity to thank the members of the RAG :- Ms Marita Kinsella, Dr. Jean Long, Dr. Brian Redahan, Mr. Raymond Ellard, Dr JM Morris, Dr. Audrey O'Donnell, Dr Carol Downey, Ms Dairearca Ní Néill, Ms Maria Ryan, Ms Gillian Treacy, Ms Majella Cosgrave, Ms Sinead O'Mahony Carey, Mr. John Garry, Mr Niall Cullen, Mr. Daithi Doolan, Detective Sgt. Brian Roberts, Mr. Tony Duffin, for their commitment and for so readily sharing their individual and corporate expertise.

As ever my colleagues and I are indebted to Ms Susan Scally the then interim Director of the NACD and her colleagues, Alan Gaffney and Mary Jane Trimble for their efforts in preparing this Report for publication.

While many Headshops have closed and a large number of products are no longer on open sale it is well known that some are still available either on the black market or over the internet. These chemicals pose ongoing challenges but thanks to this Report we have a clearer picture of exactly what those challenges are.

Dr Des Corrigan FPSI

Chairperson NACD

Acknowledgements

This research was commissioned by the National Advisory Committee on Drugs (NACD) and undertaken by the Centre for Social and Educational Research, Dublin Institute of Technology. The NACD convened a Research Advisory Group to mentor and monitor this process and the research team would like to extend its appreciation to the NACD and to the members of the Research Advisory Group for their assistance and support throughout.

Special thanks also go to the Merchants Quay Project, the Ana Liffey Drug Project, the Garda National Drugs Unit, and the Forensic Science Laboratory for their contribution to the research.

The researchers are particularly grateful to the many research participants who took time to share their experiences, and for the valuable insights they contributed. They would also like to thank the agencies that helped to promote the research.

Finally, they would like to acknowledge the support of the School of Chemical and Pharmaceutical Sciences at Dublin Institute of Technology.

Background to research

Head shop retail outlets supplying non-regulated substances have recently come to public attention in Ireland, thereby sparking considerable media and political debate about the potentially hazardous effects of these substances. Their widespread availability is also of concern to governments across Europe and elsewhere, due to the unpredictable side effects and lack of quality control of such substances. In addition, the European Monitoring Centre on Drugs and Drug Addiction (EMCDDA) has recently highlighted the need to step up national-level data collection on such substances, particularly those containing cathinones and synthetic cannabinoids. The substances come from unregulated sources, and are frequently described as 'research chemicals' which have no medicinal application.

The recreational use of new psychoactive substances has been increasing in parallel with developments such as greater economic globalisation and freer, de-regulated supply chains. Both non-regulated substances and controlled substances are a source of insecurity and uncertainty in the face of Ireland's exposure to global supply chains. Moreover, both types of substances pose potential risks to users, as evidenced by the volume of anecdotal accounts of negative side effects following consumption of these substances. Head shops tend to be located in busy areas of cities and towns, and particularly in areas associated with the leisure industry and the night-time economy.

It appears that certain groups of users, most notably current problem drug users, are especially at risk. In addition, there is concern about the wider public health issue and the social risks associated with problem drug use. For these reasons, national-level action is required to improve existing knowledge and thus enable appropriate public policy and timely interventions. The authors of this document are endeavouring to make a significant contribution in this respect.

The review aims to provide an overview of new psychoactive substances in Ireland, which were not at the time subject to national legal controls, and to review the outlets supplying these substances. The review was undertaken by a research team at Dublin Institute of Technology (DIT) who mobilised expertise from both the scientific field and the social sciences field. The scientific input was provided by personnel from the School of Chemical and Pharmaceutical Sciences, and the social scientific input was provided by researchers at the Centre for Social and Educational Research (CSER), which operates under the aegis of the School of Social Sciences and Law.

Introduction

This is an Executive Summary of the report representing the outcome of a review of new psychoactive substances² within the Irish context, including a review of the outlets that supply these substances.

The full report is available to download from the NACD website www.nacd.ie.

The review was commissioned by the National Advisory Committee on Drugs (NACD) in accordance with Action 14 of the National Drugs Strategy (interim) 2009-2016. Action 14 provides for the monitoring of 'head shops'³ and other outlets for the sale of psychoactive substances, under the Misuse of Drugs Act 1977 and the Misuse of Drugs (Amendment) Regulations 2007. Researchers at the Centre for Social and Educational Research (CSER) within the School of Social Sciences and Law at Dublin Institute of Technology (DIT), and at the School of Chemical and Pharmaceutical Sciences (DIT), conducted the review between May and August 2010.

The proliferation of head shops and online retailers has facilitated the emergence of a range of new psychoactive substances in Ireland. Such outlets have supplied products containing powerful synthetic substances that mimic the common illegal stimulants cocaine, ecstasy and amphetamine; they have also supplied synthetic cannabinoids designed to serve as cannabis substitutes. Often these substances are 'research chemicals', with no medicinal value, and where there is little existing knowledge in relation to their safety or toxicity. The location of head shops in prominent areas has highlighted their existence, and has fuelled concerns relating to their unknown potential for causing harm. The 'head shop phenomenon' has received unprecedented attention from the general public and the media, while the dynamic nature of the phenomenon has led to demands for a swift and comprehensive response from legislators.

In response to the 'phenomenon', the Government introduced legal measures, including the control of BZP (March 2009) and the control of mephedrone (May 2010). Also in May 2010, the Government made an Order under the Misuse of Drugs Acts 1977 and 1984 controlling a broad range of new psychoactive substances, including benzylpiperazine derivatives, synthetic cannabinoids and a number of named cathinones. In August 2010, the Criminal Justice (Psychoactive Substances) Act 2010 came into operation, making it an offence to sell, import, export or advertise psychoactive substances. This move coincided with a sharp decrease in the number of head shops which had been open for business and a significant decrease in the availability of new psychoactive substances in the few shops remaining open.

This review represents the aggregation of available knowledge on new psychoactive substances within the Irish context, and empirical research aimed at providing new insights into this complex phenomenon. Specifically, the review sought to assess the availability and accessibility of new psychoactive substances in retail outlets throughout Ireland and online, and to identify and describe the products, and where possible, their specific contents. A range of new psychoactive substances was acquired and was subjected to Gas Chromatography Mass Spectrometry (GC-MS) chemical analysis in order to identify active constituents. The availability of reference standards for the analysis of new psychoactive substances was also determined.

2 According to Article 3 of Council Decision 2005/387/JHA of 10 May 2005 on the information exchange, risk assessment and control of new psychoactive substances, 'new psychoactive substance' means a new narcotic drug or a new psychotropic drug in pure form or in a preparation; 'new narcotic drug' means a substance in pure form or in a preparation that has not been scheduled under the 1961 United Nations Single Convention on Narcotic Drugs, and that may pose a threat to public health comparable to the substances listed in Schedule I, II or IV; 'new psychotropic drug' means a substance in pure form or in a preparation that has not been scheduled under the 1971 United Nations Convention on Psychotropic Substances, and that may pose a threat to public health comparable to the substances listed in Schedule I, II, III or IV.

3 'Head shops' are retail outlets specialising in the sale of new psychoactive substances and/or drug paraphernalia (e.g. pipes and bongs).

Alongside the analyses, published data in relation to new psychoactive substances and their effects were reviewed and an online survey of users of head shop products or 'legal highs' (as they are commonly known) was conducted in order to gain insights into patterns of use and reported effects. To further explore the use and effects of these substances, semi-structured interviews were conducted with both 'recreational' users and 'problem' drug users. Based on available information and data gathered, a number of risks associated with the use of new psychoactive substances were identified. Harm-reduction measures to minimise risk to users were considered in light of existing advice for users of cannabis and stimulant drugs. Finally, measures taken in other jurisdictions to restrict psychoactive substances were examined.

Summary of key findings

Key findings of the review are summarised below:

Chemical analyses

A total of 42 post-Ban products and seven pre-Ban products were sourced from Irish head shops and online outlets. These products were analysed using either Gas Chromatography Mass Spectrometry (GC-MS) or the TICTAC database, where applicable. All products were in powder and tablet form, with the exception of just one – a herbal smoking product.

The analyses revealed the following:

- Caffeine was present in 26 of the 42 products (61%).
- The following new psychoactive substances, which did not come under the Government Orders, were detected during the analysis: dimethylcathinone, naphyrone, fluorotropacocaine, desoxypropadrone and dimethylamylamine. Naphyrone was the most frequently observed of the new psychoactive substances, being identified in 12% of samples.
- Of all types of new psychoactive substances, the packaging of those in powder form listed the least amount of information: 79% of powder products listed no ingredients. In contrast, 75% of tablet products and 67% of capsule products listed ingredients. None of the herbal products listed ingredients.
- The most frequently listed ingredients on packaging were *Citrus aurantium*, anhydrous caffeine, *Pelargonium graveolens* and *Theobroma coca*.
- Controlled substances were found in two of the 37 products sourced in Irish head shops. The controlled substance detected in these two products was 3,4-Methylenedioxypropylvalerone (MDPV).
- When tested, all of the products purchased prior to the Government Order (May 2010) contained substances that came under control with the Order. Mephedrone was the most frequent psychoactive substance encountered in the analysis of these products (67%).
- Five products purchased online underwent analysis and all five contained controlled substances. The controlled substances detected were MDPV, mephedrone and 1-(3-Trifluoromethylphenyl) piperazine (TFMPP).

Availability of new psychoactive substances

- The number of head shops in Ireland has been decreasing significantly on foot of actions taken by the Government to restrict and control new psychoactive substances.
- The number of online retailers is vast. Many of these retailers appear to deliver to Ireland.
- At the time of the review, fewer people appeared to be purchasing new psychoactive substances via the Internet relative to their UK counterparts.

The use and effects of new psychoactive substances

Very little data has been published on the recreational use of, or the effects of, new psychoactive substances. Some pharmacological data has been published on substances which have been used for research purposes or for medicinal purposes. In the absence of scientific evidence, it is advisable to consider each new substance as unique in its action and in its effects, and to exercise caution with respect to inferring effects of substances based on structure-activity relationships. Subjective user reports are plentiful, but must be interpreted with caution. The current investigation revealed the following key findings:

- Problem drug users appear to be an especially vulnerable subgroup of new psychoactive substance users. Frequently, substances were being used in large quantities, and were also being used intravenously. The pattern of use is associated with increased health and social risks to the individual, and is also associated with public health risks. In particular, the use of new psychoactive substances among problem drug users has been associated with skin and vein damage, increased occurrence of abscesses and ulcers, and the rapid onset of psychosis.
- The use of new psychoactive substances among problem drug users appeared to have led to a change in the pattern of heroin use, which did not involve a reduction. Instead, heroin and new psychoactive substances were being used either simultaneously or successively to stave off or cope with the negative 'come-down' effects experienced with each substance.
- 'Amplifier' or 'Amplified', a product which has been shown to contain dimethocaine (Kavanagh *et al.*, 2010c)⁴, may be especially potent when used intravenously in high doses.
- Problem drug users' reports of compulsive re-dosing and tolerance effects may be indicative of the abuse potential of new psychoactive substances in powder form.
- Survey findings indicated a pattern of recent infrequent use of new psychoactive substances among a subgroup who may be described as 'recreational' users of new psychoactive substances. It is likely that this pattern of usage reflects the impact of the May 2010 Government ban on a range of substances. The use of substances available before the May 2010 Order was reported more often than the use of substances available after the May 2010 Order.
- A wide range of new psychoactive substances had been sampled by survey respondents. The use of mephedrone and BZP was most widely reported. The use of ethnobotanical substances was less common; however *Salvia divinorum* was sampled by almost a quarter of all survey respondents.
- Users of new psychoactive substances tended to have a history of illegal drug use (notably cannabis, ecstasy, and cocaine) and use of new psychoactive substances was related in particular to two factors: 'curiosity' and 'availability'. Following the introduction of controls on a range of new psychoactive substances (May 2010), and in anticipation of further restrictions on such substances being introduced, it appears that users may be switching back to illegal drugs such as cannabis, ecstasy and cocaine. The authors of this report recommend that the impact of legislative changes on the pattern and use of new psychoactive substances be monitored closely.
- 'Recreational' users of new psychoactive substances are likely to mix them with other substances, especially cannabis, ecstasy and cocaine.
- Among 'recreational' users, reported subjective negative effects were more frequently associated with new psychoactive substances in powder form than with such substances in tablet form. Powders were associated with memory loss/blackouts in particular. Palpitations were associated with both powder-form and tablet-form substances, and these palpitations seem to have been especially worrying for some users.

4 Kavanagh PV, McNamara S, Angelov D, Mc Dermott S, Mullan D and Ryder S (2010c) *Head shop 'legal highs' active constituents identification chart (June 2010, post ban)*. Department of Pharmacology and Therapeutics, School of Medicine, Trinity Centre for Health Sciences, St James's Hospital, Dublin 8; Drug Treatment Centre Board, Pearse Street, Dublin 2; School of Pharmacy and Pharmaceutical Sciences, Trinity College, Dublin 2.

Key Findings

- It appears that some individuals expect negative effects from new psychoactive substance use, while others do not. Almost 40% of those reporting memory loss/blackouts in the current study said they anticipated this effect. It is possible that the unexpected nature of various negative effects may have contributed to the discomfort or distress experienced by some users. While two interviewees reported surprising and distressing effects after taking *Salvia divinorum* for the first time, they reported more favourable experiences after taking it on subsequent occasions.
- Although 'recreational' users of new psychoactive substances experienced negative effects, they did not appear to be seeking medical or psychological help as a result.
- Only three survey respondents (1.5%) had accessed emergency medical services as a result of the use of new psychoactive substances.
- The extent to which recreational users engage in behaviours intended to minimise harm related to the use of new psychoactive substances is unclear, but it is likely that such behaviours may be more common among more experienced drug takers.

Risk factors associated with the use of new psychoactive substances

The following points are highlighted in the context of considering the potential risks associated with the use of new psychoactive substances:

- Users of new psychoactive substances may inadvertently engage in criminal behaviour if they purchase a supposedly legal substance which actually contains a controlled substance. This may especially be the case with online purchases, which may contain controlled substances, despite purporting otherwise.
- The lack of consistency between the advertised content and the actual content of some new psychoactive substance products may increase the likelihood of misuse and overdose. In addition, a lack of consistency in the active content of individual products over time may put users at risk of misusing the substance, or of overdosing.
- The combination of substances contained in individual products creates a potential risk of problematic drug interactions.
- There is little information available on the safety or toxicity of new psychoactive substances. In addition, guidelines on dosage are unclear, thus potentially increasing the likelihood of overdose.
- The lack of knowledge about the toxicity and effects of new psychoactive substances may mean that harm-reduction options are not always clear.
- The lack of information regarding new psychoactive substances makes it difficult to suggest specific harm-reduction advice to users. In the absence of the requisite knowledge, harm-reduction advice relating to the use of stimulants and cannabis may be appropriate.
- The absence of reference standards for new psychoactive substances means that toxicological analysis can be difficult.
- The abuse potential of many new psychoactive substances is as yet unknown.

Legal responses

- The Criminal Justice (Psychoactive Substances) Act 2010 is unique in its approach to addressing the issue of new psychoactive substances. Its introduction has coincided with a sharp reduction in the number of head shops in Ireland.

Conclusions and recommendations

1. A challenge may exist in relation to the monitoring of online outlets for the sale and supply of new psychoactive substances. In terms of further addressing the issue, efforts could be made to examine existing models of online monitoring which may curtail such trade, including, for example, the model of co-operation in place between the Irish Medicines Board and the Customs authorities to monitor the sale of counterfeit medicines.
2. Given Ireland's close proximity to/cultural links with the UK, it should collaborate more closely with UK initiatives, and it should also collaborate with other EU countries to put in place measures to restrict access to new psychoactive substances.
3. The 'Hospital Emergency Departments' component of this study is as yet incomplete. However, preliminary contacts indicate that there is no readily accessible database of 'presenting issues' in relation to hospital emergency departments. The lack of such information makes it impossible to quantify the harm being caused by existing and newly emerging synthetic chemicals. It is recommended that any relevant information collected at local hospital level be stored centrally in an appropriate agency such as the Health Research Board (HRB); the Economic and Social Research Institute (ESRI), which details hospital admissions each year; or in the National Advisory Committee on Drugs (NACD). The implementation of such a measure would result in creating a clearer, empirical picture of the harm being caused by head shop products and it would replace the current practice of relying on anecdotal reports.
4. A system of routine reporting of new psychoactive substances intoxication to the National Poisons Information Centre is recommended, in order to facilitate the building of a knowledge base.
5. The survey results show that many users report strong negative reactions following ingestion of 'legal highs'; the results also indicate the existence of a vibrant online community of (mostly) young people who are willing to experiment with and discuss new psychoactive substances. In contrast, the public health message about the risks/dangers of 'legal highs' is rather muted, particularly in the online fora frequented by young people. The authors of this report recommend a much more dynamic stating of the risks of 'legal highs' on the various online media outlets used by young people; this would include advertising on Facebook, actively engaging with threads in chat rooms and so on.
6. Given the level of polydrug use reported by survey respondents, it is recommended that interventions be designed to specifically target this pattern of substance abuse.
7. Initial indications are that drug consumption choices and patterns of use are shifting in response to recent legislative changes. It is recommended that the impact of these changes be monitored and assessed, so that any new risks that may emerge can be identified, and appropriate responses developed.
8. Ireland does not have a specific research laboratory dedicated to the monitoring of developments in new psychoactive substances. The potential exists for the establishment of a dedicated laboratory where rigorous testing of new and emerging psychoactive substances could be carried out – a laboratory which has sufficient time and manpower resources to regularly test for features such as purity and concentration in any new product that appears on the market.

Key Findings

9. The availability of reference standards for new psychoactive substances is limited. The companies providing these standards charge premium rates, possibly due to lack of competition in this area. In addition, the time frame required in order to procure reference standards can be prohibitive. In some cases, a licence must be obtained for the particular substance before a reference standard can be ordered; delivery time thereafter may take a number of weeks. There is scope for the establishment in Ireland of a reference standards body/company which could respond rapidly as new substances appear on the market. This reference standards body could provide a dedicated service not just to Ireland but to other EU countries, thus providing a continent-wide service/resource to address the issue of newly emerging psychoactive substances.
10. The continuation of a pragmatic public health approach to new psychoactive substances is recommended. Despite historical efforts to control a variety of substances, these substances have consistently been available through illegal suppliers. In keeping with the public health approach, a number of broad harm-reduction measures are suggested; these are outlined in section 4.2 of the full report.



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