Home Office

Review of the Psychoactive Substances Act 2016

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Executive Summary

This review aims to measure as far as possible any changes in outcomes before and after the implementation of the Psychoactive Substances Act 2016 (PSA), to provide an indication of whether its aims are being achieved. A logic model approach is used, where the main inputs, activities, outputs, outcomes and impacts of the legislation are identified, and are assessed against the available evidence.

The findings of this review should be considered alongside its limitations. In particular, the nature of the intervention (a ban that applies across the United Kingdom) means that an experimental design is not possible. This makes it difficult to conclusively prove that any observed changes are a direct consequence of the PSA and would not have occurred otherwise.

Also, some substances that were originally in scope of the PSA have since been controlled under the Misuse of Drugs Act 1971 (MDA) (such as the 'third generation' of synthetic cannabinoids in December 2016), which makes it difficult to attribute changes in the use and harms of these substances to the PSA specifically. Where possible the data reflects the change in the substances within scope of the PSA over time, for example in offence and sentencing data. The limitations of the review are described in further detail in the introduction chapter.

The main findings are as follows:

Legislation

- There have been three types of legal challenges to the PSA, concerning the medicinal products exemption for nitrous oxide, the psychoactivity of nitrous oxide and the psychoactivity of synthetic cannabinoids.
- In all of these cases the courts have ruled that the substances involved are indeed subject to the provisions of the Act. The cases relating to nitrous oxide have been taken to the Court of Appeal, and the judgments reflect binding decisions.
- There is no known evidence of exempted activities or the trade in exempted substances being adversely affected by the PSA, and the list of exemptions has not been amended since the Act was introduced.
- There is no evidence that the PSA has adversely affected the process or timeliness with which substances can be controlled under the Misuse of Drugs Act (MDA), with substances continuing to be controlled after the PSA was introduced. However, for substances where there is a concern relating to misuse in prisons, it appears that the introduction of the PSA has reduced the appeal of using a Temporary Class Drug Order (TCDO) under the MDA, as the use of a TCDO involves removing the possession offence in custodial settings.

Enforcement

- Data from police forces suggests that the PSA has led to head shops either closing down or no longer selling new psychoactive substances (NPS), with 332 retailers identified as having ceased the sale of NPS. Anecdotal feedback from police forces confirms that the open sale of NPS has ceased since the introduction of the PSA.
- This has been achieved through comparatively little use of civil sanctions and stop and search powers, and more extensive use of the powers to arrest individuals and seize substances within scope of the PSA, with 492 arrests to December 2016 and 989 seizures to March 2017 recorded by police forces.
- This suggests that the Act has not completely eliminated the supply of NPS, given the large numbers of offences and seizures of suspected NPS recorded. While the open retailing of NPS has ceased, it appears that NPS continue to be sold, albeit less visibly, as identified in Chapter 3.
- While there have been around 270 prosecutions and around 170 sentences under the PSA, there is insufficient evidence to address the more subjective question of whether the PSA has been enforced 'well', for example whether it is particularly easy or difficult to obtain convictions.

Sales and availability

- The existing evidence on price and availability, which is largely qualitative research due to a lack of systematic data, suggests that the PSA caused the prices of NPS to increase and their availability to fall. This research also indicates a large-scale shift away from retailers as a result of the PSA, with street dealers becoming the main source of NPS, particularly for synthetic cannabinoids. However, Crime Survey for England and Wales (CSEW) data suggests that shops and the internet remain important sources of NPS for recreational users.
- Based on intelligence from the National Crime Agency and observational research, the large majority of online NPS vendors in the UK voluntarily removed NPS from their sites or closed down completely before the PSA was introduced, with few of these sellers thought to have moved to the dark web. However, it does not appear that the PSA has significantly disrupted darknet NPS activity, with academic evidence and a study by Europol identifying the UK as one of the leading dark web sellers of NPS both before and after the Act.
- It appears that the emergence of new NPS in the UK has not ceased following the introduction of the PSA based on forensic analysis of drug samples, albeit this is based on a small number of observations. This may be because there remains an incentive to develop new substances which evade the Misuse of Drugs Act, as it has stronger penalties than the PSA. Alternatively, it may be due to the global nature of the NPS market, as there may remain an incentive to develop new substances in order to evade drug legislation in other countries.

Prevalence

- The evidence indicates that there has been a considerable reduction in NPS use among the general adult population since the PSA, mainly driven by a reduction in use among those aged 16 to 24. The evidence also indicates that this reduction may be largely driven by the Act, as it does not appear to be driven by a reduction in overall drug use, or by a lesser willingness of survey respondents to admit using NPS since the ban.
- There has been an increase in Class A drug use among 16 to 59 year olds between 2016/17 and 2017/18, although it is not clear whether it is partly driven by the PSA, given that this increase occurred over a different time period and in different demographics to the fall in NPS use. Overall, there is insufficient evidence to identify whether there has been any displacement from NPS use to other drugs in the general adult population.
- There does not appear to have been a statistically significant change in the use of NPS among those aged under 16. Similarly, it appears that the use of nitrous oxide (among all adults) does not appear to have been affected by the Act, although there are limited time series data to draw comparisons from.
- The prevalence of NPS among vulnerable users appears to be more mixed, with qualitative evidence suggesting a significant fall in NPS use in some regions, and other regions remaining unaffected by the Act. There is a range of qualitative evidence suggesting that there has been some displacement from NPS to 'traditional' drugs for vulnerable users, although there is a lack of quantitative data on the magnitude of this displacement.
- In prisons, evidence from sources such as HM Chief Inspector of Prisons reports, random mandatory drug testing and the Scottish Prisoner Survey indicates that the use of NPS (particularly synthetic cannabinoids) was widespread before the Act, and this has continued or in some cases increased since the Act was introduced.

Health and social harms

- Analysis of samples received by the Welsh Emerging Drugs and Identification of Novel Substances Project indicates that the potency of NPS, particularly for synthetic cannabinoids, has increased since the PSA was introduced. The role of the PSA in this increase is not clear, given that there has also been a wider global trend of increasing potency over this period.
- The number of medical enquiries to the National Poisons Information Service related to NPS and the number of concerns reported by NPS users began to fall before the Act was introduced, and continued to fall following its introduction. Given the increased potency of NPS, this reduction in health harms may reflect a reduction in the overall number of NPS users since the Act, rather than a reduction in the average harm per user. There is limited evidence to identify any change in harms resulting from individuals substituting from NPS to other substances.
- National data on NPS-related hospital admissions is not available, but evidence from the IONA study suggests that there has been a fall in the proportion of patients with severe toxicity who have analytically confirmed NPS exposure since the PSA was introduced, although local evidence from Edinburgh and London shows a more mixed picture, with no significant falls in NPS-related admissions.

- The number of individuals in treatment for NPS has generally fallen since the Act, particularly for NPS with a predominantly stimulant effect. This trend may reflect the overall fall in NPS prevalence, although this is uncertain due to the time lags that can occur between starting drug use and presenting to treatment.
- The trend in NPS-related deaths differs considerably by country, with a reduction in deaths in England and Wales contrasted by a significant increase in deaths in Scotland.
- The Act has not prevented the continued violence and health harms related to NPS use in prisons, with serious incidents continuing to be reported across most adult male prisons in inspectorate reports. However, there is insufficient evidence to draw any conclusions on the impact of the Act on violence or crime outside of prison settings.

Conclusions

- In conclusion, most of the main aims of the PSA appear to have been achieved, with the open sale of NPS largely eliminated, a significant fall in NPS use in the general population, and a reduction in health-related harms which is likely to have been achieved through reduced usage.
- However, some areas of concern have remained or emerged since the Act, such as the supply of NPS by street dealers, the continued development of new substances, the potential displacement from NPS to other harmful substances, and continued high levels of synthetic cannabinoid use among the homeless and prison populations.

Introduction

Background

The Psychoactive Substances Act 2016[1] (PSA) came into force on 26 May 2016 and created a blanket ban on the production, distribution, sale and supply of psychoactive substances in the United Kingdom for human consumption. It gives police and other enforcement agencies a range of powers including: powers to seize and destroy psychoactive substances as defined by the PSA; search persons, premises and vehicles; and enter premises by warrant. It also includes a number of civil sanctions to enable a proportionate enforcement response.

The main aims of the Act were as follows:

1. To put an end to the open sale of psychoactive substances in the United Kingdom, both in stores and online, in order to protect citizens from the risks posed by untested, unknown and potentially harmful drugs[2].
2. To put an end to the game of 'cat and mouse'[3], where new drugs, with slight differences in chemical make-up, appear on the market in response to legislation when particular substances were controlled.
3. To reduce the number of people using psychoactive substances, including in sub-populations where prevalence is particularly high, such as young people, the homeless and those in prisons.
4. To reduce the various health and social harms associated with psychoactive substances[4], such as hospital admissions, deaths and violence.

Section 58 of the PSA requires the Secretary of State to review the operation of the Act, prepare a report of the review, and lay a copy of the report before Parliament 30 months after commencement. The following report fulfils this commitment. The remainder of this chapter summarises the overall approach and methodology to the review. Further detail on the approach and methodology can be found in the review framework, which was published in July 2017[5].

Terminology

Throughout this report, the term 'new psychoactive substances' or 'NPS' is used to describe substances which fall within scope of the PSA (any substance which is capable of producing a psychoactive effect in a person who consumes it, and is not an exempted substance). This is not a perfect description, as some substances which fall within scope of the PSA (such as nitrous oxide) may have been recognised as a substance of misuse for some time, and other substances may have been first synthesised a long time ago. Also, in other publications and data sources, the term 'NPS' may capture recently

1 Psychoactive Substances Act 2016, Home Office, 2016

2 The Queen's Speech, 2014

3 Home Office news story, August 2016

4 Psychoactive Substances Act impact assessment, Home Office, 2015

5 The Psychoactive Substances Act Review Framework , Home Office, 2017

developed substances which are controlled under the Misuse of Drugs Act 1971 (MDA), such as mephedrone. The substances within scope of the PSA have changed over time as NPS have subsequently been controlled under the MDA (such as third generation synthetic cannabinoids in December 2016) – drugs which are controlled under the MDA are exempted from the PSA. Accordingly, where possible the data reflects the change in the substances within scope of the PSA over time, for example in offence and sentencing data.

Approach

This review aims to measure as far as possible any changes in outcomes before and after the implementation of the PSA, to provide an indication of whether its aims are being achieved. It also considers any unintended negative consequences that might have resulted from the implementation of the PSA. There is also an assessment of how the legislation operates, including the classification of substances under the MDA.

This review has been undertaken by researchers in the Home Office with contributions from other Home Office officials, agency partners, other government departments and the devolved administrations. The PSA Impact Working Group of the Advisory Council on the Misuse of Drugs has provided advice and comments on both the review framework and the report during the drafting process.

The evidence used in this report has been drawn from a combination of official government data and the scientific literature, which was gathered through a detailed literature review. The review process has comprised of four broad stages:

- Developing a logic model containing the underlying activities and potential outputs and impacts of the PSA (in the review framework document).
- Using or developing existing data sources from the UK Government to answer specific research questions that underpin the theory of change.
- Identifying the best research evidence available (including that suggested by the ACMD's Impact Working Group) to supplement the evidence base.
- Identifying unintended consequences of the PSA, and responses to the PSA that were observed ahead of implementation.

Logic model

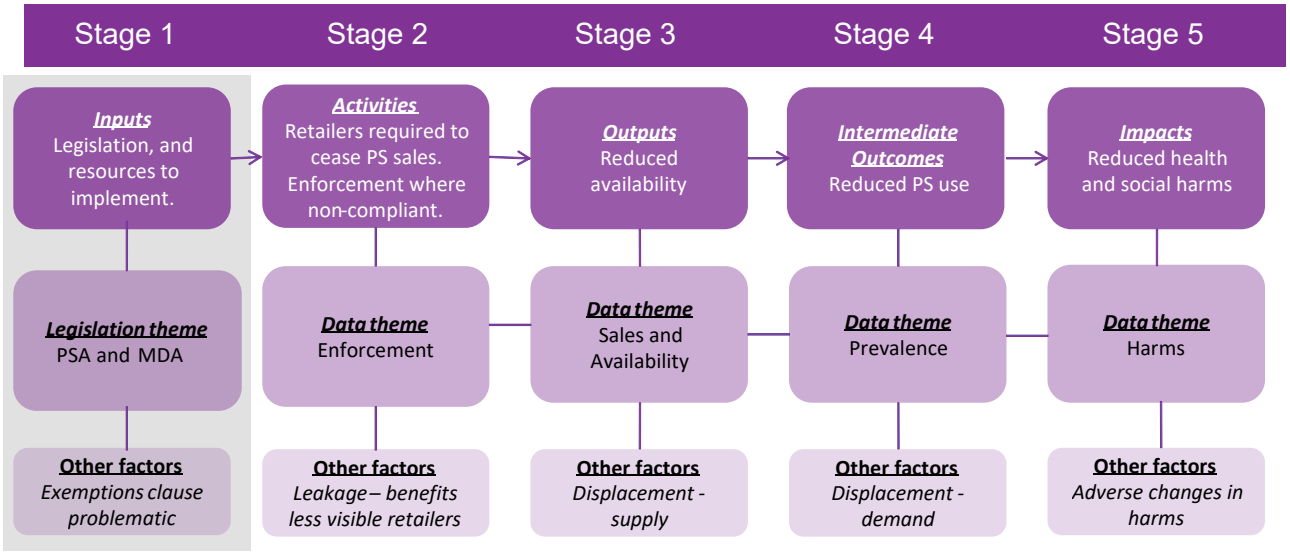
As set out in the review framework, this review uses a 'Theory of Change' approach[6], which involves setting out a logic model to identify the inputs, activities, outputs, outcomes and impacts of the legislation. This approach aims to investigate the relationships between these stages, and to understand the combination of factors that has led to the intended or unintended outcomes/impacts that have been observed.

The logic model for the review is shown in Figure 1. This high-level model explains the over-arching theory of change and includes the following stages:

[6] For more detail see HMT (2011) *The Magenta Book: Guidance for Evaluation* London: HM Treasury. Available at: https://www.gov.uk/government/publications/the-magenta-book

- **Stage 1: inputs** (resources). This includes both the PSA legislation and the mobilisation of resources to implement it.
- **Stage 2: activities** (what is delivered with those resources). Under the PSA these activities aim to cease NPS sales by retailers and enforce where retailers are non-compliant.
- **Stage 3: outputs** (what is achieved as a result). The central intended output is the reduced availability of NPS.
- **Stage 4: outcomes** (the short and medium-term consequences). The intended intermediate outcome for the PSA is reduced NPS use.
- **Stage 5: impacts** (the long-term health and social effects). This includes the intended reductions in health and social harms associated with the use of NPS.

Figure 1 - Logic model for the PSA



The logic model also considers unintended consequences that may occur as a result of the PSA. One such factor is leakage, where the legislation benefits others outside the target group, for example, less visible retailers. Another factor may be displacement, which may occur at the point of supply, for example with the development of an illicit market for NPS, or at the point of demand, with users displacing to other substances.

Figure 1 links each stage of the logic model to a 'data theme', which describes the type of data to be used in each stage. The chapters of this report are based on each of these four data themes, in addition to a chapter relating to legislation:

- **Chapter 1 - Legislation:** the routing of substances from the PSA to the MDA, and amendments to legislation**.**
- **Chapter 2 - Enforcement:** the police, local authority and wider criminal justice system implementation of the PSA, and subsequent results.
- **Chapter 3 - Sales and availability:** the availability and visibility of NPS, and the shape, size and platforms of the NPS market.
- **Chapter 4 - Prevalence:** use of NPS across the general population and sub-groups, displacement to other substances.
- **Chapter 5 - Health and social harms:** changes in health and social harms, including indirect harms.

Research questions

The main research questions for this review have been derived from the causal links between the various stages of the logic model, and are listed below. They are not exhaustive given the range of possible intended and unintended outcomes that the PSA could bring about. A more detailed list of research questions is provided in the review framework.

Chapter 1 - Legislation theme

- How frequently is the list of exempted substances and activities amended?
- Do the exemptions provide an effective safeguard against a range of unintended consequences?
- Are substances that warrant control under the MDA routed appropriately?

Chapter 2 - Enforcement

- Did the vast majority of retailers voluntarily cease trading before the implementation of the PSA, without the need for formal enforcement activity?
- Is enforcement activity police (rather than local authority) led, and is it conducted mainly through prohibition/premises notices or arrests/seizures?

Chapter 3 - Sales and availability

- Has the number of NPS previously unseen in the UK reduced, as evading legislation is no longer driving innovation?
- Are head shops no longer selling NPS, and how many have closed as a result?
- Has the closure of head shops changed the reliability of the content of NPS, and affected the level of information that users have about the substances they are taking?
- Have UK-registered websites selling NPS closed down, and has the sale of NPS on the dark web increased?

Chapter 4 - Prevalence

- Has the use of NPS reduced?
- Are any reductions in use being driven by reduced availability?
- Have users been displaced to other illicit or licit substances (e.g. alcohol, controlled drugs)?

Chapter 5 - Harms

- Has there been a reduction in total health harms (including those from NPS and those from other substances)?
- Will there be a long-term reduction in treatment presentations?
- Has there been a reduction in NPS-related social harms, such as violence or crime?

Limitations

There are a number of limitations to this review, many of which are inherently unavoidable. In particular, the nature of the intervention (a ban that applies across the UK) means that an experimental design is not possible. This makes it difficult to conclusively prove that any observed changes are a direct consequence of the PSA and would not have occurred otherwise.

When assessing the impact of an intervention, it is necessary to define what would have happened in the absence of this intervention, which is referred to as the 'counterfactual'. In the absence of the PSA, NPS would have been controlled under the MDA, by controlling substances which are regarded as harmful, or through other mechanisms identified by the NPS expert panel[7], such as enforcement of existing trading standards regulations. It is not possible to know with any certainty which substances would have been controlled through the MDA in the absence of the PSA, which makes it difficult to compare the PSA against a specific counterfactual. Also, since the PSA was introduced some substances have been controlled under the MDA, which makes it difficult to attribute impacts to the PSA specifically. This is particularly pertinent for the 'third generation' of synthetic cannabinoids, which became Class B substances in December 2016[8], given they were one of the most prevalent NPS when the PSA was introduced.

Because only a small proportion of the population use NPS, it may be difficult to detect smaller changes in the use of these substances over time. Also, in the absence of longitudinal data on individual drug users, it is difficult to robustly identify whether there is any substitution from substances within scope of the PSA to substances controlled under the MDA.

This report reviews the impact of the PSA across the whole of the UK. However, the methodology and granularity of data collection varies across each of the constituent countries of the UK. Therefore, coverage in some areas is limited to a subset of the constituent countries, and some indicators will not be directly comparable across countries due to differences in data collection.

To gather data relating to the PSA, existing data sources have been expanded or adjusted. This may mean that data relating to the PSA is less robust than data relating to more established legislation, such as the MDA, where data has been routinely gathered for a long time. Also, in many sources data on 'NPS' is captured, which relies on an individual's (for example a police officer) interpretation of what constitutes an NPS. In this context the term 'NPS' is likely to capture some substances which are recognised as NPS but are controlled under the MDA, such as mephedrone.

There is variation in the time periods covered by the different data sources used in this report, which means that some data only covers a relatively short period after the introduction of the PSA. In these cases, this review cannot identify any changes that may have occurred in the period after these data were published. Due to the timelines of this review, any data that were published after the 6th August 2018, such as 2017/18 Drug Seizures in England and Wales and 2017/18 Adult Substance Misuse Statistics, could not be included in time for this report.

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7 NPS review: Report of the expert panel, NPS review expert panel, 2014

8 Explanatory Memorandum, Home Office, 2016

Chapter 1: Legislation

Background to the Psychoactive Substances Act 2016

The Psychoactive Substances Act 2016 (PSA) came into force in May 2016, and introduced offences to produce, possess with intent to supply, supply, offer to supply and import or export psychoactive substances. There is no possession offence other than within a custodial setting.

The maximum penalties are seven years and a fine to produce, supply, possess with intent to supply or import a psychoactive substance, and the maximum penalty for possession in a custodial setting is two years and a fine. In addition to criminal offences, the Act also creates four civil sanctions: prohibition notices, premises notices, prohibition orders and premises orders (breach of the two orders is a criminal offence). These are an alternative to criminal proceedings and a means to use a graded approach to enforcement action. Where there is evidence of significant harms, substances in scope of the PSA can be controlled under The Misuse of Drugs Act 1971 (MDA), where they become subject to a wider range of offences and higher maximum penalties.

The Act captures substances which are distributed for human consumption for their psychoactive effects. A psychoactive substance is defined in section 2 of the Act as “any substance which is capable of producing a psychoactive effect in a person who consumes it, and is not an exempted substance”. Section 2 (2) of the Act states that a substance produces a psychoactive effect in a person if, ‘by stimulating or depressing the person’s central nervous system, it affects the person’s mental functioning or emotional state.’

The Act captures all psychoactive substances that are not controlled under the MDA or which are otherwise exempt. Exemptions cover medicinal products as defined by the Human Medicines Regulations 2012, and other substances already controlled through existing legislation or which have negligible psychoactive effect such as alcohol, nicotine and tobacco, caffeine and food. Schedule 2 includes exempted activities such as health care and research. There is no known evidence of exempted activities or the trade in exempted substances being adversely affected by the introduction of the PSA, and the list of exemptions has not been amended since the Act was introduced.

In order to pursue a prosecution, the suspected psychoactive substance must be matched to a reference standard substance by a forensic services provider. Where a compound has already been put through in-vitro testing to establish its psychoactivity, the Home Office Centre for Applied Science and Technology[9] provides the enforcement agency (via their forensic service providers) with statements relating to the testing, as well as expert witness statements. If the compound has not been tested or is new, it is up to the law enforcement agency to decide whether to pursue a prosecution once testing is commissioned and all the relevant statements have been submitted. Further information about the forensic and evidential processes of the Act is available in the PSA Forensic Strategy[10].

[9] Now part of Defence Science and Technology Laboratory (DSTL)

[10] Psychoactive Substances Act: Forensic Strategy, Home Office 2016

Legal challenges

There have been three types of legal challenges to the PSA:

- A number of cases which attempted to apply the medicinal products exemption to nitrous oxide. The Court of Appeal in *R v Chapman and Others*[11] held that the determination of whether a particular product is a 'medicinal product' must be made on a case by case basis. The court held that where nitrous oxide canisters were not manufactured for medical purposes, and where their intended supply was purely for recreational use, that nitrous oxide could not be categorised as a medicinal product and therefore was not an exempted substance. This decision is binding.
- A number of cases have challenged whether nitrous oxide is psychoactive within the meaning of the PSA. The Court of Appeal in *R v Rochester*[12] found that nitrous oxide is capable of producing a psychoactive effect and is therefore subject to the provisions of the Act. This represents a binding decision.
- A number of cases involving synthetic cannabinoids have challenged whether the testing process for the PSA provides sufficient evidence that synthetic cannabinoids are capable of producing a psychoactive effect, and therefore whether they are within scope of the Act. A number of Crown Court judgments have determined that synthetic cannabinoids considered in those cases fell within the scope of the PSA.

Moving substances into the Misuse of Drugs Act 1971

The ACMD makes recommendations to the Government on the control of dangerous or otherwise harmful drugs, including recommendations about classification and scheduling under the MDA and the Misuse of Drugs Regulations 2001.

Whether a drug is controlled under the MDA will depend on the degree of harms that are associated with a particular substance, and if Ministers agree with the recommendations from the ACMD. As an interim measure, a drug can be subjected to a Temporary Class Drug Order (TCDO) under the MDA. This provides a quick way of controlling substances with harms that have not been fully assessed for 12 months, whilst the ACMD gathers evidence to provide further advice for permanent control. TCDOs ban the unlawful importation, production and supply of a temporary class drug in the UK, but do not contain any possession offences, including in custodial settings.

Since the PSA was introduced no new TCDOs have been introduced, although two existing TCDOs were extended, for seven methylphenidate-related substances in June 2016 and for methiopropamine in November 2016. In December 2016, the ACMD recommended that U-47,700, etizolam and other designer benzodiazepines be made subject to TCDOs[13], rather than continuing to be subject to the PSA. However, this recommendation was rejected by the then Minister with responsibility for drug policy Sarah Newton MP, who cited concerns about the effect on use in prisons, as this would remove the possession offence in custodial settings[14]. Sarah Newton MP requested further advice

[11] R v Chapman and others [2017] EWCA Crim 319

[12] R v Rochester [2018] EWCA Crim 1936

[13] ACMD advice on U-47,700, etizolam and other designer benzodiazepines, ACMD 2016

[14] Letter from Sarah Newton, Home Office 2016

from the ACMD on controlling these substances under the MDA, and subsequently the ACMD's revised recommendation in February 2017[15].

Since the PSA was introduced, the following substances have been controlled under the MDA:

- In December 2016, third generation synthetic cannabinoids were controlled as Class B drugs under Part 2 of Schedule 2 to the MDA[16]. These substances affect the CB1 cannabinoid receptors in the brain and produce psychoactive effects similar to those produced by cannabis. The control excluded synthetic cannabinoids which were already controlled as Class B drugs, two other compounds which were already controlled as Class A drugs, and several other compounds which had legitimate medicinal uses.
- In June 2017, 29 drugs were controlled under the MDA[17]. These consisted of U47,700 (a synthetic opioid) which was controlled as a Class A drug, 12 methylphenidate-related substances which were controlled as Class B drugs, and 16 benzodiazepines (including etizolam) which were controlled as Class C drugs.
- In November 2017, methiopropamine was controlled under the MDA as a Class B drug[18].

As the above substances have been controlled under the MDA, the substances within scope of the PSA have changed over time. Controlled drugs (within the meaning of the MDA) are exempted from the PSA. Accordingly, the substances within scope of this review have also changed over time where data allows, for example in offence and sentencing data.

In the case of the substances above, the evidence of their harms was deemed significant enough to warrant their control under the MDA, as a result of which they became subject to a wider range of offences, including possession, with higher maximum penalties. There is no evidence that the PSA has adversely affected the process or timeliness with which substances can be controlled under the MDA, with substances continuing to be controlled after the Act was introduced. However, for substances where there is a concern relating to misuse in prisons, it appears that the introduction of the PSA has reduced the relative usefulness of employing a TCDO, as it involves removing the possession offence in custodial settings.

15 Letter from Sarah Newton, Home Office 2017

16 Home Office circular, Home Office 2016

17 Home Office circular, Home Office 2017

18 Home Office circular, Home Office 2017

Chapter 2: Enforcement

This chapter provides an assessment of Stage 2 of the logic model, by identifying the enforcement activities that result from the Act. The PSA gives the police and other enforcement agencies a range of enforcement powers including: powers to seize and destroy NPS as defined by the PSA; search persons, premises and vehicles; and enter premises by warrant. It also includes a number of civil sanctions (prohibition notices, premises notices, prohibition orders and premises orders) to enable a proportionate enforcement response. Breach of these two orders is a criminal offence.

This chapter summarises the available evidence on whether and how these enforcement tools have been applied by the police, local authorities and the wider criminal justice system. The data covered in this chapter relates to: civil sanctions, retailers closed down, arrests, offences, sentencing, stop and searches, and seizures.

Civil sanctions

When local authorities or police forces suspect that prohibited activity under the PSA is taking place, they can issue a prohibition or premises[19] notice to act as a 'light touch' warning to cease the activity. A stronger civil sanction is a prohibition or premises order issued by the courts, which constitutes a criminal offence if it is breached.[20]

Data on the use of these civil sanctions is not published, so it has been gathered for this report via voluntary one-off requests to police forces and local authorities. This means that the data may relate to different periods of time across the constituent countries of the UK, and breakdowns over time or by other variables are not available.

Prohibition/premises notices

Information on the use of prohibition/premises notices has been provided by 28 of the 44 police forces in England and Wales. Of the responding forces, 25 reported that they had not issued any prohibition/premises notices, while the other three forces reported that they had issued nine notices in total (this information was correct as of February 2018). Local authorities in England and Wales reported that they had not issued any prohibition/premises notices (this information was correct as of April 2018).

In Scotland, no prohibition or premises notices have been issued by either the police or local authorities (this information is correct as of March 2018). In Northern Ireland, no prohibition or premises notices have been issued by either the police or local authorities (this information is correct as of January 2018).

[19] Prohibition notices/orders apply to individuals undertaking a prohibited activity, and premises notices/orders relate to owners of property in which the prohibited activity is taking place

[20] https://www.gov.uk/government/publications/psychoactive-substances-act-guidance-for-retailers/psychoactive-substances-act-2016-guidance-for-retailers

Prohibition/premises orders

Based on information reported by police forces and courts in England and Wales, Scotland and Northern Ireland, no prohibition or premises orders relating to the PSA have been issued in any of these locations (this information was correct as of March 2018).

The limited use of civil sanctions may be because most visible sales of NPS ceased before the Act came into force, and it may also be due to authorities using other tools to deal with sales of NPS, such as Community Protection Notices. Shapiro and Daly (2017) identify that early activity by police and local trading standards officials led to many closures of premises selling NPS before the Act was introduced:

> *"Well before the Act became law, a combination of actions by police and local trading standards officials resulted in the closure of dozens of premises across the UK. One officer interviewed for the survey said that in the week before the Act came into force, of the 24 shops in his area, 14 had closed even before the police had a chance to deliver the warning letter."* [21]

Similarly, activity to close down NPS retailers in Scotland took place in October 2015 under the name 'Operation Alexander', which meant that the retail trade had almost completely ceased before the PSA was introduced[22]. Research indicates that this action led to a statistically significant reduction in NPS-related presentations and admissions for drug toxicity in Edinburgh[23]. Also, in Northern Ireland enforcement action was undertaken before the PSA, by the police and Belfast City Council under the Consumer Protection Regulations. Following this action, all shops in Northern Ireland were reported to have stopped selling NPS before the Act came into operation, a position which was maintained throughout 2016 and 2017.[24]

Arrests made and head shops closed down

Individuals who are suspected of producing, distributing, selling or supplying NPS may be arrested by the police, and shops selling these substances, often referred to as a 'head shop', may be closed down.

As with civil sanctions, data on arrests and head shops closed are not published, so information has been gathered for this report via one-off voluntary requests to forces. This means that these data have only been gathered for specific snapshots in time (for example at six months after the Act was introduced), and breakdowns over time or by other variables are not available.

Information on headshop activity has been provided by 44 of the 46 police forces across England, Wales, Scotland and Northern Ireland at six months after the Act was introduced. Across the responding forces, a total of 31 head shops had been shut down, and 332 retailers had been identified as no longer selling NPS since the Act was introduced. Anecdotal feedback from the National Police Chiefs' Council working group on PSA

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21 Highways and buyways: A snapshot of UK drug scenes 2016, Shapiro & Daly, 2017

22 NPS at Crew Annual Report 2016-2017, Crew 2000, 2017

23 New drug controls and reduced hospital presentations due to novel psychoactive substances in Edinburgh, Pettie et al, 2018

24 Department of Justice, Northern Ireland, internal communication, 2018

enforcement confirms that the open sale of NPS has ceased since the introduction of the PSA.

A joint inspection by HM Inspectorate of Probation and the Care Quality Commission identified the work of Northumbria Police as an example of good practice in using the PSA to make arrests and close down head shops: *"Operation Falconry, implemented as a direct result of the Psychoactive Substances Act 2016, resulted in thousands of pounds of NPS being seized and court proceedings against suppliers. In response, NPS incidents in [Newcastle] city centre reduced dramatically."* [25]

Information on arrests has been reported by 41 forces across England, Wales and Northern Ireland at three months after the Act was introduced, and by 44 forces at six months after the Act. A total of 186 arrests under the PSA had been reported at three months after the Act, and a total of 492 arrests under the PSA were reported at six months after the Act. Data on arrests for offences under the PSA is not available for Scotland, as Police Scotland have advised that publishable data cannot be provided without a significant reallocation of resources, and that a more meaningful source of data would be information relating to PSA charges and convictions.

Stop and searches

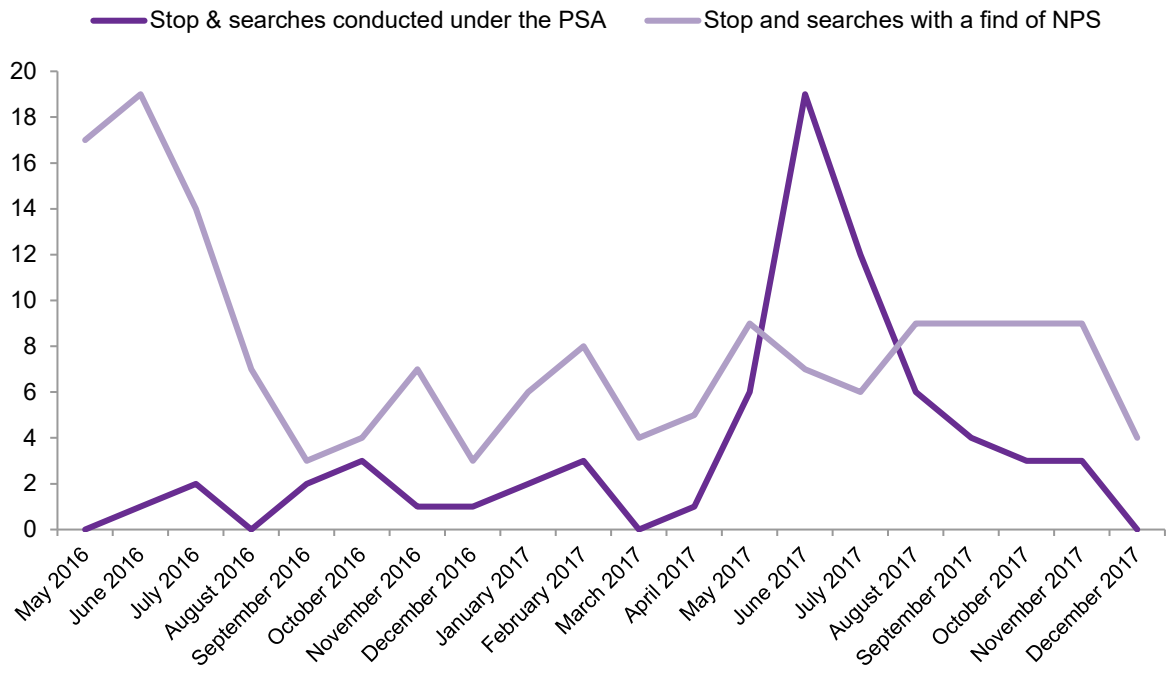
The PSA gives police officers the power to search persons, premises and vehicles for substances within scope of the Act. This is alongside existing stop and search powers under the MDA to search for controlled drugs, and other stop and search powers such as the Police and Criminal Evidence Act 1984, where officers may search for items such as offensive weapons or stolen goods.

Figure 2 presents the trend in the total number of stop and searches in the UK under the PSA to December 2017. This chart also shows the trend in the number of stop and searches which resulted in a find of NPS in England, Wales and Scotland (data on finds of NPS was not available for Northern Ireland). This includes stop and searches that are conducted under other stop and search powers (such as the MDA) where NPS is found, hence these figures may be higher than the overall number of stop and searches conducted under the PSA.

There was a mean of 4 stop and searches per month under the PSA over this period, considerably lower than the 18,000 stop and searches per month under the MDA. Some of this difference may be because there is no possession offence in the PSA (other than in custodial settings), and there may also be occasions where officers suspect that an individual is involved in the supply of substances under both the MDA and the PSA, but only one search reason may be recorded in the data. Approximately 75% of stop and searches under the PSA took place in England and Wales, 19% took place in Northern Ireland, and the remaining 6% took place in Scotland. In England, Wales and Scotland, around 17% (11 out of 65) of stop and searches under the PSA resulted in a positive find of NPS, compared with one in 16% of stop and searches under the MDA resulting in a positive find of controlled drugs over the same period.

[25] New Psychoactive Substances: the response by probation and substance misuse services in the community in England, HM Inspectorate of Probation and the Care Quality Commission, 2017

Figure 2 – Stop and searches under the PSA and finds of NPS by UK police forces, May 2016 to December 2017[26]



The numbers of NPS finds are similarly low when compared with substances controlled under the MDA, and it falls significantly after a peak in June 2016 soon after the introduction of the PSA. This may be an indicator of 'fire sales' following the introduction of the Act, although fluctuations in NPS finds may be accounted for by random variations given the small numbers involved. Only 4% of the finds of NPS were found during stop and searches under the PSA, with the large majority of finds taking place during stop and searches under the MDA. It should be noted that some of the substances recorded by police officers as NPS may in fact be controlled under the MDA, such as mephedrone. However, these cannot be excluded from the results as a breakdown of the data by individual substances is not available.

In Figure 3, the demographics of individuals stopped and searched under the PSA are presented, with the demographics of individuals stopped and searched under the MDA presented in Figure 4. This data shows that the age and gender breakdowns are relatively similar across each type of legislation, with males accounting for around 90% of individuals stopped and searched under the PSA, and those aged 18 to 24 accounting for around 50% of individuals. However, there are considerable differences in regard to ethnicity, with around 33% of individuals stopped and searched under the MDA classed as black or Asian, compared with 9% under the PSA.

[26] Scotland stop and search data, Scottish Government, England & Wales stop and search data, Police.uk, Northern Ireland stop and search data, internal data provided by NI Statistics and Research Agency

Figure 3 – Demographics of individuals stopped and searched under the PSA by UK police forces, May 2016 to December 2017[27]

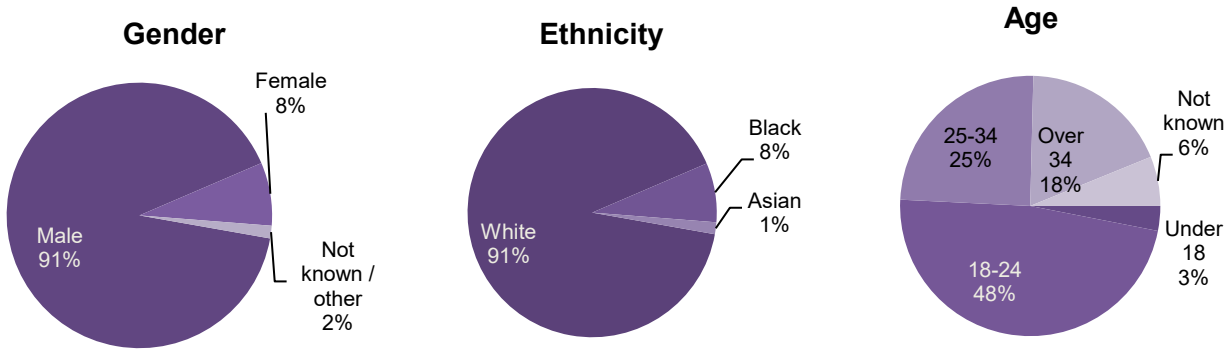
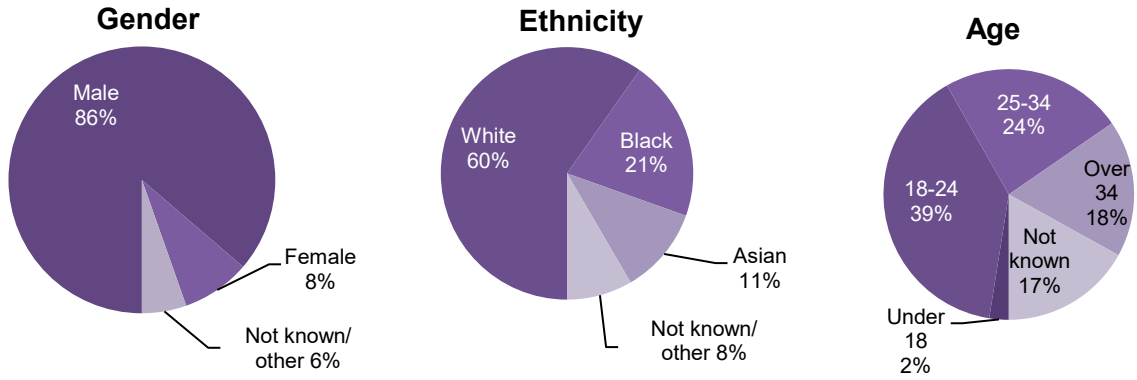


Figure 4 – Demographics of individuals stopped and searched under the MDA by English, Welsh and Scottish police forces, May 2016 to December 2017



Seizures

England and Wales

Official data on seizures of NPS by police forces in England and Wales and Border Force is provided for the first time in the 2017/18 'Drug Seizures in England & Wales' publication[28]. However, these data were not available in time for inclusion in this report.

This report therefore makes use of voluntary data that were provided by 32 (out of 43) police forces in England and Wales, on NPS seizures recorded for the first 12 months after the PSA. This data shows that there were a total of 989 recorded NPS seizures over this period. The most NPS seizures related to synthetic cannabinoids (358), followed by NPS powders (261), nitrous oxide (202) and other NPS (168, such as tablets or capsules). The seizures were classified into these groups based on the judgement of police officers, which may be less likely to yield accurate results than forensic testing.

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27 Scotland stop and search data, Scottish Government, England & Wales stop and search data, Police.uk, Northern Ireland stop and search data, internal data provided by NI Statistics and Research Agency

28 Seizures of drugs in England and Wales, Home Office

Northern Ireland and Scotland

Official data on seizures of NPS is not published in Northern Ireland. Scotland's 2016/17 publication on drug seizures statistics identifies that a small amount of substances controlled under the PSA were seized in 2016/17, although a specific number is not provided[29].

Offences

The PSA makes it an offence to produce, supply, offer to supply, possess with intent to supply, possess on custodial premises, import or export NPS. There is no possession offence in the PSA, apart from possession in custodial premises.

The data for England and Wales have been extracted from the Home Office Data Hub[30], based on 39 forces that provided sufficiently accurate data. Police recorded crime data are not designated as National Statistics, and these data are based on unpublished internal analysis and have not been reconciled with forces. Data should therefore be treated with caution as trends in this data may be affected by changes in police recording over time (for example as the recording of PSA offences improves). The data for Northern Ireland and Scotland were provided by the Police Service of Northern Ireland and Police Scotland respectively.

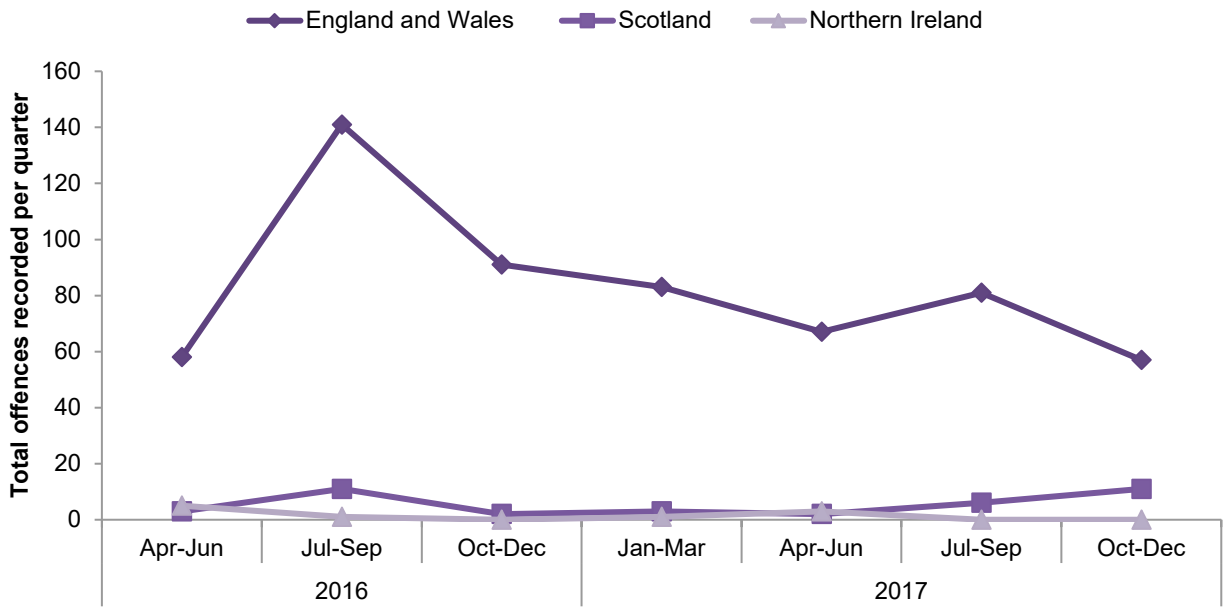
As shown in Figure 5, the number of recorded PSA offences peaked in England and Wales soon after the Act was introduced, with 141 offences recorded between July and September 2016. The peak in offences may indicate a 'fire sale' of headshop stock, or it may reflect a raised level of enforcement activity in the initial months after the Act was introduced. The number of recorded offences falls thereafter and remains at around 60 to 80 offences per quarter throughout 2017. In Scotland, there is a similar peak in recorded offences following the introduction of the PSA, although they increased again during the second half of 2017. Caution should be advised when drawing conclusions from this data due to the small numbers involved, particularly for Northern Ireland, which has an average of between one and two offences recorded per quarter. Over the 2016/17 financial year, PSA offences accounted for approximately 0.2% of all drug offences recorded in the UK[31].

[29] Drug seizures and offender characteristics, 2016-17, Scottish Government

[30] The Home Office Data Hub is a database that collects record level crime data from police forces in England and Wales, for the principle use of collating published statistics on police recorded crime

[31] Crime in England and Wales: year ending March 2017, ONS, Police Recorded Crime Statistics, PSNI, Recorded Crime in Scotland: 2016-17, Scottish Government

Figure 5 – Number of recorded PSA offences in England & Wales, Northern Ireland and Scotland, April 2016 to December 2017[32]



* Data for England and Wales are based on 39 forces that provided data via the Home Office Data Hub and have not been reconciled with forces. Data for Scotland and Northern Ireland are provided by Police Scotland and the Police Service of Northern Ireland respectively.

Data is also available from the Home Office Data Hub on the outcomes of PSA offences in England and Wales. This data shows that to the end of 2017, 6% of PSA offences resulted in an out of court disposal, 40% resulted in a charge/summons, 42% were not taken forward as they were not in the public interest or due to evidential difficulties, 7% of offences were taken forward by another body or agency, and in the remaining 4% either no suspect was identified or the suspect died[33]. It appears that out of court disposals have rarely been used for PSA offences, with only one charge in Scotland marked for an out of court disposal.

The number of recorded PSA offences may have been affected by the classification of 'third generation' synthetic cannabinoids as Class B substances in December 2016[34], given that these substances are known to be among the most prevalent NPS (see the prevalence chapter). From December 2016, offences relating to third generation synthetic cannabinoids will have been recorded as offences under the MDA rather than the PSA, so it is likely that this will have caused the number of recorded PSA offences to fall.

In Figure 6, the number of PSA offences in England and Wales is compared with the number of synthetic cannabinoid offences under the MDA (offences for the possession of synthetic cannabinoids under the MDA have been excluded from the chart to enable comparability, given that there is no possession offence in the PSA apart from in custodial premises). The data is not able to identify offences relating specifically to the third generation of synthetic cannabinoids, as opposed to the first and second generations, which were controlled in 2009 and 2013 respectively. However, the rise in the number of synthetic cannabinoid offences under the MDA over the course of 2017 suggests that

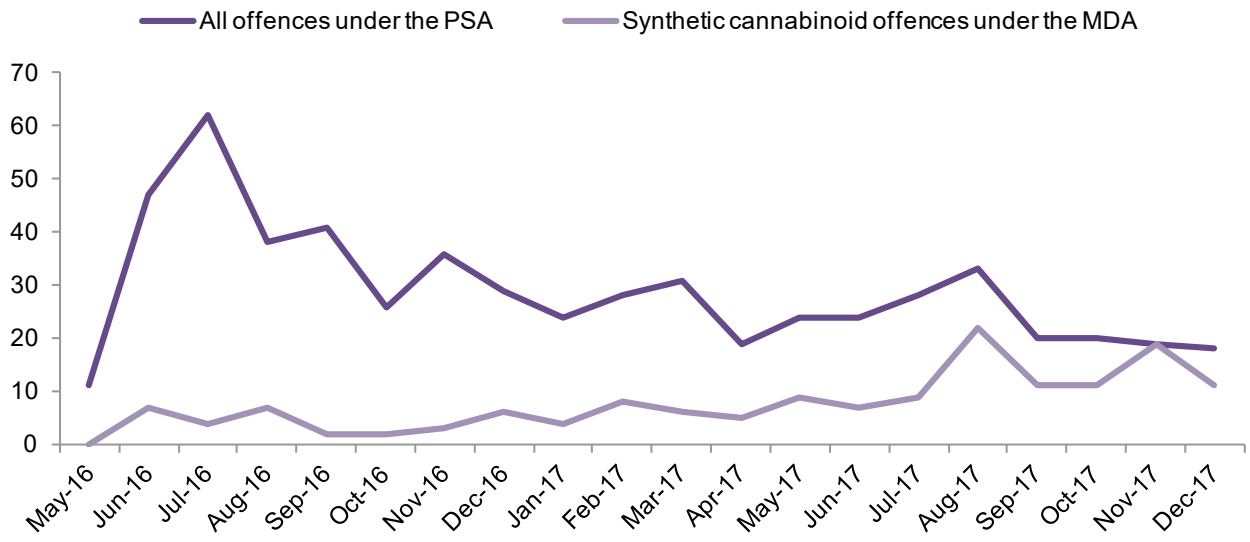
[32] Home Office Data Hub, Police Scotland and the Police Service of Northern Ireland

[33] The figures do not sum to 100% due to rounding. These figures exclude offences which are still under investigation, which applies to 7% of recorded PSA offences.

[34] Explanatory Memorandum, Home Office, 2016

some offences relating to the third generation of synthetic cannabinoids may have been recorded, although the numbers are relatively small.

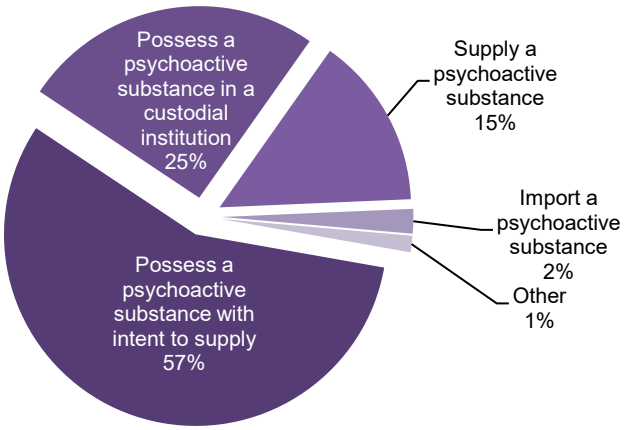
Figure 6 – All offences under the PSA and synthetic cannabinoid offences under the MDA (excluding possession offences) in England and Wales, May 2016 to December 2017[35]



* Data are based on the 39 forces that provided data on PSA offences and the 35 forces that provided data on synthetic cannabinoid offences via the Home Office Data Hub. Data have not been reconciled with forces.

The majority of recorded PSA offences in England, Wales and Northern Ireland were for possession with intent to supply, as shown in Figure 7. Possession in a custodial institution was the next largest offence type, accounting for 25% of recorded PSA offences, followed by supplying a psychoactive substance at 15%. In Scotland, a breakdown by offence type is available for charges under the PSA, and as shown in Figure 8, possession with intent to supply was also the most common offence type at 67%.

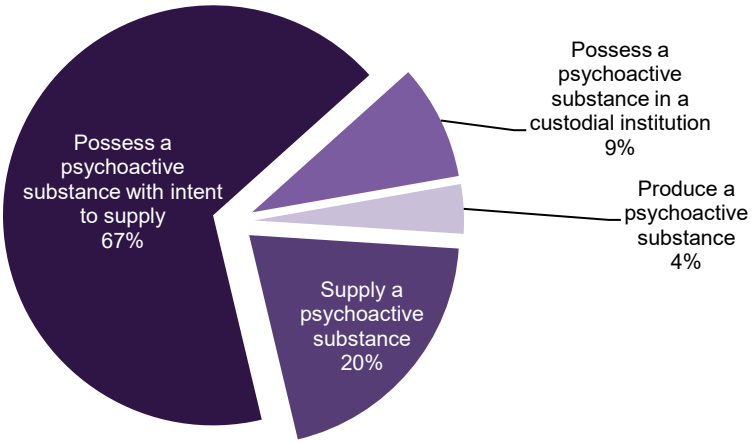
Figure 7 – Breakdown of recorded PSA offences in England, Wales and Northern Ireland by offence type, May 2016 to December 2017[36]



35 Home Office Data Hub

36 Home Office Data Hub, Police Service of Northern Ireland

Figure 8 – Breakdown of PSA charges in Scotland by offence type[37], May 2016 to March 2018



Sentencing

As shown in Figure 9, a total of 272 prosecutions under the PSA have so far been recorded in England, Wales and Scotland, resulting in 183 convictions and 173 sentences[38]. It should be noted that the data for Scotland commences from May 2017. After the Act came into force, the Crown Office and Procurator Fiscal Service worked with the Home Office to ensure that the necessary evidence packs met the requirement in Scotland for corroborated evidence. As a result, corroborated evidence packs became available to support enforcement in Scotland from May 2017, and prosecutions in Scotland commenced from that point.

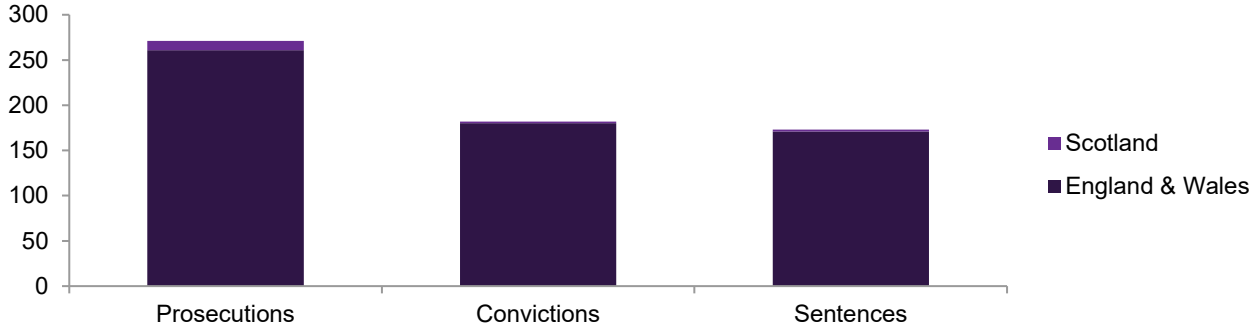
Figures for Northern Ireland could not be included in this analysis because the small numbers involved mean that the data may be disclosive; there were fewer than 4 prosecutions in Northern Ireland in 2016 and in 2017. The number of prosecutions under the PSA is low when compared with that of prosecutions under the MDA; there were 215 prosecutions in England and Wales under the PSA in 2017, compared with approximately 42,000 prosecutions under the MDA over the same period.

Some of the difference between the number of recorded offences (312 across the UK) and the number of prosecutions is driven by the time lag between an offence being committed and a prosecution taking place. This time lag may be particularly significant for the PSA, given the various steps that need to take place in order to secure a conviction. As described in Chapter 1, a suspected psychoactive substance must first be matched to a reference standard by a forensic services provider, then DSTL provides statement reports from testing and expert witness statements, and then the law enforcement agency must decide whether to pursue a prosecution. It should be noted that as with data relating to PSA offences, these figures are likely to be affected by the classification of 'third generation' synthetic cannabinoids in December 2016.

[37] Crown Office and Procurator Fiscal Service

[38] Criminal Justice statistics, Ministry of Justice, internal data from the Crown Office and Procurator Fiscal Service and Department of Justice Northern Ireland.

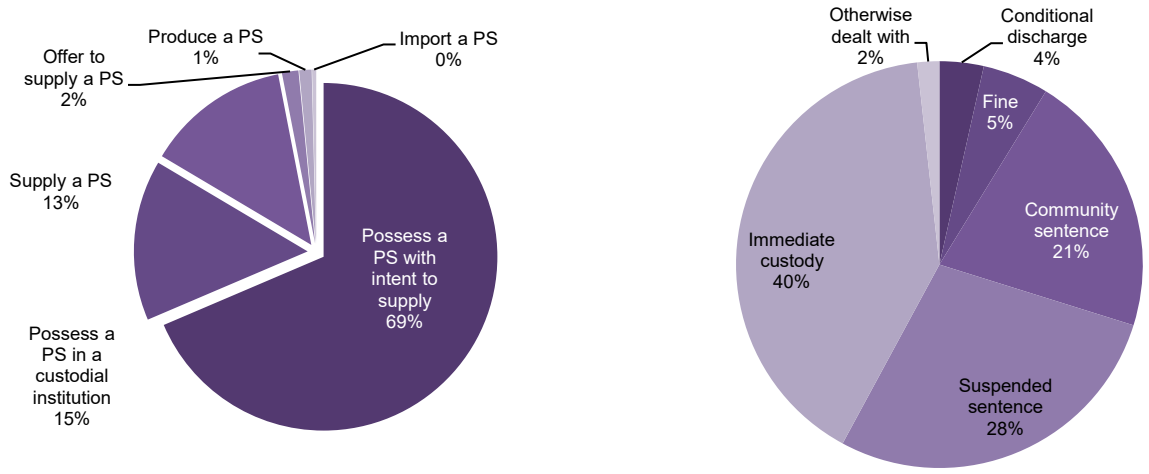
Figure 9 – Number of prosecutions, convictions and sentences under the PSA in England & Wales and Scotland, May 2016 to December 2017 (to March 2018 for Scotland)



As with the offence data, the highest number of prosecutions in England and Wales related to possession with intent to supply offences (69% of all prosecutions under the PSA), followed by possession within a custodial institution (15%) and supplying a psychoactive substance (13%), as shown in Figure 10. In Scotland, the 10 prosecutions under the PSA consisted of 9 charges of possessing a psychoactive substance with intent to supply, 5 charges of supplying a psychoactive substance, 2 charges of producing a psychoactive substance and 2 charges of importing a psychoactive substance.

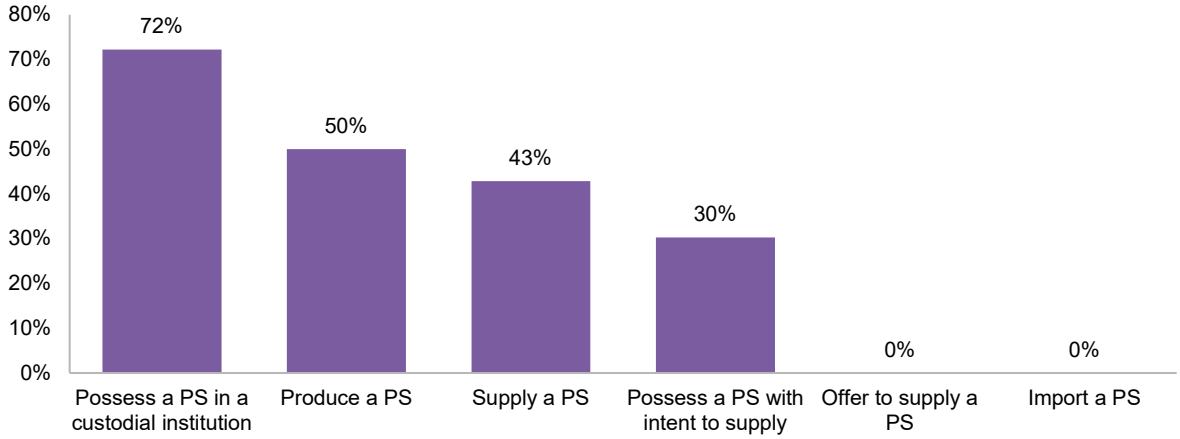
A range of different sentences have been used for the PSA in England and Wales, with 40% of sentences resulting in immediate custody, 28% resulting in a suspended sentence, and 21% resulting in a community sentence. In Scotland, 2 convictions under the PSA have been recorded as of March 2018, both of which resulted in custodial sentences.

Figure 10 – Prosecutions under the PSA by offence type (left), and sentences under the PSA by sentence type (right), in England & Wales from May 2016 to December 2017



As shown in Figure 11, the majority (72%) of sentences for possession of a psychoactive substance in a custodial institution resulted in immediate custody, although it should be noted that these percentages are based on small denominators. Across the PSA offences of production, supply and possession with intent to supply, 33% of sentences between May 2016 and December 2017 resulted in immediate custody, compared with 54% for the equivalent offences under the MDA in 2017.

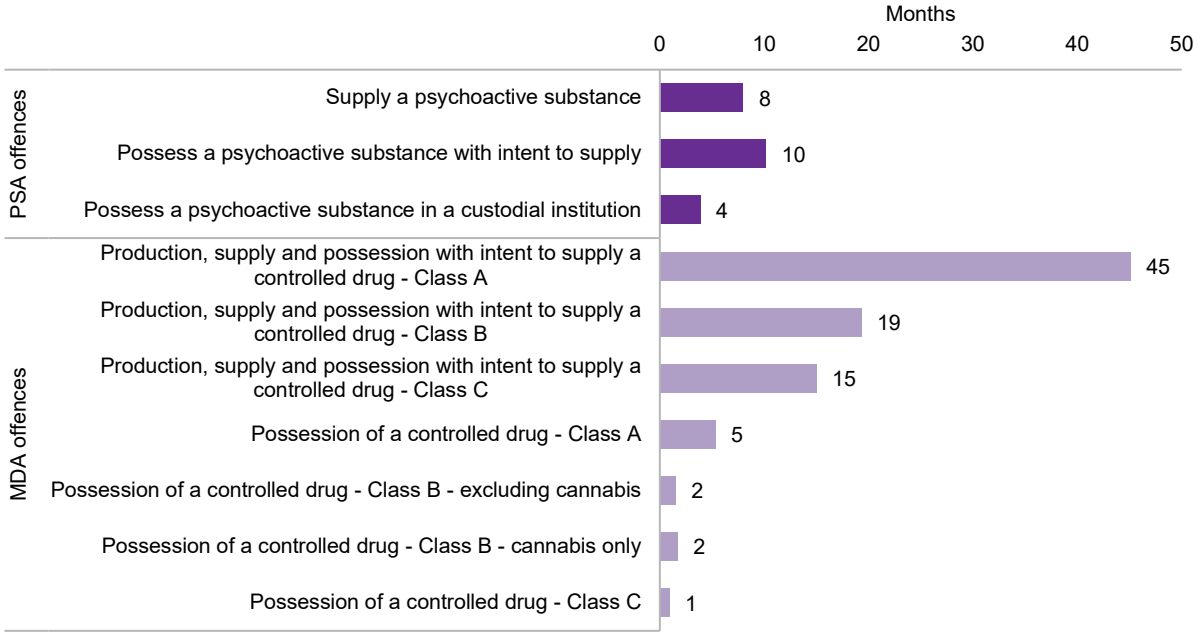
Figure 11 – Proportion of PSA sentences resulting in immediate custody in England & Wales May 2016 to December 2017



In Figure 12, the average lengths of custodial sentences for offences under the PSA (for those offences with 5 or more sentences) are compared with those for offences under the MDA in England and Wales. Production, supply and possession with intent to supply offences under the MDA are grouped together and cannot be disaggregated.

The PSA offence with the longest average sentence length is ‘possessing a psychoactive substance with intent to supply’ at 10 months, compared with 8 months for ‘supplying a psychoactive substance’ and 4 months for ‘possessing a psychoactive substance in a custodial institution’. The average sentence lengths for possession and supply offences under the PSA are considerably shorter than the average sentence lengths for the MDA offences of ‘production, supply and possession with intent to supply’ (between 15 to 45 months from Class C to Class A respectively), but are greater than that for ‘possession of a controlled drug’ (1 to 2 months). The 2 custodial sentences recorded in Scotland resulted in one sentence of 20 months and another sentence of 4 years and 6 months, where the latter sentence related to two different charges under the PSA.

Figure 12 – Average custodial sentence length for offences under the Psychoactive Substances Act and the Misuse of Drugs Act, in England and Wales 2017[39]



Note – A number of offences under the PSA have been excluded from the above where the number of offenders sentenced to custody is fewer than five, as this data is disclosive. Data for 2016 has been excluded as the data is disclosive for all offences.

Summary of enforcement evidence

Table 1 – Summary of enforcement evidence in England and Wales, Northern Ireland and Scotland

	England & Wales	Northern Ireland	Scotland
Prohibition/ premises notices	9 issued *(to February 2018)*	0 issued *(to March 2018)*	0 issued *(to March 2018)*
Prohibition/ premises orders	0 issued *(to March 2018)*	0 issued *(to March 2018)*	0 issued *(to March 2018)*
Head shops closed down	31 head shops shut down & 332 head shops no longer selling NPS *(to December 2016)*		
Arrests	492 arrests (to December 2016)		-
Stop and searches	52 stop & searches *(to December 2017)*	13 stop & searches *(to December 2017)*	4 stop & searches *(to December 2017)*
Seizures	989 seizures *(to March 2017)*	-	-
Offences	318 offences *(to December 2017)*	10 offences *(to December 2017)*	38 offences *(to December 2017)*
Sentencing	261 prosecutions, 171 sentences *(to December 2017)*	Fewer than 4 prosecutions per year *(to December 2017)*	11 prosecutions, 2 sentences *(to March 2018)*

'-' indicates data is not available

[39] Personal communication, Justice Statistics at the Ministry of Justice

Discussion

The evidence suggests that the PSA has led to head shops either closing down or no longer selling NPS, and that the open retail sale of NPS has ceased since the Act. Enforcement activity appears to have mainly taken through the powers to arrest individuals and seize substances within scope of the PSA, rather than the use of civil sanctions and stop and search powers, and a significant amount of enforcement activity appears to have taken place before the Act was introduced.

Civil sanctions may not have been extensively used because many head shops had closed down by the time the Act was introduced, so there were few visible sales of NPS. Alternatively, they may not have been used because they were viewed as less effective than directly arresting individuals or closing down retailers.

The evidence suggests that the Act has not completely eliminated the supply of NPS, with hundreds of seizures of NPS and hundreds of offences under the PSA having been recorded. This indicates that while the open retailing of NPS has ceased, they continue to be sold to users, albeit in a less visible manner. Chapter 3 investigates the supply of NPS in further detail, exploring the impact of the Act on the availability of NPS and how they are sold.

The evidence also suggests that the courts are prosecuting and sentencing individuals for PSA offences, with around 270 prosecutions recorded so far. However, there is insufficient evidence to address the more subjective question of whether the PSA has been enforced ‘well’, for example whether a large proportion of all offenders have been arrested, or whether it is particularly easy or difficult to obtain convictions.

Chapter 3: Sales and availability

This chapter provides an assessment of Stage 3 of the logic model, by identifying how enforcement activities (Stage 2) under the PSA lead to a change in outputs, in terms of the availability of NPS. This chapter therefore assesses how the PSA has affected the ways in which NPS are purchased and how available they are to users.

It investigates the sales of NPS both offline and online, through the darknet[40] and the clearnet, and assesses the trends in the emergence of new substances. The evidence covered in this chapter relates to: prices, sources of NPS, clearnet and darknet websites, and newly identified NPS.

Price and availability

If the PSA has restricted the supply of NPS, for example by causing head shops to close down and making it more difficult to purchase and sell NPS, then this may be reflected by an increase in their prices. The prices of NPS are not gathered in any official data sources, and it would be difficult to quantify any overall change in price, given the large number of drugs covered by the PSA. However, evidence from a number of qualitative research projects identifies an increase in the price of NPS due to the PSA, and some identified a reduction in availability as they became harder to source:

"Young people stated that the new 'NPS Act' had not really deterred them from using NPS but it had made it harder and more expensive to obtain"[41]

"Early indications from users in Manchester are that synthetic cannabinoids have already doubled in price since the Act was introduced."[42]

"the introduction of the PSA means NPS are relatively more expensive than they were before the Act...in the last three years the average price of 1g of synthetic cannabinoids (sprayed onto plant material) has increased from £7 per gram to £12 per gram and the average price of stimulants has increased from £10 per gram to £30 per gram."[43]

[Quote from drug worker in Manchester] "It was so easy before. But after PSA in Rochdale young offenders, those in care, they found they had less access to NPS. People just couldn't be bothered to source it and there is a culture of 'whatever they can get there [sic] hands on easiest'."[44]

40 The darknet, or the dark web, is the part of the World Wide Web that is only accessible by means of special software, allowing users and website operators to remain anonymous or untraceable (Source - Oxford Dictionaries). In contrast, the clearnet or the clear web is the portion of the internet which is accessible by standard web browsers.

41 Novel NPS insight report: The View from Young People, Addaction, 2017

42 New psychoactive substance use in Manchester: Prevalence, nature, challenges and responses, Ralphs et al, 2016

43 NPS at Crew annual report 2016-17, Crew, 2017

44 Highways and buyways: A snapshot of UK drug scenes 2016, Shapiro & Daly, 2017

Sources of NPS

As established in Chapter 2, much of the visible sale of NPS in head shops appears to have ceased as a result of the PSA. Although the prevalence of NPS use in the general population appears to have fallen since the Act (see Chapter 4), sales of NPS have continued to take place as a number of supply offences under the PSA have been recorded. Qualitative evidence suggests that NPS may now be sold by 'street dealers' already selling drugs controlled under the MDA:

> *"Areas report fire sales of branded, headshop NPS stock in the days before the PSA. As these stocks run out, it is now becoming common for street dealers to sell NPS, mainly spice, from plain, clear bags with no branding... spice is being added to the menu of multi-commodity dealers who trade in heroin and crack"*[45]
>
> *[Quote from NPS user in Exeter] "Now the shops aren't selling stuff people get it from another source, like through a dealer. You can still get hold of them just as easily'."*[46]
>
> *"...as soon as the Act came into force on May 26th, both users and frontline staff working with the homeless community reported clear signs of a flourishing street level market for synthetic cannabinoids. Almost immediately, dealers appeared on the streets – often close to head shops that had previously been well-known sellers of synthetic cannabinoids and other NPS – making continued access to synthetic cannabinoids easy for users"*[47]
>
> *"While the PSA deterred a minority of participants, those who self-identified as still using reported that they were accessing NPS illicitly through street dealers and at social events via friends and associates"*[48]

However, there was evidence in the North East that some head shops were still selling NPS, albeit less visibly: *"Several 'head shops' were reported to have 'bulk purchased' supplies of NPS prior to the ban coming into effect, meaning that they still had supplies of NPS to sell (albeit more covertly) at the point of engagement. Other shops were said to still be buying new supplies of NPS online"*[49]. The same study also identified alternatives to head shops emerging since the Act was introduced *"There were also reports of NPS being sold by mobile suppliers, selling NPS from car boots and in some cases, using 'runners' to provide a doorstep delivery service. Particularly concerning were reports that the 'runners' used were often vulnerable young people and active users of NPS, who were typically paid in the form of further NPS"*.

The Crime Survey for England and Wales (CSEW) provides some further evidence of the shift away from retail sales[50]. It surveys 16 to 59 year olds in England and Wales, and began measuring the use of NPS from 2014/15, although it should be noted that as a household survey, the CSEW does not have good coverage of problematic or vulnerable drug users, including those who are homeless or in prison. The survey asks respondents if they have taken NPS in the last year, and if so, where they had obtained it on the last occasion. Similar to other questions on drug use that include the street names of drugs,

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45 Highways and buyways: A snapshot of UK drug scenes 2016, Shapiro & Daly, 2017

46 NPS use among the homeless population in Exeter, St Petrock's (Exeter) Ltd, 2017

47 New psychoactive substance use in Manchester: Prevalence, nature, challenges and responses, Ralphs et al., 2016

48 Exploring the intersections between novel psychoactive substances and other substance use in a police custody suite setting in the north east of England, Addison et al, 2017

49 The Use of Novel Psychoactive Substances by Homeless Young People in the North East, Youth Homeless North East, 2017

50 Drug Misuse Statistics, Home Office

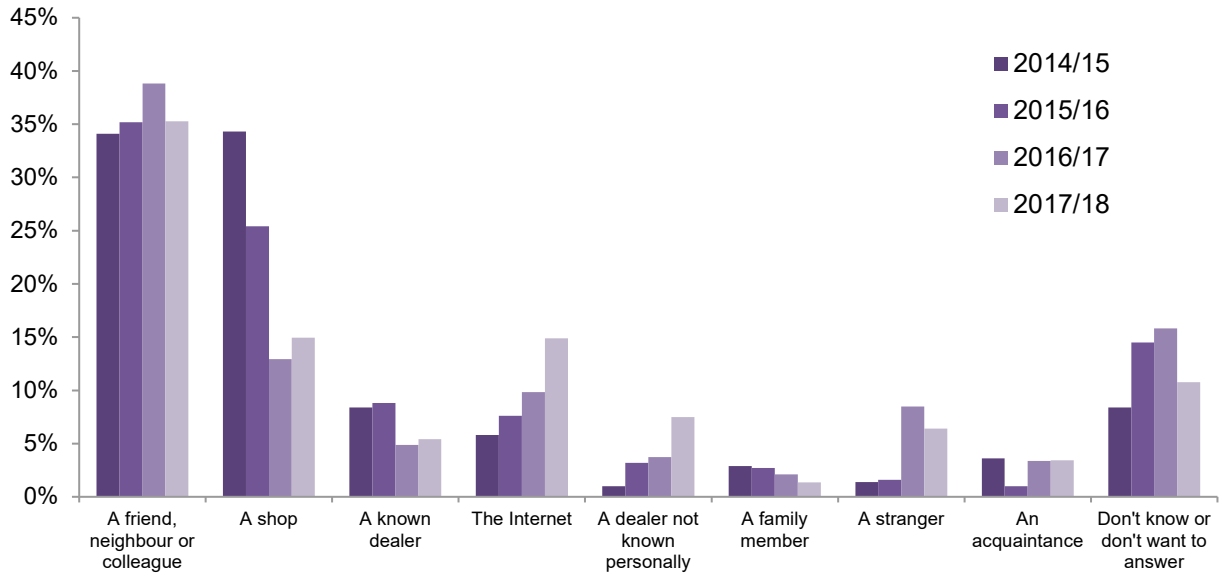
questions relating to NPS included a description using the better-understood term 'legal highs', as follows:

> *"There are a range of substances sometimes called 'legal highs' that have the same effects as drugs such as cannabis, ecstasy, or cocaine. These are herbal or synthetic substances that you take to get 'high', which may or may not be illegal to buy. These substances can come in different forms such as herbal mixtures which you smoke, powders, crystals, tablets, or liquids."*

It should be noted that in response to this question, some respondents may have included some substances which are controlled under the MDA, as the question does not explicitly exclude them. There is a separate question in the survey relating specifically to the use of nitrous oxide, which is also in scope of the PSA.

A summary of the results for 2014/15 to 2017/18 are provided in Figure 13. It should be noted that in the 2014/15 and 2015/16 surveys, the question wording referred to the last time the respondent purchased NPS, but in 2016/17 and 2017/18 the question asks about the last time the respondent purchased either NPS or nitrous oxide, so the results may not be directly comparable. Also, the survey asks respondents about where they sourced NPS or nitrous oxide when they last used it in the previous 12 months, so any interviews that were conducted up to 25th May 2017 may have captured purchasing behaviour before the PSA was introduced.

Figure 13 – Sources of NPS used in the last year in England and Wales, 2014/15 to 2017/18



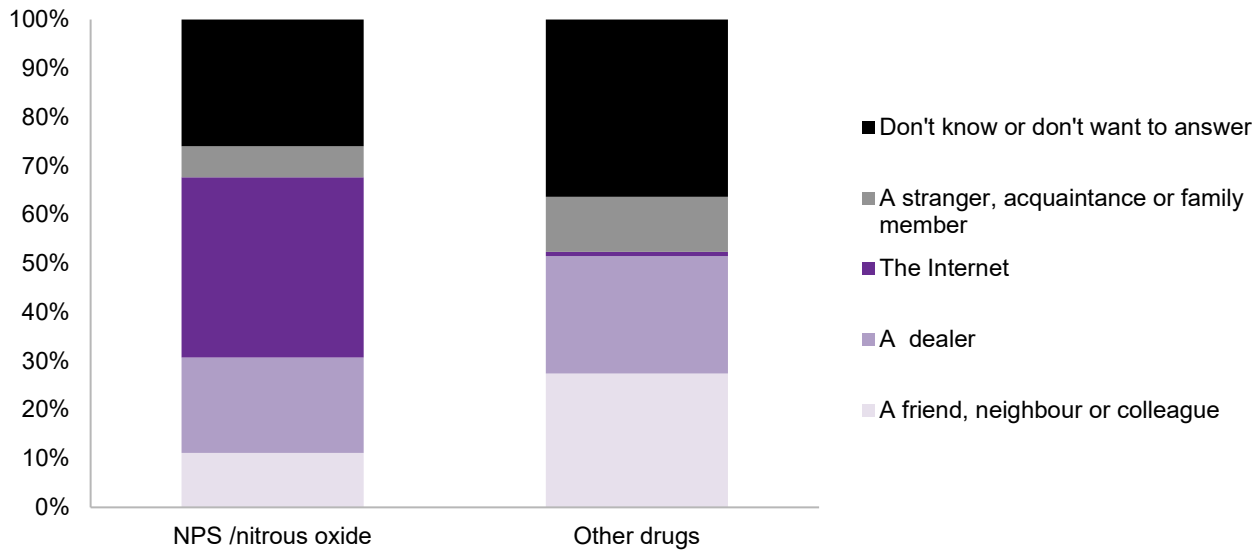
To note - the 2016/17 and 2017/18 figures relate to the source of NPS or nitrous oxide on the last time they were used

In 2015/16, 25% of individuals reporting use of NPS in the last year said that they had obtained them from a shop on the last occasion, which fell to 13% in the 2016/17 survey, a statistically significant drop, and remained at a similar level (15%) in 2017/18. There was a non-statistically significant fall in between 2014/15 and 2015/16 (from 34% to 25%), which may have been due to enforcement activity that took place before the Act was introduced (see Chapter 2). There was a statistically significant increase in the proportion of respondents obtaining NPS or nitrous oxide from a stranger on the last occasion, from 2% in 2015/16 to 8% in 2016/17, which stayed at a similar level (6%) in 2017/18. All other changes between 2015/16 and 2016/17 were not statistically significant, and there were no statistically significant changes between 2016/17 and 2017/18.

The proportion of users purchasing NPS/nitrous oxide from a shop was still higher than the proportion for other drugs[51] in 2017/18 (15% compared with 4%), as for the internet (15% compared with 1%). A lower proportion of users obtained NPS/nitrous oxide from a friend, neighbour or colleague than for other drugs (35% compared with 42%), and from a known dealer (5% compared with 12%).

In 2017/18, for respondents who obtained drugs from a family member or someone else well known to them, the survey asked where that individual had obtained the drugs. This was asked separately to respondents who had obtained NPS or nitrous oxide, and to those who had obtained other drugs. As shown in Figure 14, NPS/nitrous oxide were much more likely to have been originally sourced from the internet (37%) than other drugs (1%), while other drugs were more likely to have been originally sourced from a friend, neighbour or colleague (27%) than NPS or nitrous oxide (11%).

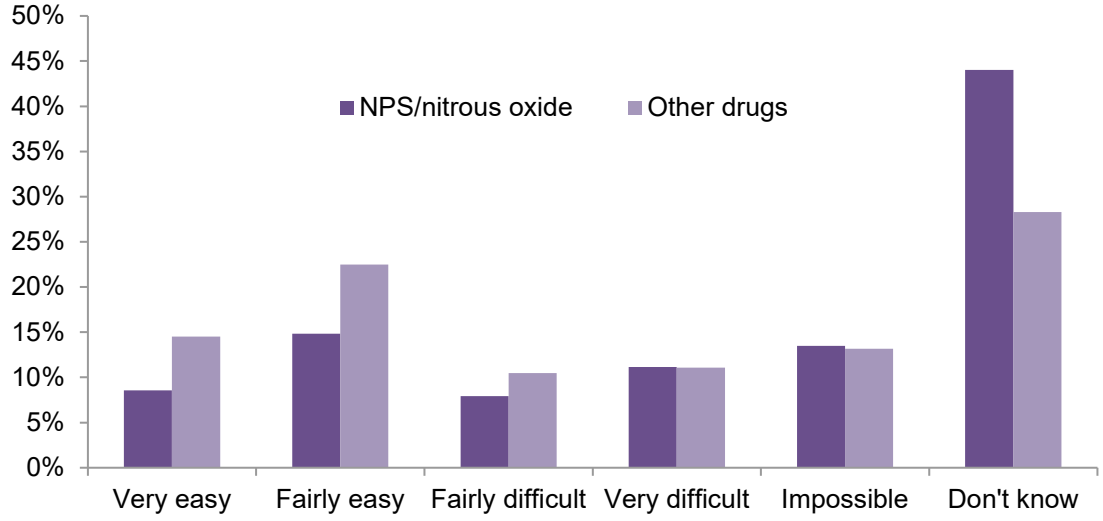
Figure 14 – Original sources of NPS/nitrous oxide and other drugs used on the last occasion in England and Wales, 2017/18



The survey also asked respondents in 2016/17 and 2017/18 how easy or difficult they thought it would be to obtain NPS or nitrous oxide within 24 hours if they wanted them. As shown in Figure 15, in 2017/18 around 23% of adults aged 16 to 59 thought that it would be very easy or fairly easy, compared with 37% for other drugs. Approximately 33% thought that it would be fairly difficult, very difficult or impossible to obtain NPS or nitrous oxide, compared with 35% for other drugs.

[51] This consists of all drugs included in the 'any drug' measure used throughout the CSEW publication

Figure 15 – Ease of obtaining NPS/nitrous oxide and other drugs in England and Wales, 2017/18



In the NHS Digital survey 'Smoking Drinking and Drug Use among Young People in England'[52], schoolchildren are not asked where they have obtained drugs from, but they are asked whether they have been offered individual drugs. In the 2014 survey, 6% of schoolchildren in England aged between 11 and 15 years old reported that they had been offered NPS/legal highs. In the 2016 survey (which was conducted after the PSA), 8% of schoolchildren reported that they had been offered these substances, but this increase was not statistically significant. In response to a new question which was added in the 2016 survey, 9% of schoolchildren reported that they had been offered nitrous oxide.

In Northern Ireland, the Young Person's Behaviour and Attitudes Survey[53] asks schoolchildren aged 11 to 16 whether they have been offered NPS. The survey found that in 2013, 4.0% of respondents had been offered 'legal highs', while in the 2016 survey (conducted after the Act) 0.5% of respondents had been offered 'NPS (sometimes referred to as legal highs, Magic, Snuff, Salvia, Party pills, Stimulants)'. The change in wording between these surveys means that these results are not directly comparable. There are no questions relating to where respondents obtained legal highs or NPS from.

Official data on the sources of drugs in Scotland is gathered in the Scottish Crime and Justice Survey[54], but post-PSA data from this survey is not available in time for this report.

Online sources of NPS

There is evidence available on the trends in online retailers selling NPS, based on intelligence provided by the National Crime Agency (NCA), which was correct as of September 2017. Before the PSA was introduced, the NCA identified 104 clearnet websites operating from the UK which were thought to be selling NPS. In Figure 16, the status of these 104 sites is summarised, at the point of the introduction of the PSA and in August 2017, for those sites that remained active after the Act was introduced.

In response to the PSA, 38 sites were removed by their owners, 30 sites stated that they were now closed for business or removed NPS from their website. An additional 17 sites

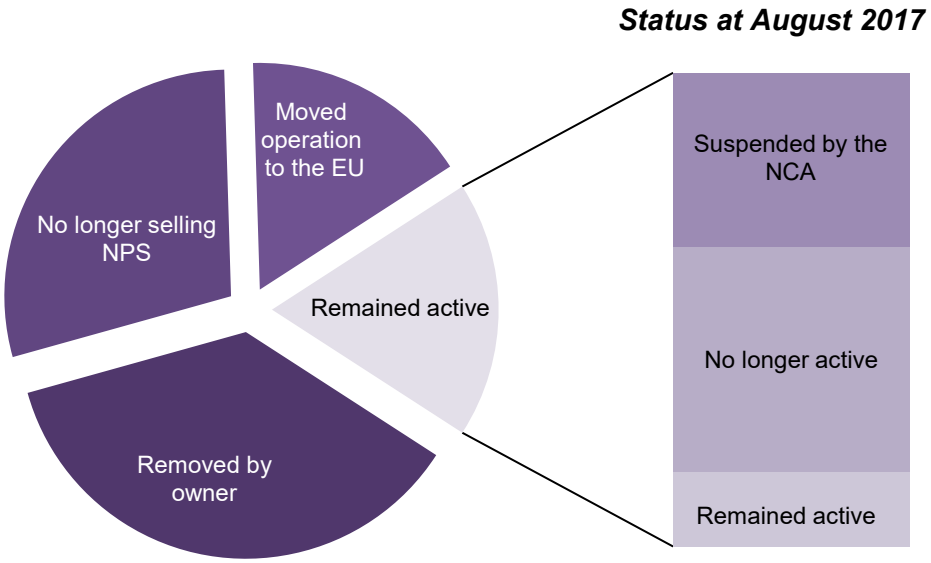
52 Smoking, Drinking and Drug Use among Young People in England, NHS Digital 2017

53 Young Person's Behaviour and Attitudes Survey, Department of Health 2016

54 Scottish Crime and Justice Survey, Scottish Government

stated that they had moved operation to the EU, and the remaining 19 sites stayed active. Of the 19 sites which were active after the PSA, there were 7 sites with “co.uk” domains, and they were suspended by the NCA. However, the remaining 12 sites had “.com/.biz/.net” domains and were therefore out of scope for suspension. Of these 12 sites, only 3 remained in August 2017. The NCA has also requested the suspension of three further “.co.uk” sites that have emerged since the ban.

Figure 16 – Status of NPS clearnet sites at PSA introduction and at August 2017



The NCA have some intelligence that a small number of UK clearnet vendors moved across to the darknet but the majority of them completely closed their business in the UK. Due to the hidden nature of the darknet it is not possible to quantify the overall extent to which UK buyers are purchasing drugs from darknet sites, UK-based or otherwise. Their intelligence also suggests that any remaining UK-based clearnet trade in NPS is taking place on social media, or from foreign clearnet sites willing to sell to UK buyers.

There is little systematic data available on the volume of NPS purchased on the dark web by UK customers, but there is some evidence on the presence of darknet vendors of NPS. A 2018 study of darknet activity by Scourfield et al[55] found that that large quantities of synthetic cannabinoids remained available via darknet markets over the course of 2016 and 2017, with around 2,400 listings identified over the two-year period. The study also found that the UK was the second largest seller of synthetic cannabinoids after China, in terms of the number of listings. A study of global darknet markets by the EMCDDA and Europol[56] found that the volume of NPS sales by UK-based vendors fell temporarily around the time that the PSA was introduced, before increasing by more than the EU total over the following months to the start of 2017, which may indicate some movement to the dark web by previously clearnet vendors.

NCA intelligence therefore indicates that the PSA has led to the closure or suspension of a large proportion of the UK clearnet sites that were previously selling NPS, and that a small proportion of these sites transferred to the dark web. Given that the CSEW data indicates

[55] Synthetic cannabinoid receptor agonist availability on darknet drug markets: changes during 2016-2017, Scourfield et al, 2018

[56] See Figure 2.14 in Drugs and the darknet: Perspectives for enforcement, research and policy, EMCDDA and Europol, 2017

that 15% of people who use NPS are obtaining them from the internet, it appears that UK buyers have started to purchase NPS from other online platforms such as social media, or from foreign clearnet and darknet sites, although the relative importance of these different sources is not clear.

Observational research by Wadsworth, Drummond and Deluca provides further information on the changes in clearnet activity around the time of the PSA[57]. The study identified 41 clearnet sites with a domain in the UK that were selling NPS in October 2015. By the time that the PSA was introduced, none of these sites were identified as selling NPS, with 27 sites closing completely, 4 sites switching to a European server and no longer selling to UK customers, 9 sites removing the sales of NPS, and 1 site identified as inactive.

Most of the UK-based sites that closed in the days preceding the PSA provided warnings to their customers of their impending closure, and some overseas sites warned that they would no longer be distributing to the UK. Some UK sites also offered sales to offload their stock before the ban - the authors suggest that this indicates the sites may have closed rather than continued in underground markets.

A similar study by Haden, Wood and Dargan[58], found a much smaller reduction in online availability following the Act, looking specifically at the synthetic cannabinoid MDMB-CHMICA. The study identified a total of 47 websites selling MDMB-CHMICA to the UK in March 2016, and this fell to 38 websites in June 2016, with the greatest fall among websites stating that they were based in the UK (from 14 down to 2). No significant changes in price or the forms of the substance available were observed over the period. A smaller impact may have been observed in this study (compared with the study by Wadsworth, Drummond and Deluca) as it also included non-UK based websites, and it focussed on a narrower time period, so earlier website closures may not have been captured.

Newly identified NPS

A distinguishing feature of the market for NPS has been the rapid development of new substances, to the extent that early warning systems to identify their emergence have been set up at the national, European and global level[59]. It is thought that this trend may be driven in part by an attempt to evade legislation, as new substances are developed in order to avoid existing drug controls. Hence, an intended outcome of the PSA is to remove the incentive to avoid legislation, given that any newly developed psychoactive substances would be in scope of the blanket ban.

The Home Office Forensic Early Warning System (FEWS) was set up in 2011 with the objective of identifying new substances appearing in the UK. This is undertaken by forensically testing suspected NPS samples from a range of sources, such as prisons, police seizures and music festivals. The sampling frame varies over time, as different data sources are used (for example, the reports before 2016/17 analysed samples from head shops and websites selling NPS), and within each data source different organisations (for example, police forces and prisons) participate each year. This means that any comparisons of the results across years should be made with caution, as they may not be

[57] The adherence to UK legislation by online shops selling new NPS, Wadsworth et al., 2017

[58] The impact of the misuse of drugs on the online availability of MDMB-CHMICA, Haden et al., 2017

[59] The Forensic Early Warning System at the national level, the EU Early Warning System at the European level, and the UNODC Early Warning Advisory on NPS at the global level

directly comparable. In FEWS, NPS are categorised into those which are controlled under the MDA (for example mephedrone), and those which are not. This report focuses on the data relating to NPS which are not controlled under the MDA, as these are the substances of interest for the PSA.

In the 2016/17 FEWS data collection[60], samples were obtained from Border Force fast parcel seizures, a selection of police force seizures, a selection of prisons and from amnesty bins at a music festival. The majority of samples were collected after the PSA was introduced. As shown in Table 2, a total of 8 newly identified NPS were found in the UK in 2016/17, which is the same amount as in 2015/16, compared with 4 newly identified compounds in 2013/14 and in 2014/15. It is difficult to draw firm conclusions from this data given that the number of newly identified NPS each year tends to be very small, and that the results are only based on a selective sample of the whole market.

As shown in Table 3, data is also available on newly identified NPS in Europe, from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). However, a broader definition[61] of NPS is used in this data, which includes substances that are not subject to international drug controls. This means it is not comparable with the figures in Table 2, which only includes substances that are not controlled under the MDA. The number of newly identified NPS reported to the EMCDDA fell from 98 in 2015 to 66 in 2016, and then to 51 in 2017. The EMCDDA suggest that this may be due to the measures taken by various national governments to control NPS, as well as control measures and law enforcement operations in China, where they are often produced.

Based on the limited data available, it therefore appears that the emergence of new NPS in the UK has not ceased following the introduction of the PSA. This may be because there remains an incentive to develop new substances which evade the Misuse of Drugs Act, given that it contains stronger penalties than the PSA. It may also be due to the global nature of the NPS market, as there remains an incentive to develop new substances in order to evade drug legislation in other countries. Alternatively, it could be that other factors are driving the continued emergence of new NPS, such as demand from consumers to experiment with a range of novel substances.

Table 2 - Newly identified NPS from FEWS, 2011/12 to 2016/17

Year	Newly identified NPS in the UK
2011/12	8
2012/13	4
2013/14	4
2014/15	4
2015/16	8
2016/17	8

[60] 2016/17 Annual Report on the Home Office Forensic Early Warning System (FEWS), Home Office 2018

[61] Action on new drugs, EMCDDA

Table 3 - Newly identified NPS by year first reported to the EMCDDA[62], 2011 to 2017

Year	Newly identified NPS by year first reported to the EMCDDA
2011	48
2012	74
2013	81
2014	101
2015	98
2016	66
2017	51

Note – these figures include some substances which are controlled under the MDA.

The Welsh Emerging Drugs and Identification of Novel Substances project (WEDINOS) also forensically tests samples of NPS voluntarily submitted by individuals, by 55 organisations across Wales and by three organisations from elsewhere in the UK. The 2016/17 WEDINOS annual report[63] provides a comparison of the 12 months leading up to the PSA against the 12 months following the PSA. As shown in Table 4, the range of NPS available appears to have significantly fallen since the PSA, particularly in terms of synthetic cannabinoids, which may be driven to some extent by the classification of the third generation of synthetic cannabinoids as Class B substances.

Table 4 – WEDINOS samples before and after the PSA

	12 months leading up to the PSA	12 months following the PSA	Change
Total samples received	1,863	1,563	16% decrease
Number of substances identified	182	146	20% decrease
Number of NPS identified	128	73	43% decrease
Number of synthetic cannabinoids identified	46	12	74% decrease

Discussion

The available evidence on NPS prices, which is largely qualitative due to a lack of systematic data, suggests that the PSA caused the prices of NPS to increase. The evidence also indicates a corresponding reduction in the availability of NPS, with qualitative reports of users finding it more difficult to source NPS, and forensic data from WEDINOS indicating a significant reduction in the range of substances available following the Act.

In terms of where NPS are sourced, there is qualitative and quantitative evidence indicating a large-scale shift away from retailers as a result of the PSA, which corroborates the findings in Chapter 2 on the closure of head shops. Qualitative evidence suggests that the main source of NPS may now be street dealers, many of whom were already selling

62 European Drug Report 2018, EMCDDA 2018

63 WEDINOS annual report 2016/17, WEDINOS 2017

substances controlled under the MDA, although CSEW data suggests that shops and the internet remain important sources of NPS.

The clearnet online NPS market followed a similar pattern to that of offline retailers in the run up to the Act, with the large majority of vendors voluntarily removing NPS from their sites or closing down completely. Based on intelligence from the NCA and evidence that many sites offered closing down sales in the run up to the Act, it is thought that only a small proportion of these sellers have moved to the dark web. It does not appear that the PSA has significantly disrupted darknet activity, with academic evidence and a study by Europol identifying the UK as one of the leading darkweb sellers of NPS both before and after the Act.

It is difficult to draw firm conclusions on the trends in the number of newly emerging NPS, given the small numbers involved. However, based on this limited evidence, it appears that the emergence of new NPS in the UK has not ceased following the introduction of the PSA. It is not clear why this might be the case, particularly given the evidence that the total range of NPS substances available in the UK has reduced since the PSA. However, it may be due to the global nature of the NPS market, as there remains an incentive to develop new substances in order to evade drug legislation in other countries.

Chapter 4: Prevalence

This chapter provides an assessment of Stage 4 of the logic model, by identifying how changes in NPS availability (Stage 3) have led to a change in outcomes, in terms of NPS use. It examines the prevalence of NPS use in the general population, as well as specific sub groups of interest such as young people, the vulnerable, homeless and those in prisons. It also assesses the evidence on whether the Act has resulted in any displacement from NPS use to other substances.

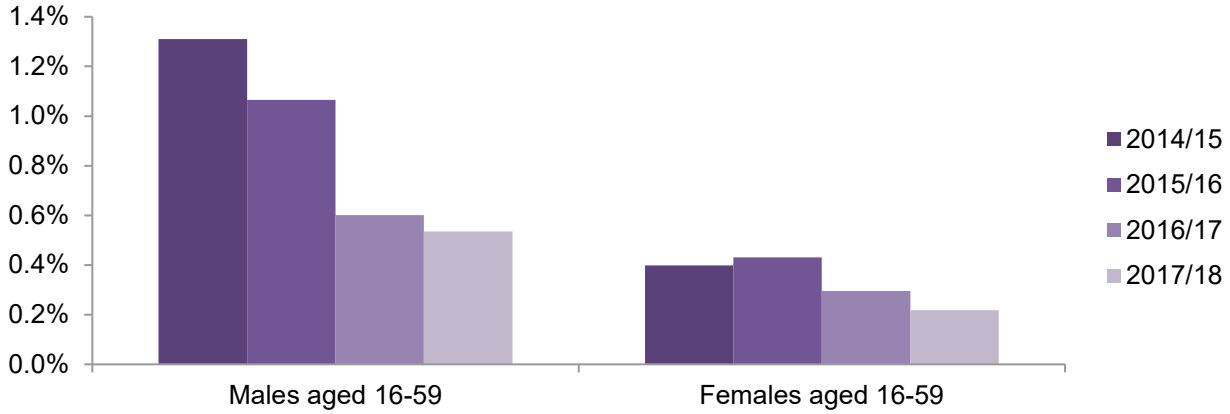
Prevalence in the general population

The CSEW presents data on the trends and characteristics of drug misuse of 16 to 59 year olds in England and Wales[64]. The CSEW is a household survey, which means that it is better suited to capturing recreational drug use among the general population, rather than problematic drug use among sub-populations who may be in prison, homeless, or have chaotic lifestyles (and therefore be unlikely to take part in an interview). Questions on the use of NPS have been asked in CSEW since the 2014/15 survey; further information on the wording of the questions relating to NPS is provided in the previous chapter.

In 2015/16, 0.7% of 16 to 59 year olds reported that they had used an NPS in the last year, which was similar to the 2014/15 figure of 0.8%. In 2016/17, the first survey conducted since the PSA, there was a statistically significant fall to 0.4%, which represents a fall from 244,000 people (with a 95% confidence interval of 199,000 to 290,000) in 2015/16 to 143,000 people in 2016/17 (confidence interval of 109,000 to 177,000). Use remained at 0.4% in 2017/18, equivalent to 121,000 people (confidence interval of 89,000 to 153,000). As shown in Figure 17, the fall in NPS use was driven by a statistically significant fall among men, while there was no statistically significant change in use among women (which may reflect the fact that NPS use was lower among women before the Act was introduced). It should be noted that each survey covers the period from 1st April to 31st March, so the question about NPS use in the last 12 months will have included some of the pre-Act period for all respondents in 2016/17, and a minority of respondents in 2017/18.

64 Drug Misuse Statistics, Home Office

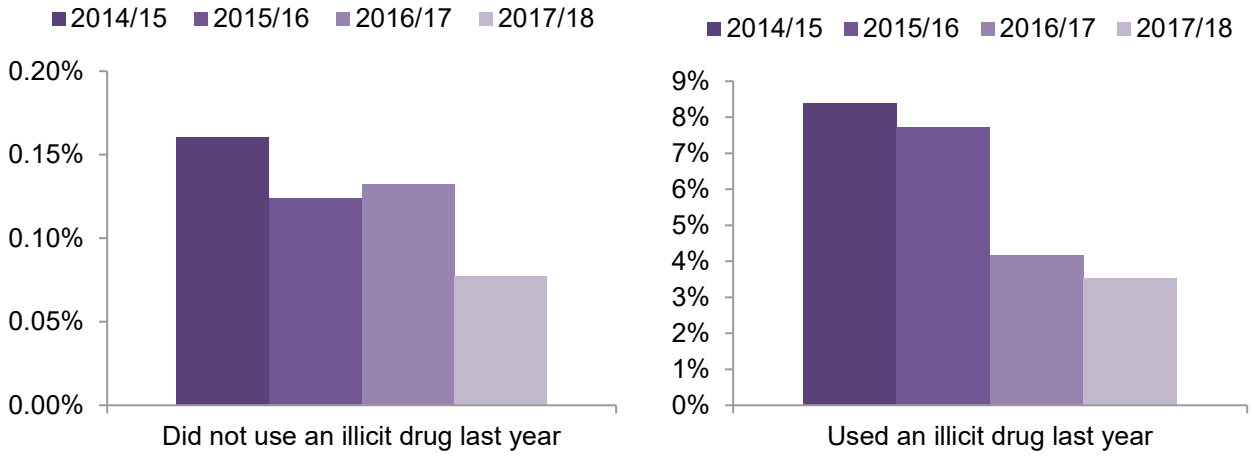
Figure 17 - Prevalence of NPS use among 16 to 59 year olds in England and Wales in the last 12 months, by sex, 2014/15 to 2017/18



One interpretation of the observed fall in prevalence after the PSA might be that respondents are less willing to disclose that they have used NPS, since the change in legal status. However, this appears unlikely given that there was no statistically significant change in NPS use among those who had not reported using another illicit drug (0.1% in 2015/16, 2016/17 and 2017/18). As shown in Figure 18, the fall in NPS prevalence was driven by those who had reported using another illicit drug – 7.7% of this group reported that they had used an NPS in the last year in 2015/16, which fell to 4.2% in 2016/17 and 3.5% in 2017/18.

This suggests that the fall in prevalence was not driven by individuals being deterred from using NPS when they became illicit substances (for example due to moral or ethical concerns), and was instead driven by other factors, such as the fall in availability and the increase in price which were identified in Chapter 3. There may also have been other factors unrelated to the PSA which contributed to the fall in prevalence.

Figure 18 - Prevalence of NPS use among 16 to 59 year olds in England and Wales in the last 12 months, by use of other drugs, 2014/15 to 2017/18 CSEW



In 2017/18, a question on the frequency of NPS use in the last year was asked to respondents who reported that they had used NPS in the last 12 months. The majority (59%) had only used it once or twice in the previous year, compared with less than half (48%) of those who reported using non-NPS drugs. Around 13% of NPS users were classed as 'frequent users' (defined as using more than once a month), compared with 29% for users of non-NPS drugs.

The 2016/17 and 2017/18 surveys also separately asked respondents about their use of nitrous oxide, which is also in scope of the PSA. The survey found that 2.4% of 16 to 59 year olds reported using nitrous oxide in the last year in 2016/17 and 2.3% reported using it in 2017/18, a similar proportion to the 2013/14 survey (2.3%), which was the last time that questions about nitrous oxide use were asked.

The headline indicator of overall drug use in the CSEW (which excludes NPS and nitrous oxide) was 8.5% in 2016/17, which shows no statistically significant change compared with the previous year (8.4% in 2015/16) or the following year (9.0% in 2017/18). Given that there has not been a reduction in overall drug use, and that the PSA does not seem to have affected people's willingness to disclose NPS use, it is likely that that the PSA has driven the observed reduction in NPS use between 2015/16 and 2016/17. It appears that nitrous oxide is an exception to this conclusion, although the lack of data on nitrous oxide use in 2014/15 and 2015/16 makes it difficult to draw definitive conclusions.

An alternative source of data on NPS prevalence is from the Global Drug Survey (GDS), which gathers data from global participants in an online survey. The survey uses a non-probability method and has a self-selected sample, based on people who are more likely than average to be male, young and to use drugs (in the 2018 survey, 54% of the global sample reported that they had used illegal drugs in the previous year). The data are therefore not suited to providing estimates of prevalence in the overall population, but can be used to assess the trends in drug use among this specific drug-using sub-population.

The 2016 Global Drug Survey[65] was conducted before the PSA was introduced, and it found that 11.6% of UK respondents reported purchasing an NPS in the previous 12 months, the highest proportion across all countries covered by the survey. The 2017 survey[66] took place after the PSA, and the proportion of UK respondents who reported purchasing NPS was 10.6% (although no statistical significance test is provided against 2016), which was the third highest across all countries. In the 2018 survey[67] the data was not comparable to previous years as it captured the proportion of respondents who had used NPS in the previous 12 months (11.5%, the fifth highest country), rather than those who had purchased it, and it captured England rather than the United Kingdom. Data is also provided on nitrous oxide for some years, with the proportion of UK respondents reporting use of nitrous oxide falling from 38% to 31% between the 2016 and 2017 surveys.

The trends in use of other psychedelics for UK respondents is provided for comparison purposes, which shows that between the 2016 and 2017 surveys there was a reduction in the use of three psychedelics (magic mushrooms, 2-CB and DMT), and increase in the use of two psychedelics (ketamine and LSD analogues), and no change in the use of LSD. The Global Drug Survey therefore indicates that among the sub-population covered by this survey, there may have been a fall in NPS use after the PSA, although it is not known whether this fall is statistically significant.

There is no official data available on the prevalence on NPS use among adults in Northern Ireland. Official data on the prevalence of drug use in Scotland is gathered in the Scottish Crime and Justice Survey, but post-PSA data from this survey is not available in time for this report. However, research on trends in Scottish NPS use has been undertaken by Crew, an organisation providing services such as peer support, drugs counselling and

65 Global Drug Survey 2016, Global Drug Survey

66 Global Drug Survey 2017, Global Drug Survey

67 Global Drug Survey 2018, Global Drug Survey

outreach services on substance use and sexual health[68]. Their research was based on information gathered from their counselling client group (94 clients in 2015/16 and 100 clients in 2016/17):

- The number of clients reporting use of NPS/legal highs fell from 29% in 2015/16 to 9% in 2016/17, and the number of NPS brands available reduced from 114 in 2015/16 to 5 in 2016/17. (the data on NPS brands was gathered opportunistically, through NPS packets handed to staff by members of the public, council workers and shops). The fall in the number of brands may to some extent reflect the shift to the illicit market, where branding is less frequently used, rather than a fall in prevalence.
- The PSA is identified as a factor in this reduction in NPS prevalence "*Many people stopped taking NPS as the change in legislation reduced availability and removed the appeal of legality".* However, the impact of Operation Alexander in October 2015, a targeted enforcement operation which closed down the majority of head shops, is also identified as an important factor.
- The report also indicates that there have been some increases in NPS prevalence after the Act in certain deprived areas: *"whilst people have stopped taking NPS, some areas of the country have reported an increase in NPS use. These areas also tend to have the highest levels of social deprivation and it is reported the NPS trade in these locations is now being pushed by dealers, rather than shops".*

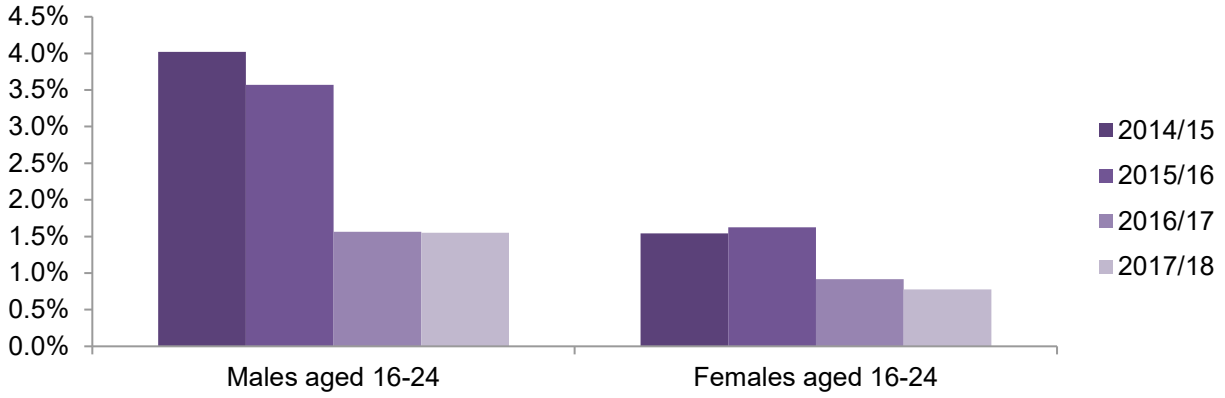
Prevalence among young adults and children

In 2015/16, 2.6% of 16 to 24 year olds reported using NPS in the last year, which was similar to the 2014/15 figure of 2.8%. In 2016/17 there was a statistically significant fall to 1.2%, which represents a fall from 162,000 people (with a 95% confidence interval of 115,000 to 209,000 people) in 2015/16 to 75,000 people (confidence interval of 44,000 to 107,000) in 2016/17. Use remained at 1.2% in 2017/18, which was equivalent to 70,000 people (confidence interval of 38,000 to 102,000). As shown in Figure 19, this reduction was driven by a statistically significant fall in NPS use among men aged 16 to 24, while there was no statistically significant change among women aged 16 to 24.

Nitrous oxide was the second most used drug in the survey after cannabis, with 9.0% of 16 to 24 year olds reporting use of nitrous oxide in the last year in 2016/17 and 8.8% reporting use in 2017/18. This was not a statistically significant change from the 2013/14 survey, when 7.6% of 16 to 24 year olds reported using nitrous oxide in the last year.

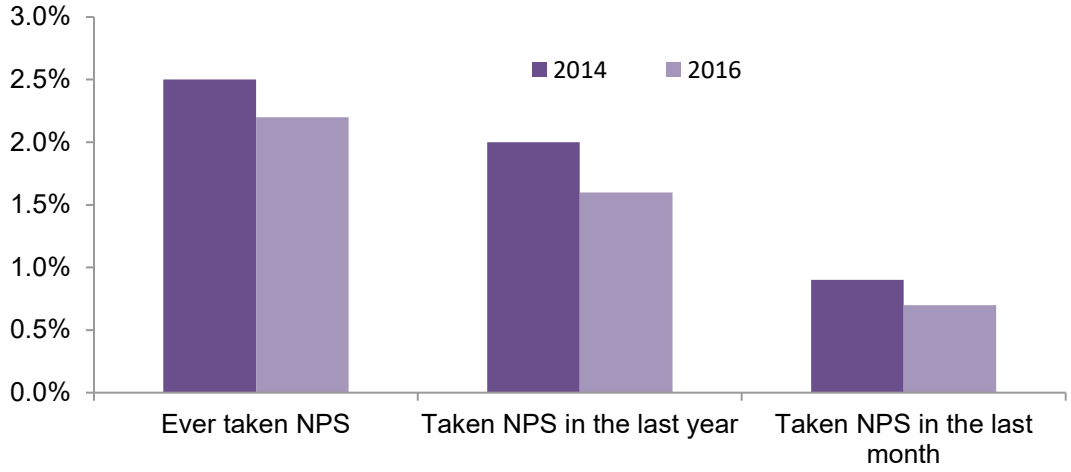
[68] NPS at Crew Annual Report 2016-2017, Crew, 2017

Figure 19 - Prevalence of NPS use among 16 to 24 year olds in England and Wales in the last 12 months, by sex, 2014/15 to 2017/18



The survey 'Smoking Drinking and Drug Use among Young People in England'[69] measures the prevalence of drug use among schoolchildren aged 11 to 15 in England. The survey asked respondents about their use of NPS/legal highs in 2014 and in 2016, after the PSA was introduced. Figure 20 shows the results for these surveys for NPS use ever, in the last year and in the last month. None of the differences between 2014 and 2016 were statistically significant. A question about nitrous oxide use was also asked in the 2016 survey, although it was not asked in 2014. Nitrous oxide was the third most used drug (after cannabis and glues/solvents) in 2016, with 4.0% of respondents said that they had taken it in the last year.

Figure 20 – Prevalence of NPS use among 11 to 15 year olds in England, 2014 to 2016



A survey of young people's attitudes to NPS was conducted by Addaction[70], which surveyed approximately 1,600 under 25s in England who had previously used drugs. Respondents reported that the Act had not discouraged them from using NPS, although some did report switching to traditional drugs: *"Young people stated that the new 'Psychoactive Substances Act' had not really deterred them from using NPS but it had made it harder and more expensive to obtain. Some young people described a displacement effect where they had gone back to using illegal substances such as*

[69] Smoking, Drinking and Drug Use among Young People in England, NHS Digital 2017

[70] NPS Insight Report: The View from Young People, Addaction, 2017

cannabis as there was now no difference in the price or availability, which was the initial appeal of NPS."

In Northern Ireland, the Young Person's Behaviour and Attitudes Survey[71] asks schoolchildren aged 11 to 16 whether they have used NPS. In 2013, 1.1% of respondents said that they had used 'legal highs' in the last 12 months, while in the 2016 survey (conducted after the Act) 0.3% of respondents said that they had used 'NPS (sometimes referred to as legal highs, Magic, Snuff, Salvia, Party pills, Stimulants)'. The change in wording between these surveys means that these results are not directly comparable.

A driver of NPS use among young people is likely to be their awareness of the associated health risks and legal status of these substances, which the PSA may have affected young people's awareness of. In 2017, a survey was carried out by Healthy Attitude on behalf of Mentor-ADEPIS on drug and alcohol education in schools, which included questions around the teaching of NPS and the PSA[72]. When staff in schools were asked if they were aware of the Psychoactive Substances Act 2016, 61% of those in primary schools and 75% in secondary schools reported that they knew about the Act and as a result, 18% of primary schools and 51% of secondary schools had updated their drugs policy. However, staff reported that the area of drug education where they had the fewest resources was in relation to NPS, with 76% of primary and secondary school respondents indicating that additional information on NPS would be useful.

Prevalence among vulnerable and homeless drug users

The evidence on NPS use among vulnerable people is limited, given there is no systematic data collection for this population, and they do not tend to be captured in household surveys. A survey by DrugWise[73] gathered feedback from drugs workers, who are likely to be working mostly with vulnerable drug users, on the impact of the PSA. Drugs workers in some areas reported significant falls in the use of NPS, while in around half of areas, no difference was observed in the use of NPS among vulnerable populations:

- *Among those areas that were reporting problems, the following comments from drugs workers are typical... "NPS gone down massively since we cracked down on NPS sales and the law came in, an 80% drop in people coming in for help. Last year we were getting 30 referrals a week for NPS. In November we had 1 referral." [Lincolnshire]*
- *"Since law change the use of it has dropped dramatically. I think spice has had its moment." [Bristol]*
- *"The NPS law in May has had no effect on our clients' use of spice. It's still out there and many of the people selling and buying it think it's still legal." [Sheffield]*

In a study of NPS use in the homeless community in Exeter[74], 38 current or recent NPS users who were homeless or recently homeless were surveyed about the impact of the PSA on their usage, in July 2016 and in February 2017. In July 2016, 33% of respondents said that the Act had caused them to reduce their usage of NPS, which increased to 45% in February 2017. This trend is reflected in respondents' reported usage of NPS, with 61% of respondents in July 2016 stating that they took NPS regularly, which fell to 25% by

71 Young Person's Behaviour and Attitudes Survey, Department of Health 2016

72 Alcohol and drug education in schools, Healthy Attitude, 2017

73 Highways and buyways: A snapshot of UK drug scenes 2016, Shapiro & Daly, 2017

74 NPS use among the homeless population in Exeter, St Petrock's (Exeter) Ltd, 2017

February 2017. The report attributes the increasing impact of the Act over time to the steady increase in the price of NPS and reductions in its availability following the ban. It also identifies other factors which contribute to the fall in NPS use, such as users being discouraged after witnessing or experiencing negative reactions to NPS use.

In Scotland, an inpatient bed census[75] provides data on NPS use among patients at NHS Scotland psychiatric, addiction or learning disability facilities. The 2017 census (conducted after the PSA, on 30 March 2017) found that 1.2% of adult patients (42 out of a total of 3,535) had used NPS in the four weeks prior to their admission, compared with 1.5% (53 out of a total of 3,578) in the previous year. Over the same period, the proportion of adult patients who had used at least one drug in the four weeks prior to their admission changed from 12% in 2016 to 13% in 2017.

Prevalence in prisons

It should be noted that the PSA includes an offence for possession of NPS within custodial institutions specifically, so the impact of the Act might be expected to be different within prisons compared with the community. When considering the impact of the PSA on NPS use in prisons, it should be noted that two developments since the Act may affect any trends that have been observed - the synthetic cannabinoids commonly found in Spice, the main NPS used in prisons, became Class B drugs under the MDA in December 2016, and NPS were included in random mandatory drug tests from September 2016. This means that it is difficult to distinguish the impact of the Act versus the impact of these other developments.

The available qualitative and quantitative evidence suggests that there has been an increase in the use and availability of NPS since the PSA:

- *"The Act criminalises those in possession of a psychoactive drug in a custodial institution but ironically, most of the concerns reported to Crew regarding NPS use are from prisons, where the use of synthetic cannabinoids has increased since the PSA."*[76]
- *Whilst significantly reducing NPS use amongst Exeter's rough sleeping population, however, the ban seems to have had an inverse effect on the availability of NPS within prison. Speaking soon after his release in February 2017, L noted that Spice was far more widely available within prison than 'on the outside'."*[77]
- *"One growing concern, however, related to the reported increase in the use of Novel Psychoactive Substances... It should be noted that this is not an emerging issue solely within HMP Shotts; it is one that is becoming more evident in a number of Scottish prisons".*[78]
- *"The prison was not as safe as it had been and at the heart of our concerns was a very serious problem with drugs. Mandatory testing suggested a positive rate within the prison of 10.45%, which was bad enough, but this rose to nearer 36% when synthetic cannabinoids or new psychoactive substances (NPS) were included."*[79]

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75 Mental Health & Learning Disability Inpatient Bed Census, Scottish Government, 2017

76 NPS at Crew Annual Report 2016-2017, Crew, 2017

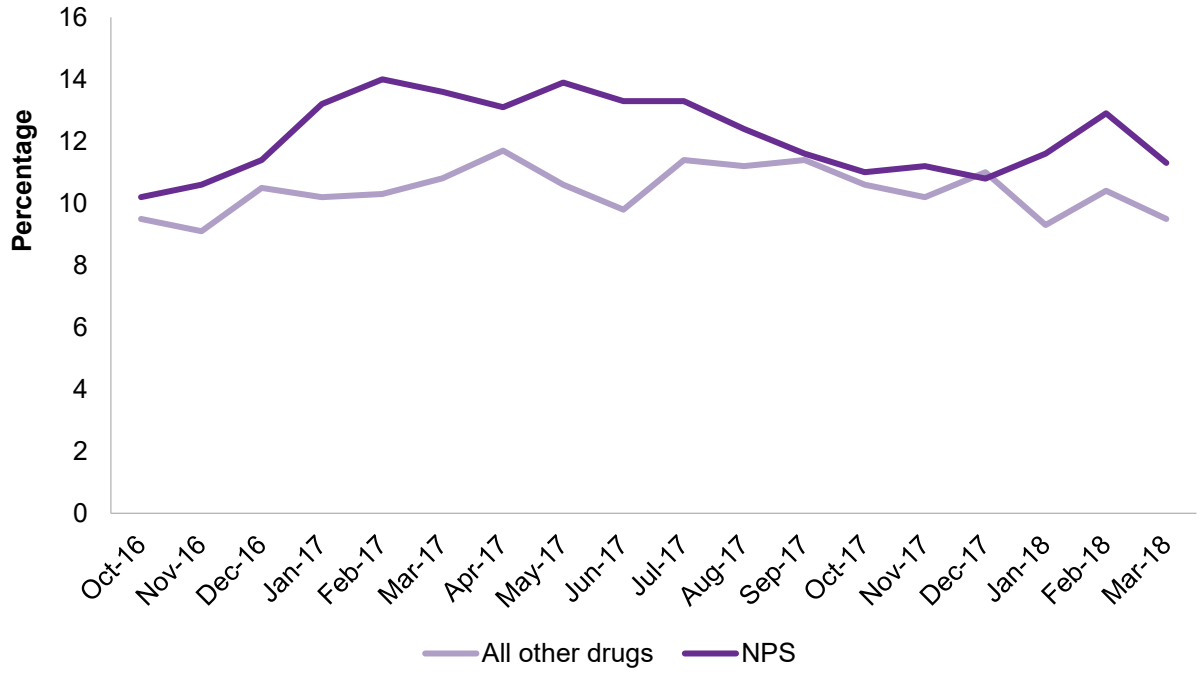
77 NPS use among the homeless population in Exeter, St Petrock's (Exeter) Ltd, 2017

78 Report on HMP Shotts Full Inspection 21 August – 1 September 2017, HM Inspectorate of Prisons for Scotland, 2017

79 Report on an unannounced inspection of HMP Holme House, HM Inspector of Prisons, 2017

The problem of NPS use in prisons in England and Wales has been identified in each annual report by HM Chief Inspector of Prisons since 2013/14[80]. The 2016/17 and 2017/18 reports document similar concerns, stating that *"NPS remained a significant issue in most adult male prisons"*, and *"The misuse of medication, as well as use of cannabis, opiates and synthetic cannabinoids, continued to cause significant problems in most adult male prisons we inspected."* The high prevalence of NPS in prisons is confirmed by the random mandatory drug testing data shown in Figure 21, which shows that NPS is more prevalent than all other drugs combined for the majority of the period for which data is available. Also, there were 4,560 incidents in 2016/17 and 4,667 incidents in 2017/18 where NPS were found in prisons in England and Wales, which represented 43% and 36% of all incidents where drugs were found, in 2016/17 and 2017/18 respectively[81]. It therefore appears that the PSA may not have had a significant impact on reducing NPS use in prisons.

Figure 21 – Percentage of positive random mandatory drug tests for NPS and other drugs in prisons in England and Wales, October 2016 to March 2018[82]



It appears that NPS use also remains an issue in prisons in Scotland. The 2016/17 annual report of the HM Inspectorate of Prisons for Scotland identifies continuing issues with NPS use: *"There continues to be a rise in instances of the use of novel psychoactive substances, commonly known as legal highs. These substances are illegal in prison and often lead to unpredictable behaviour, linked to high levels of violence"*[83].

This is confirmed by data in the 2017 Scottish Prisoner Survey[84], a survey completed by approximately 3,000 prisoners across Scotland. Approximately 18% of respondents reported that they had used NPS while in prison, compared with 11% in 2015[85]. Synthetic cannabis was the main NPS used in prisons in both surveys, at 82% in 2015 and 78% in

80 HM Chief Inspector of Prisons for England and Wales Annual Reports

81 Annual HM Prison and Probation Digest: 2017 to 2018, MoJ and HMPPS, 2018

82 Ibid

83 HM Chief Inspector's Annual Report 2016-17, HMIPS, 2017

84 16th Prisoner Survey 2017, Scottish Prison Service, 2018

85 15th Prisoner Survey 2015, Scottish Prison Service, 2016

2017. The increase in NPS use while in prison occurred despite a decrease in the prevalence of NPS among those entering prison, with 27% of respondents in 2015 reporting that they had used an NPS before they entered prison, compared with 18% of respondents in 2017. It was also despite a decrease in the overall reported use of drugs in Scottish prisons, with 39% of prisoners reporting using any drug (including NPS) in 2017, down from 43% in 2015.

Displacement from NPS to other substances

There are significant limitations in quantifying any displacement from NPS to other substances, as prevalence surveys such as CSEW are not designed to capture individual-level displacement between substances, and an increase in the prevalence of other drugs may be due to coincidence rather than being causally related.

While there was a statistically significant fall in NPS use in the general population between 2015/16 and 2016/17, there were no statistically significant increases in the use of any other drugs in the CSEW over this period (and there was a fall in frequent use of other drugs). However, in 2015/16 NPS use was already considerably smaller than that of the main recreational drugs (0.7% for NPS compared with 6.6% for cannabis, 2.3% for powder cocaine, 1.3% for ecstasy), so even if there was a large displacement of use from NPS to these substances it may not be evident from the data.

CSEW data also shows that between 2016/17 and 2017/18 there was a statistically significant increase in the use of Class A drugs among 16 to 59 year olds in England and Wales, driven mainly by increased use of powder cocaine and ecstasy. The report identifies that there has been a general upward trend of Class A drug use among 16 to 24 year olds and 16 to 59 year olds over the last five to six years, as well as increases in the use other substances such as ketamine and tranquilisers in the last year. These trends are shown in Figure 22 and Figure 23, alongside the trend in NPS use. Similarly, it is not possible to identify whether some of this trend is driven by displacement from NPS use, particularly as the increase in Class A drug use over the last year is distributed across most age groups, whereas the decrease in NPS use was driven mainly by a reduction among those aged 16 to 24.

Figure 22 – Use of selected drugs in the last year by 16 to 59 year olds in England and Wales, 2013/14 to 2017/18

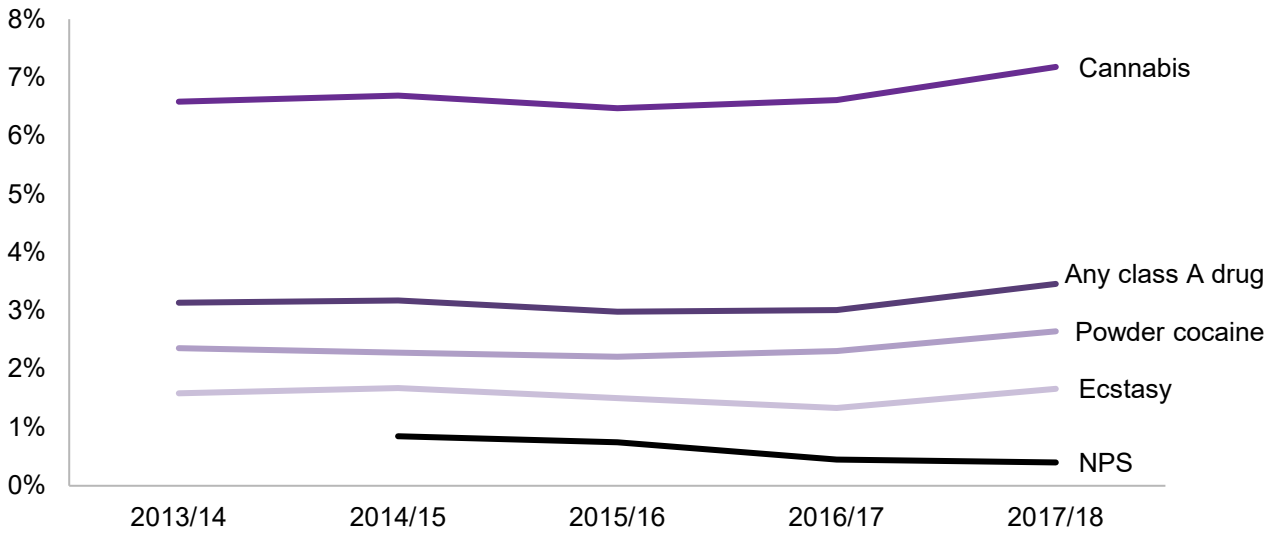
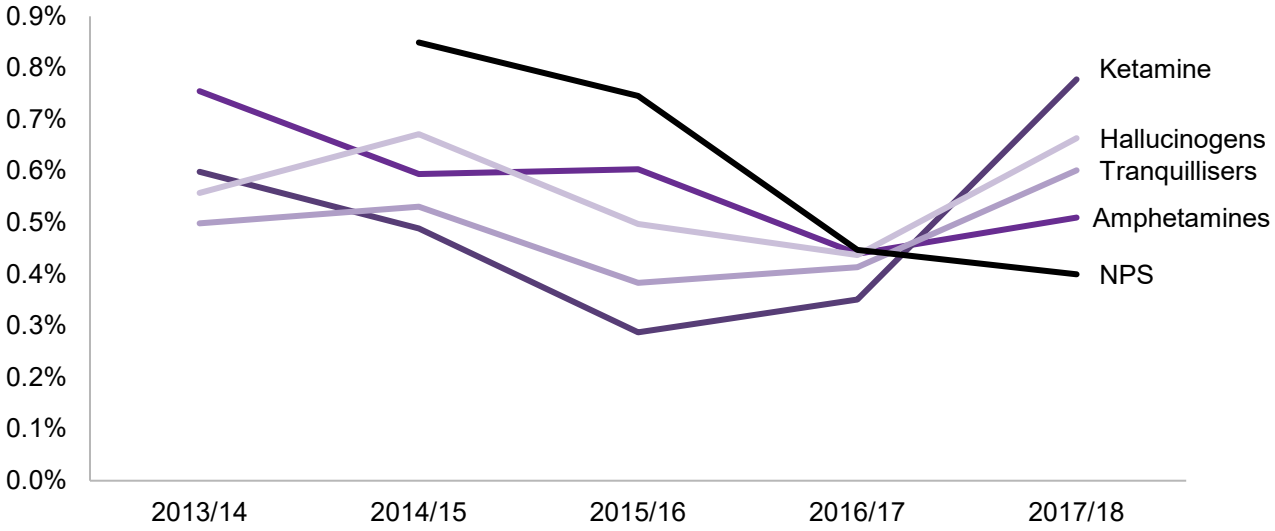
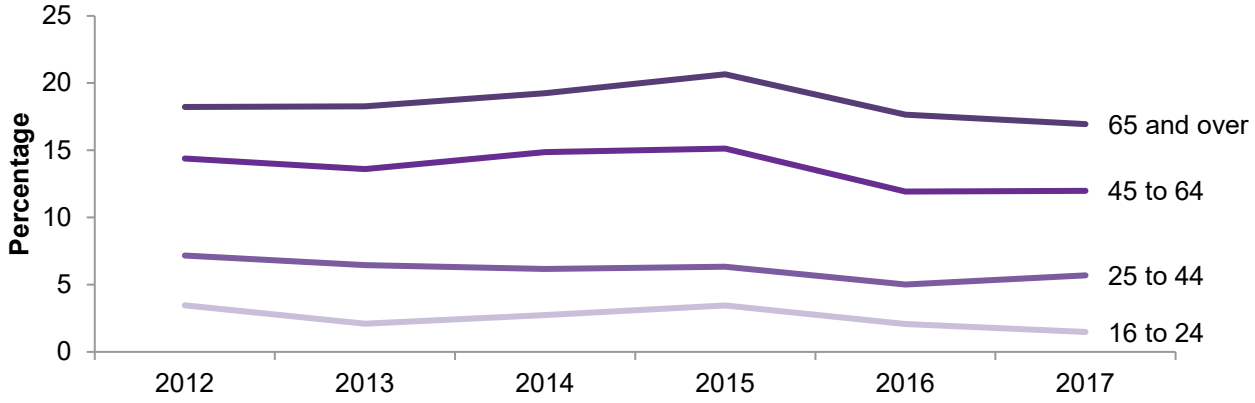


Figure 23 - Use of NPS and other selected drugs in the last year by 16 to 59 year olds in England and Wales, 2013/14 to 2017/18



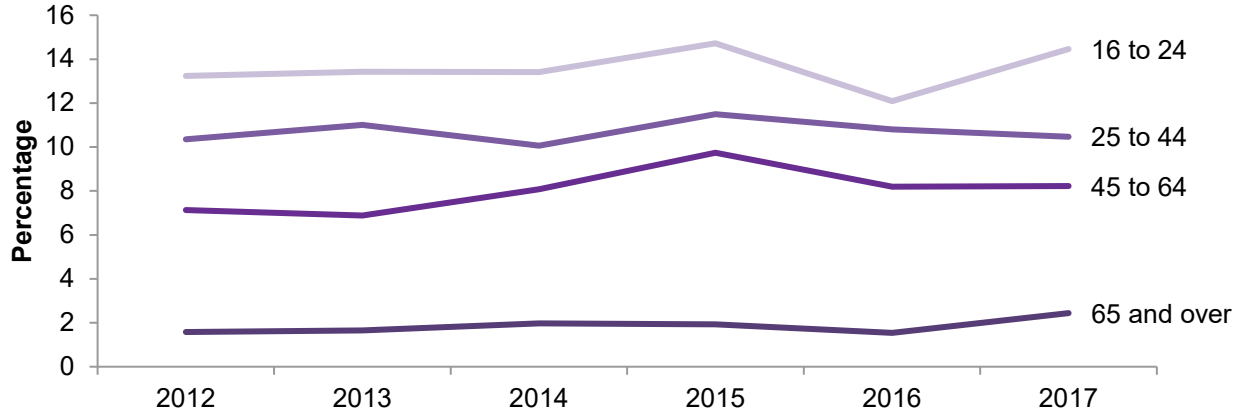
In Figure 24 and Figure 25, recent trends in alcohol consumption in Great Britain[86] are presented, as the Act could have potentially caused displacement from NPS use to greater consumption of alcohol. None of the changes between 2016 and 2017 were statistically significant, although there appears to be an upward trend in the proportion of people aged 16 to 24 who exceeded 9 units for women and 12 units for men on their heaviest drinking day in the last week, at 12.1% in 2016 compared with 14.5% in 2017. However, it is not possible to identify the extent to which displacement from NPS use has contributed to this change, particularly as the proportion of this age group who use NPS is much smaller (2.6% in 2015/16, 1.2% in 2016/17).

Figure 24 – Proportion of the population who drank alcohol on five or more days in the last week, Great Britain 2012 to 2017



[86] Adult drinking habits in Great Britain, ONS 2018

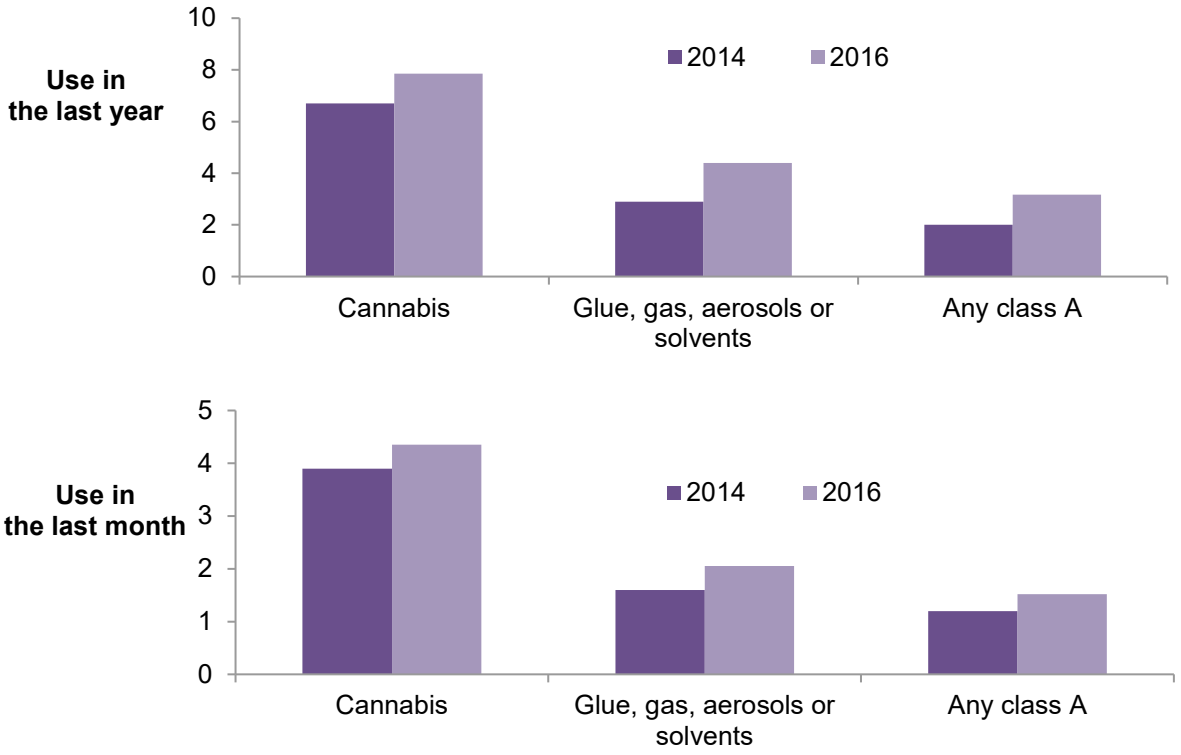
Figure 25 – Proportion of the population who exceeded 12 units (for men) or 9 units (for women) on their heaviest drinking day in the last week, Great Britain 2012 to 2017



There has been an increase in the reported use of drugs by schoolchildren, as measured in the Smoking, Drinking and Drug Use among Young People Survey[87]. There was a statistically significant increase in the last year use of any Class A drug, from 2.0% in 2014 to 3.2% in 2016 (which was conducted after the PSA), as shown in Figure 26. There were also non-statistically significant increases in the last year use of cannabis (6.7% to 7.9%) and glue, gas, aerosols or solvents (2.9% to 4.4%) between 2014 and 2016. The 2016 report states that an estimate from the next survey in 2018 is required before it can be confidently concluded that this is a genuine trend, and in the meantime these results should be treated with caution. It is not possible to say whether some of this increase represents displacement from NPS to other drugs, as there is insufficient evidence to establish a causal link.

87 Smoking, Drinking and Drug Use among Young People in England, NHS Digital 2017

Figure 26 – Percentage of 11 to 15 year olds in England who used drugs in the last year and in the last month, 2014 to 2016



The evidence on displacement for problematic or vulnerable NPS users, who would not be captured by surveys such as CSEW, is largely limited to qualitative observations. Estimates of the number of opiate and/or crack cocaine users are provided by Public Health England (PHE)[88], which show that there was a statistically significant increase of 10% for the number of crack users in England between 2011/12 and 2014/15, although there was no significant change in the total number of users of opiates and/or crack. The greater prevalence of crack use became evident in PHE's latest treatment data for 2016/17, which showed a 14% increase in the number of new presentations for crack cocaine (either on its own or jointly with opiates), after a flat trend in recent years. However, these data do not provide an indication of whether there has been any displacement from NPS to crack cocaine, given that prevalence data is only available until 2014/15.

Despite the lack of quantitative data, there is a range of qualitative evidence to suggest that there has been some displacement from NPS to 'traditional' drugs for problematic drug users, with users either returning to previous drugs of choice, or moving to substances which replicate the effects of the NPS they were using.

- *"The PSA may have removed the legality and reduced the availability of NPS but many people switched to other drugs...An increase in cocaine use has been reported across many Scottish drug and health services. Many NPS were stimulants and this has given people an appetite for these effects… The percentage decline in "legal high" use has been replaced with an increase in the percentage of clients reporting cannabis, cocaine and MDMA"*[89]

[88] Estimates of opiate and crack cocaine use prevalence: 2014 to 2015, Public Health England, 2017

[89] NPS at Crew Annual Report 2016-2017, Crew, 2017

- *"Around half of staff who responded to the survey anticipated that their clients would continue to take NPS (56%, n=103), but would shift to sourcing via dealers (35%, n=64), and online (49%, n=91). However, a much higher proportion (46%, n=84), thought clients would return to using traditional drugs."*[90]
- *"Some young people described a displacement effect where they had gone back to using illegal substances such as cannabis as there was now no difference in the price or availability, which was the initial appeal of NPS. Young people stated if they had to contact a mainstream dealer, they 'may as well obtain more traditional drugs."*[91]
- *"But what about those who are moving away from spice? The answer according to most respondents is that they are going back to the traditional drugs that they used before starting on NPS. "Spice was an opiate substitute for some and a cannabis substitute for others." [Drug trainer]. According to interviewees who are in contact with users, many are either returning to strong cannabis or heroin, depending on their previous drug of choice. Users of stimulant NPS are now moving back to traditional stimulants and ketamine."*[92]

However, the evidence above does not provide much indication of the magnitude of displacement that occurred as a result of the PSA. It is therefore difficult to ascertain the extent to which people who stopped using NPS ended up switching to another substance.

Discussion

The evidence indicates that there has been a considerable reduction in NPS use among the general adult population since the PSA, mainly driven by a reduction in use among those aged 16 to 24 who already use 'traditional' drugs. This suggests that the fall in prevalence may not be driven by moral or ethical concerns around the illegal status of NPS, but by more practical reasons such as the reduction in availability or an increase in price following the Act.

There has been an increase in Class A drug use among 16 to 59 year olds between 2016/17 and 2017/18, although it is not clear whether it is partly driven by the PSA, given that this increase occurred over a different time period and in different demographics to the fall in NPS use. Overall, there is insufficient evidence to identify whether there has been any displacement from NPS use to other drugs in the general adult population.

There does not appear to have been a statistically significant change in the use of NPS among those aged under 16. Similarly, it appears that the use of nitrous oxide (among all adults) does not appear to have been affected by the Act, although there are limited time series data to draw comparisons from.

The prevalence of NPS among vulnerable users appears to be more mixed, with qualitative evidence suggesting a significant fall in NPS use in some areas, and other areas remaining unaffected by the Act. There is a range of qualitative evidence suggesting that there has been some displacement from NPS to 'traditional' drugs for vulnerable users, although there is a lack of quantitative data on the magnitude of this displacement. In prisons, evidence from sources such as HM Chief Inspector of Prisons reports, random mandatory drug testing and the Scottish Prisoner Survey indicates that the use of NPS was widespread before the Act, and this has continued or in some cases increased since the Act was introduced.

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90 Understanding the patterns of use, motives, and harms of New Psychoactive Substances in Scotland, Scottish Government, 2016

91 Novel NPS insight report: The View from Young People, Addaction, 2017

92 Highways and buyways: A snapshot of UK drug scenes 2016, Shapiro & Daly, 2017

Chapter 5: Health and social harms

This chapter provides an assessment of Stage 5 of the logic model, by identifying how changes in the prevalence of NPS use (Stage 4) have led to a change in impacts, in terms of health and social harms. It examines the numbers and characteristics of individuals presenting to treatment with NPS problems, as well as the trends in acute health harms associated with NPS. The links between NPS and social harms such as violence and anti-social behaviour are also considered.

Potency

In the context of NPS, 'potency' refers to the strength of a given amount of NPS, and is distinct from 'dose', which refers to the amount of NPS content in a preparation. There is limited systematic data on the changes in the potency of NPS, but analysis of samples received by WEDINOS indicates that the substances identified may have become more potent since the Act was introduced: *"as the range of substances has decreased the prevalence of high potency substances, linked to acute adverse effects and fatalities has increased"*[93]. They highlight synthetic cannabinoids as a particular area of concern, with the compounds 5F-ADB and AMB-FUBINACA (also called FUB-AMB) becoming the most prevalent substances since the Act was introduced (although it should be noted that these substances were already relatively prevalent before the Act, and that previously prevalent substances such as MDMB-CHMICA are also regarded as potent). These substances have been identified as significantly more potent than previous synthetic cannabinoids, and have been linked with acute intoxication incidents in Germany and New York respectively.[94]

The prevalence of stronger synthetic cannabinoids has also been identified in Manchester, through test purchases which found that *"these samples were up to 700 times stronger than what had previously been sold in head shops"*[95]. It should be noted that the increasing potency of synthetic cannabinoids also appears to be an international trend. Studies of internet forum discussions around synthetic cannabinoids have found that users increasingly identify negative effects from taking them, as more harmful generations of these substances emerge over time[96,97]. This may mean even in the absence of the PSA, the potency of synthetic cannabinoids in the UK may have increased to some extent anyway, due to the more harmful generations of substances that have emerged globally.

It has also been reported that since the Act, synthetic cannabinoids are no longer being sold in branded packets, and are now largely sold in clear snap bags[98]. This may mean that users are now less aware of the substances that they are taking, which could also

93 WEDINOS annual report 2016/17, WEDINOS 2017

94 Ibid

95 New Psychoactive Substances: the response by probation and substance misuse services in the community in England, HM Inspectorate of Probation and the Care Quality Commission, 2017

96 Increases in synthetic cannabinoids-related harms: Results from a longitudinal web-based content analysis, Lamy et al, 2017

97 From "herbal highs" to the "heroin of cannabis": Exploring the evolving discourse on synthetic cannabinoid use in a Norwegian Internet drug forum, Bilgrei, 2016

98 New Psychoactive Substances Briefing for Professionals, Manchester Health & Care Commissioning, 2017

lead to greater harms. However, forensic data from WEDINOS suggests that even before the PSA was introduced, NPS users were often unaware of the contents of their purchases[99].

Hospital admissions

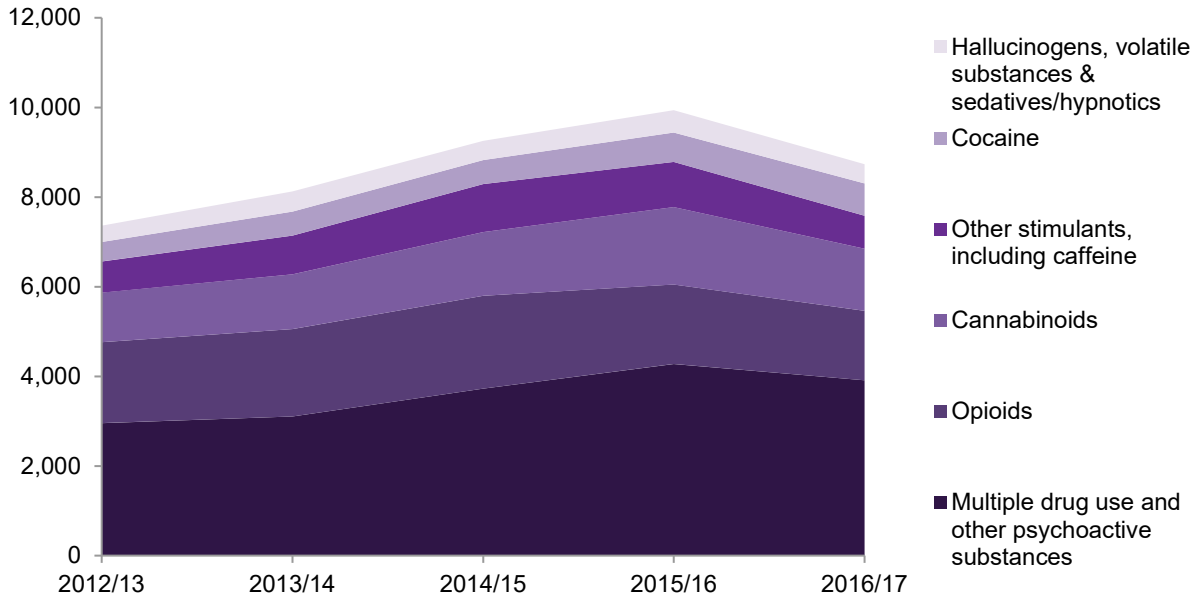
Data on drug-related hospital admissions is available across the UK, but clinical diagnosis codes do not allow for the identification of NPS-related admissions specifically. For example, cannabinoid-related admissions cannot be separated into those related to cannabis and synthetic cannabinoids, which makes it difficult to identify the impact of the Act on NPS-related admissions, and any displacement effects on admissions for traditional drugs. Most of the categories for drug-related admissions therefore capture a combination of drugs in scope of the MDA and drugs in scope of the PSA. Also, previous studies have identified shortcomings in the accuracy and consistency of the clinical coding of hospital admissions for drug toxicity[100], so this data should be interpreted with caution.

As shown in Figure 27, there is a reduction in the total number of admissions for mental and behavioural disorders due to psychoactive substance use in England, Wales and Northern Ireland between 2015/16 and 2016/17. The total number of admissions fell by 12%, after an average annual increase of 11% over the three previous years. This decrease was driven by falls across all drug categories apart from cocaine, with the largest relative reductions in admissions related to 'multiple drug use and other psychoactive substances' (28%) and admissions related to cannabinoids (19%). Due to the limitations that have previously been identified, it is not possible to identify with any certainty the extent to which these reductions in admissions were driven by the introduction of the PSA.

99 WEDINOS Annual Report 2014-15, WEDINOS 2015

100 Survey of ICD-10 coding of hospital admissions in the UK due to recreational drug toxicity, Shah, Wood & Dargan, 2011

Figure 27 – Hospital admissions with a primary diagnosis of mental and behavioural disorders due to psychoactive substance use, England, Wales and Northern Ireland 2012/13 to 2016/17 [101,102, 103]



Note – Some data points for Northern Ireland have been suppressed, as they involve fewer than five admissions – in these cases an assumed value of three admissions has been used.

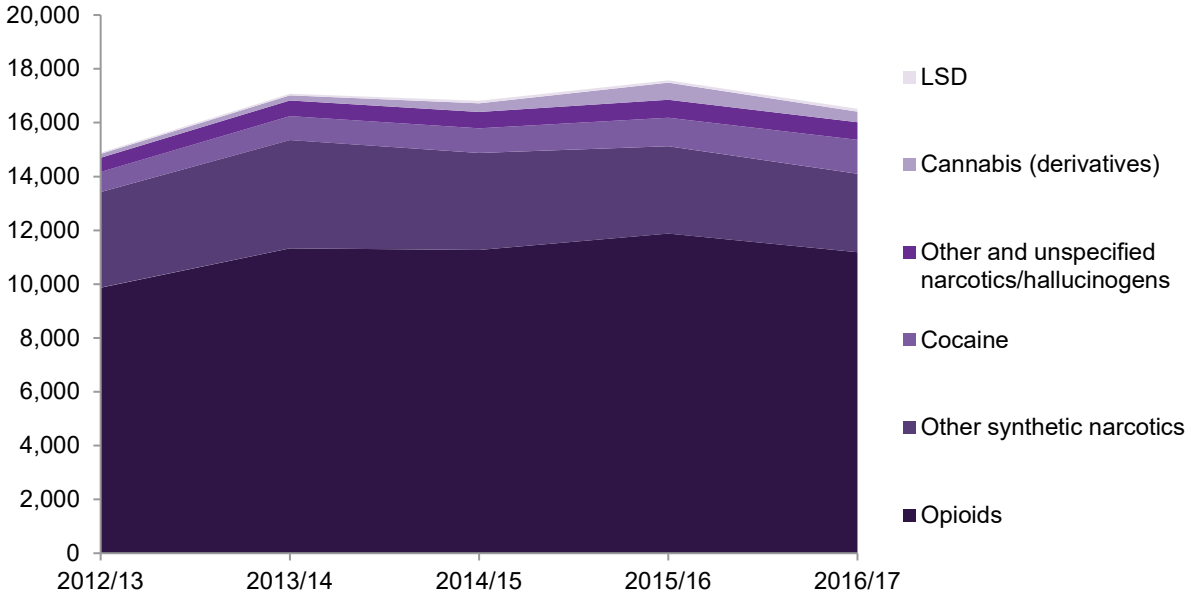
Figure 28 presents the number of admissions with a primary diagnosis of drug poisoning for England and Wales (a published breakdown by individual drug type was not available for Northern Ireland). This also shows a fall between 2015/16 and 2016/17 of approximately 6%, after a generally increasing trend in previous years. Similarly, there was a decrease across most drug categories apart from cocaine, with the largest relative reductions in admission related to cannabis (derivatives) at 39%, and admissions related to other synthetic narcotics at 10%. As previously identified, it is not possible to identify with any certainty the extent to which these reductions in admissions were driven by the introduction of the PSA.

[101] Hospital Admitted Patient Care Activity, NHS Digital

[102] Annual Patient Episode Database Wales Data Tables, NHS Wales

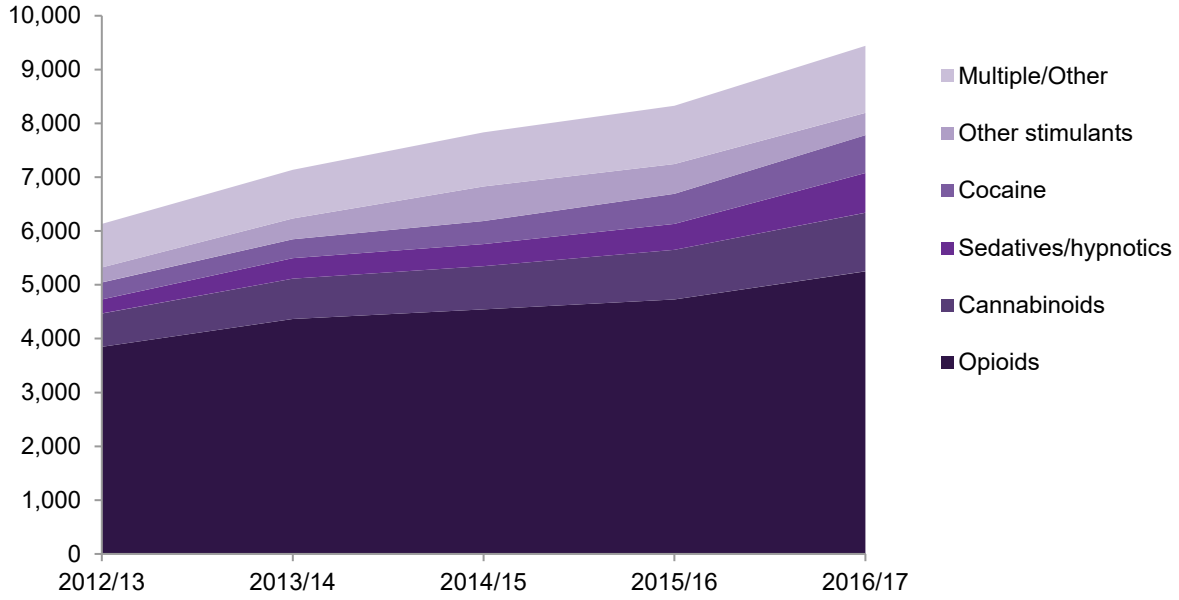
[103] Acute Episode Based Activity, Department of Health NI

Figure 28 – Hospital admissions with a primary diagnosis of poisoning by drugs, England and Wales 2012/13 to 2016/17



Data on hospital admissions in Scotland is provided in Figure 29, which shows a contrasting trend to the rest of the UK, with a 12% increase between 2015/16 and 2016/17. This continues a trend of increases over the previous three years, which has been driven by a year-on-year increase across all drug types apart from 'other stimulants'. The largest relative increases in admissions between 2015/16 and 2016/17 were for those related to sedatives/hypnotics (53%) and those related to cocaine (26%).

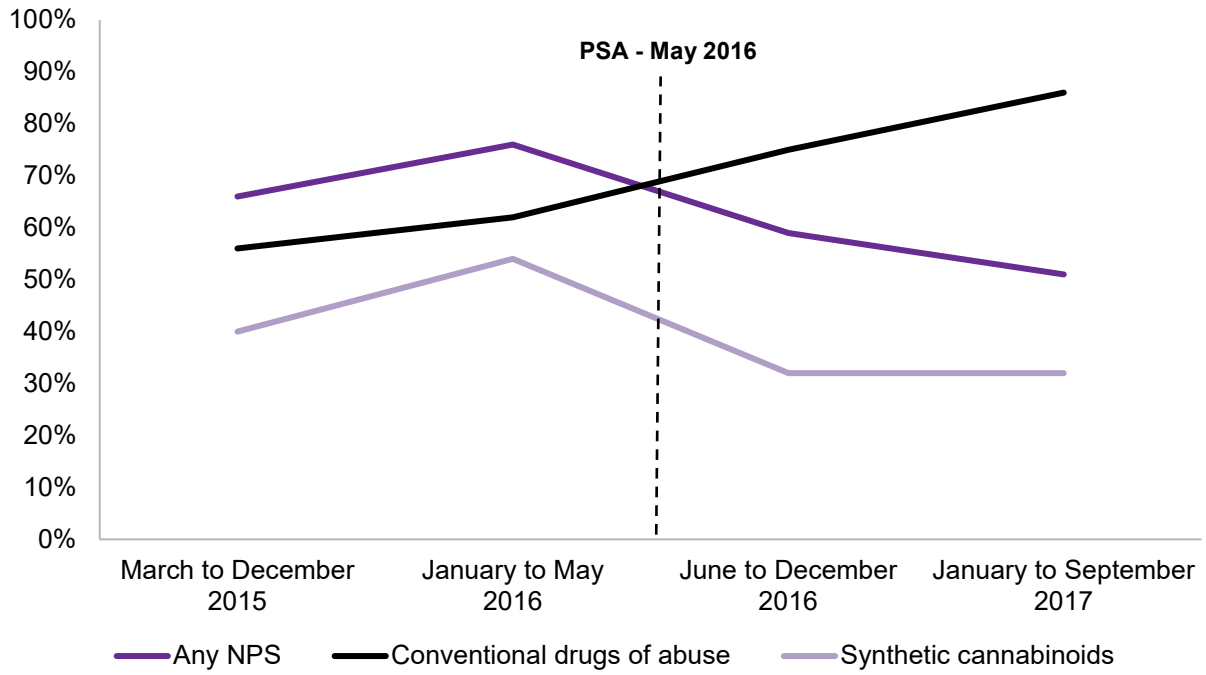
Figure 29 – Hospital admissions (general acute only) with a primary or secondary diagnosis of drug misuse in Scotland, 2012/13 to 2016/17[104]



[104] Personal communication, Information Services Division Scotland

The Identification of Novel Psychoactive Substances (IONA) study has analysed the presence of NPS and other drugs in a sample of patients presenting to 22 hospitals across the UK with severe acute toxicity[105]. As shown in Figure 30, the study found that the proportion of patients with a positive sample of NPS fell after the Act was introduced, with a larger fall for synthetic cannabinoids in particular. The fall in the presence in synthetic cannabinoids occurred before December 2016, when the third generation of synthetic cannabinoids were controlled as Class B substances, so it is unlikely that these controls were a factor in the reduction. This data suggests that there may have been a displacement from NPS to conventional drugs of abuse, however, the presence of which increased at a greater rate following May 2016.

Figure 30 – The proportion of severe acute toxicity patients with positive samples for NPS or other drugs, March 2015 to September 2017



There are some regional variations apparent in the trends in NPS-related health harms, with a study of an Edinburgh hospital finding non-statistically significant reductions in presentations and harms following the introduction of the PSA[106]. Comparing the 6 months before the Act with the 8 months following the Act, it found a 6% reduction in presentations for NPS toxicity and a 25% reduction in admissions (both of which were not statistically significant). The study suggested that the effects of the PSA could not be detected as the rate of NPS admissions had already fallen to relatively low levels following a TCDO for a methylphenidate-based NPS in April 2015 and effective Trading Standards activity in October 2015.

A London-based study found no significant change in NPS-related presentations following the introduction of the Act. Research by Webb et al assessed the change in NPS-related presentations to the emergency department of an inner city teaching hospital in London, in

[105] Changes with time in analytically confirmed exposure to novel psychoactive substances in patients with severe clinical toxicity in the UK, Dunn et al, 2018

[106] New drug controls and reduced hospital presentations due to novel psychoactive substances in Edinburgh, Pettie et al, 2018

the 12-month periods before and after the PSA was introduced[107]. The research found that in the 12 months following the PSA, there was no statistically significant change in the proportion of acute drug toxicity presentations which were NPS-related, or in the median number of NPS-related presentations per month (16 per month before the PSA, and 21 per month after the PSA). However, there was a change in the type of NPS involved, with an increase in the number of presentations involving synthetic cannabinoids (7 per month before the PSA to 15 per month after the PSA), and a reduction in those involving cathinones (10 per month before the PSA to 4 per month after the PSA).

Other health harms

Although data is not available on the number of hospital admissions related specifically to NPS, a number of other data sources can be used to monitor the trends in NPS-related health harms. The National Poisons Information Service (NPIS) provides advice to NHS healthcare professionals dealing with patients who have suspected drug poisoning, and publishes annual data on the number of UK enquiries related to different drug types. NPIS gather data on the number of telephone enquiries and the number of accesses to the internet database (TOXBASE) each year for different types of drugs[108].

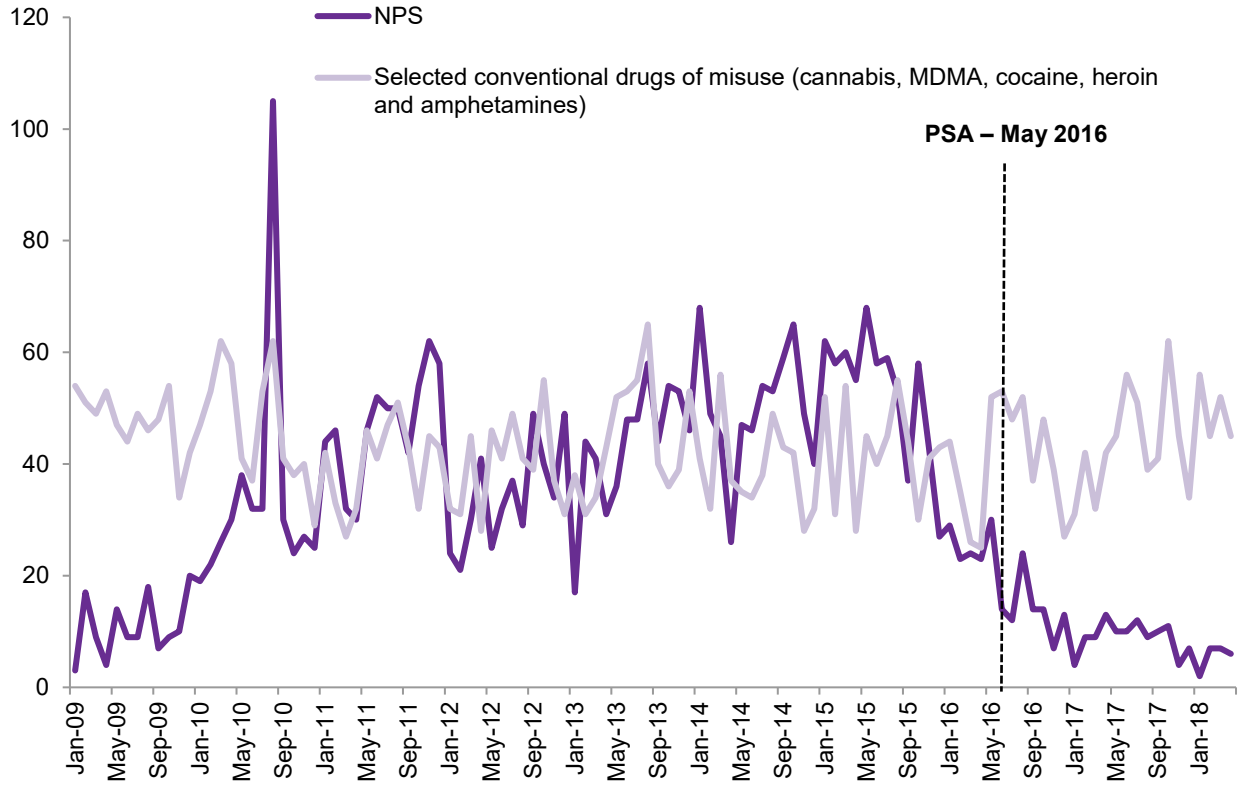
Figure 31 and Figure 32 present data on the number of telephone enquiries and TOXBASE accesses related to NPS, and those related to selected conventional drugs of misuse. It should be noted that some of the NPS-related enquiries/accesses may relate to NPS products which contain substances controlled under the MDA (for example 6-APB, known as ‘benzofury’, which is responsible for the peak in telephone enquiries in August 2010), although telephone enquiries related to mephedrone have been removed from the data.

As shown in Figure 31, there was a considerable reduction in the number of NPS-related enquiries in the year leading up to the introduction of the PSA, from 669 enquiries in the year to May 2015 down to 464 enquiries in the year to May 2016. This may reflect the impact of enforcement activity that took place before the Act was introduced, as discussed in Chapter 2. There was a further sizeable fall in NPS-related enquiries following the introduction of the Act, from 464 enquiries in the year to May 2016 down to 143 enquiries in the year to May 2017, and the number of enquiries per month has since continued to follow a general downward trend.

[107] Impact of the UK Psychoactive Substances Act on Emergency Department presentations related to SCRAs, cathinones and other NPS, Webb et al, 2018

[108] National Poisons Information ServicReport 2016/2017, National Poisons Information Service, 2017

Figure 31 – Number of telephone enquiries to the National Poisons Information Service related to NPS and selected substances, January 2009 to April 2018[109]

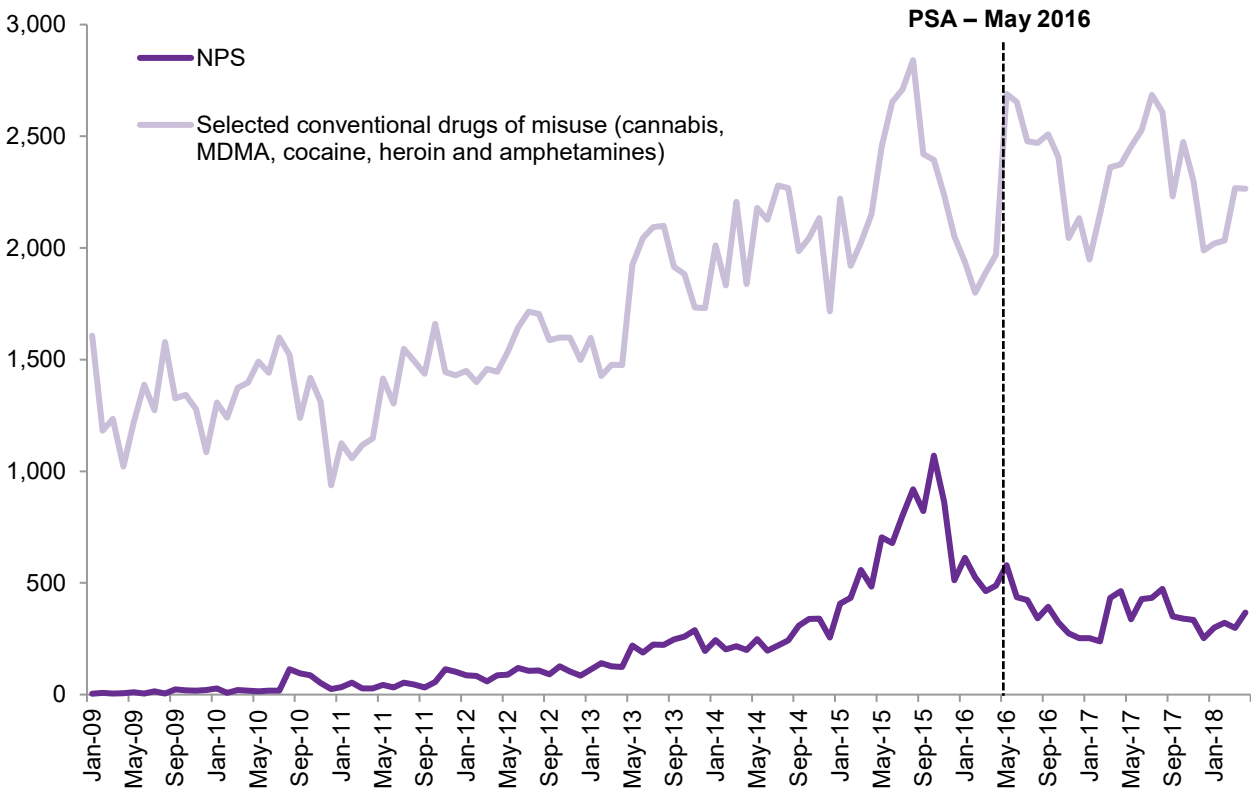


Note – this chart captures the number of times that a substance was mentioned, rather than the number of calls. This means that if both MDMA and cocaine were both mentioned within one call then this would be counted as two enquiries.

There was a similar pattern in the number of accesses to the internet database for NPS-related information. As shown in Figure 32, there was a large fall in the number of accesses before the PSA was introduced, followed by a further large fall after the introduction of the Act. The number of monthly accesses reached a peak of 1,070 in October 2015 and almost halved to 579 by the time the Act was introduced in May 2016. This number of access continued to fall after the PSA was introduced, from a total of 8,334 accesses in the year to May 2016 to 4,166 accesses in the year to May 2017, a 50% reduction. There was no evidence of displacement to other substances from this data, with a general decline in telephone enquiries and database accesses related to conventional drugs of misuse in the months following the introduction of the Act.

[109] Personal communication, National Poisons Information Service

Figure 32 – Number of accesses to TOXBASE related to NPS, March 2009 to April 2018[110]



Note – 'NPS' captures the sum of accesses relating to any branded NPS product that has appeared in the top 10 for database accesses in any of the years of data collection.

A survey by DrugWise indicates that there has also been a fall in ambulance call-outs in some areas since the Act was introduced: *"While many ambulance services reported being overwhelmed by NPS-related call-outs in the run-up to May, some such as the North East Ambulance Service have since reported a significant reduction"*[111]. However, there is no systematic data available on ambulance call-outs related to NPS, as information on the specific type of drug consumed is not generally provided.

This trend is also reflected in data reported by Crew on the number of NPS-related concerns (where people reported worries or side effects related to use) reported to its services[112]. The most common concerns were related to health and frequently reported side effects included low mood, paranoia, insomnia, weight loss, anxiety, loss of memory, seizures and black outs. Across Crew's services, the number of NPS-related concerns fell from 179 in 2014/15 to 99 in 2015/16, and to 8 in 2016/17. Given that the trend in concerns was already falling before 2016/17, the extent to which the Act was responsible for all of the fall between 2015/16 and 2016/17 is not clear.

[110] Personal communication, National Poisons Information Service

[111] http://www.drugwise.org.uk/wp-content/uploads/Highwaysandbyways.pdf

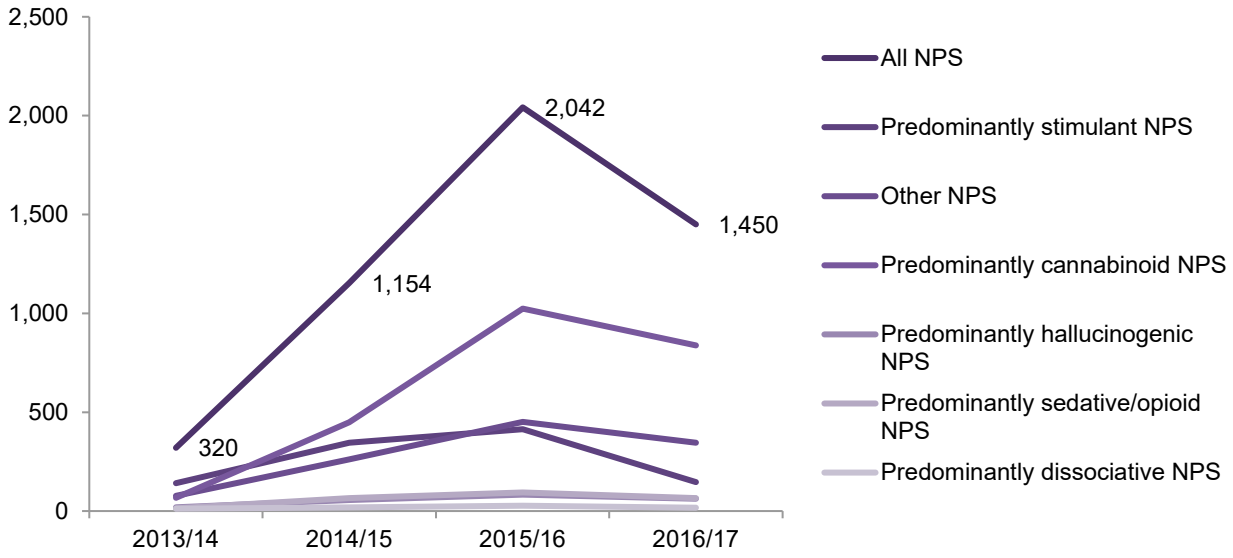
[112] NPS at Crew Annual Report 2016-2017, Crew, 2017

Numbers in treatment

As users can take varying amounts of time to seek treatment for their drug use, it is not clear when any impacts resulting from the PSA might be reflected in treatment statistics. Data on treatment for individuals with NPS problems is available in England, Wales, Scotland and Northern Ireland.

As shown in Figure 33, in England there was a 29% fall in the number of adults (those aged 18 or over) presenting to treatment citing NPS, from 2,042 in 2015/16 to 1,450 in 2016/17, after increases in presentations in the two previous years[113]. As shown in Figure 34, this compares to an overall fall in new presentations to drug treatment of 2% between 2015/16 and 2016/17, with cannabis presentations falling by 5%, powder cocaine presentations increasing by 6%, and opiate and/or crack cocaine presentations increasing by 1%.

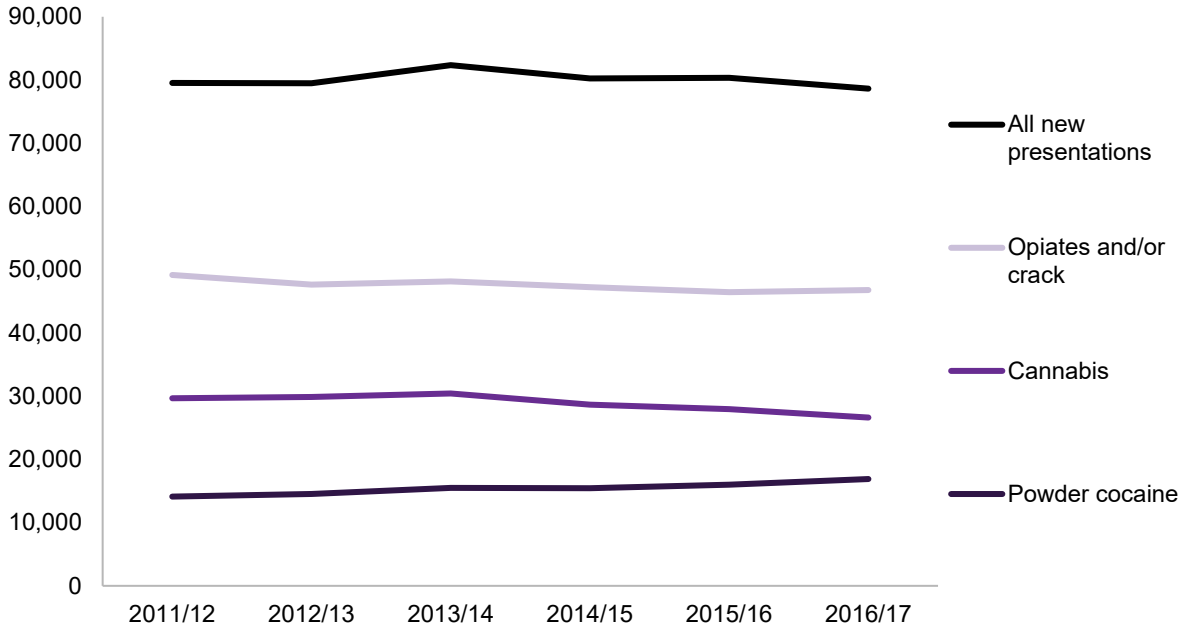
Figure 33 – Number of adult new presentations to treatment citing NPS in England, 2013/14 to 2016/17



Note - an individual may report more than one NPS drug, so the sum of individual NPS drugs may exceed the total reported for All NPS

[113] Adult substance misuse statistics from the National Drug Treatment Monitoring System, Public Health England, 2017. Codes for NPS were added to this data in 2013/14.

Figure 34 - Number of adult new presentations to treatment in England by drug type, 2011/12 to 2016/17



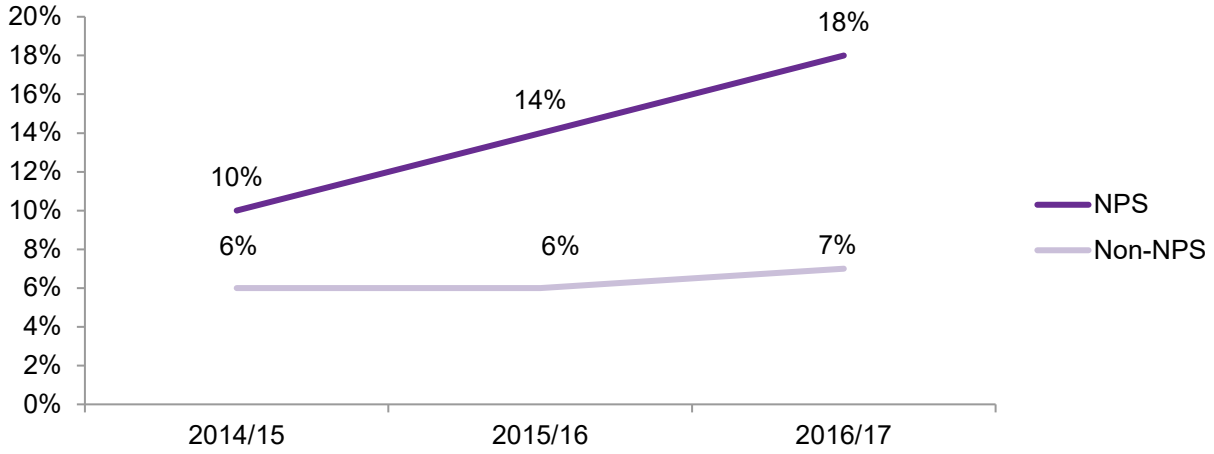
Note – The figures for 2011/12 to 2013/14 differ from the published NDTMS statistics, as they have been re-estimated using a consistent methodology with the published figures for 2014/15 to 2016/17.

The fall in adult NPS presentations was driven by a 49% reduction among those aged under 25 (627 in 2015/16 to 321 in 2016/17). There was a 64% reduction for NPS with a predominantly stimulant effect (414 in 2015/16 to 147 in 2016/17) and an 18% reduction for NPS with a predominantly cannabinoid effect (1,024 in 2015/16 to 838 in 2016/17). The proportion of presentations for NPS with a predominantly cannabinoid effect increased from 21% of all NPS presentations in 2013/14 to 58% in 2016/17. There was also a fall in presentations for the other main drug types between 2015/16 and 2016/17 among this age group, with an 11% fall in cannabis presentations and a 1% fall in powder cocaine presentations.

The proportion of adults presenting for treatment citing an urgent housing problem is considerably higher for NPS than for those presenting for other substances, and this difference has increased over the last two years, as shown in Figure 35[114]. The number of adults presenting for NPS treatment with an urgent housing problem increased from 115 in 2014/15 to 286 in 2015/16, and reduced to 262 in 2016/17. However, the proportion of NPS presentations where an urgent housing problem was cited still increased between 2015/16 and 2016/17, because of the fall in the total number of NPS presentations shown in Figure 33.

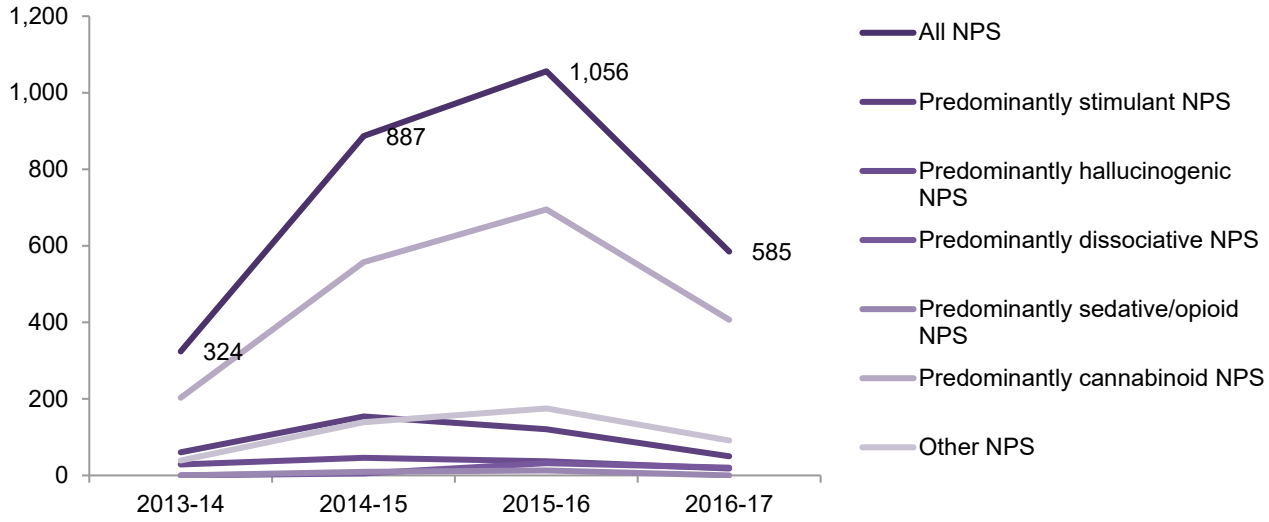
[114] Figures supplied by Public Health England in private correspondence, 2018

Figure 35 – Proportion of adult new presentations to treatment with an urgent housing problem in England, 2014/15 to 2016/17



There was a fall in the number of under 18s in treatment[115] for NPS in England, as shown in Figure 36. The number in treatment fell from 1,056 in 2015/16 to 585 in 2016/17, a reduction of 45%[116], after increases in the two previous years. This compares to an overall fall of 4% in the number of young people in drug and alcohol treatment between 2015/16 and 2016/17. The fall in the number of young people in treatment for NPS between 2015/16 and 2016/17 was driven mainly by a reduction in treatment for predominantly cannabinoid NPS, which fell by 41% (although they still accounted for the majority of individuals in treatment for NPS, at 70% in 2016/17 compared with 66% in 2015/16).

Figure 36 - Number of young people in treatment citing NPS in England, 2013/14 to 2016/17



Note - An individual may report more than one NPS drug, so the sum of individual NPS drugs may exceed the total reported for All NPS. All numbers under 5 have been suppressed.

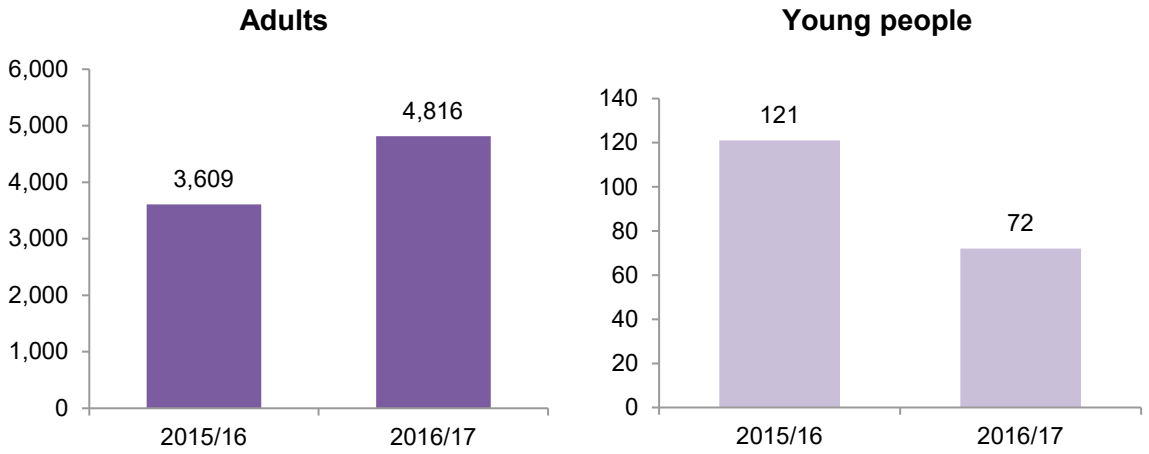
However, a contrasting trend is observed in adult secure settings (prisons, young offender institutions, and immigration removal centres) in England, as shown in Figure 37. There was a 33% increase in the number of adults in treatment for NPS last year, from 3,609 in

[115] The number of new presentations for NPS is not published. However, the mean length of a treatment episode for young people is five months, so the majority of those in treatment each year will represent a new presentation.

[116] Young People's Statistics from the National Drug Treatment Monitoring System, Public Health England, 2017

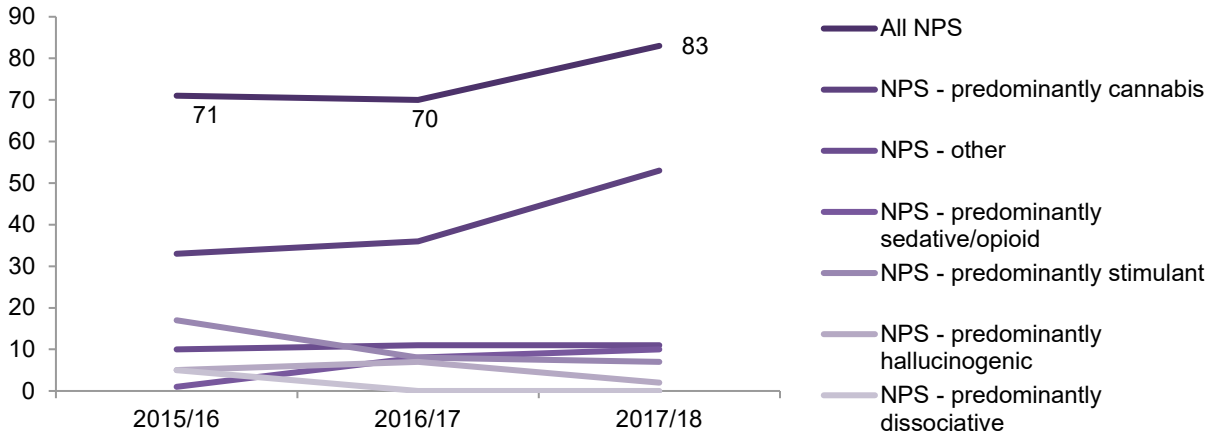
2015/16 to 4,816 in 2016/17[117]. This compares to a 1% fall in the overall number of adults in drug or alcohol treatment in secure settings. The rise for NPS was driven mainly by an increase in adults in treatment for NPS with predominantly cannabinoid effects, which increased by 37% and accounted for 61% of all adults in secure settings treatment for NPS in 2016/17. There was a 40% fall in the number of young people in treatment for NPS in secure settings (young offender institutions, secure children's homes, secure training centres and welfare only homes), compared with a 12% fall across all drug and alcohol treatment for young people in secure settings, although it should be noted that these numbers are relatively small.

Figure 37 - Number of adults and young people in treatment in secure settings citing NPS in England, 2015/16 to 2016/17



In Wales, there has been an increase in the number of people presenting to treatment for NPS problems since the PSA was introduced[118], although the total number of presentations is particularly low compared with England. As shown in Figure 38, the number of NPS presentations increased by 17% between 2015/16 and 2017/18, mainly driven by an increase in NPS with a predominantly cannabis effect.

Figure 38 – Number of people presenting to treatment for NPS in Wales, 2015/16 to 2017/18



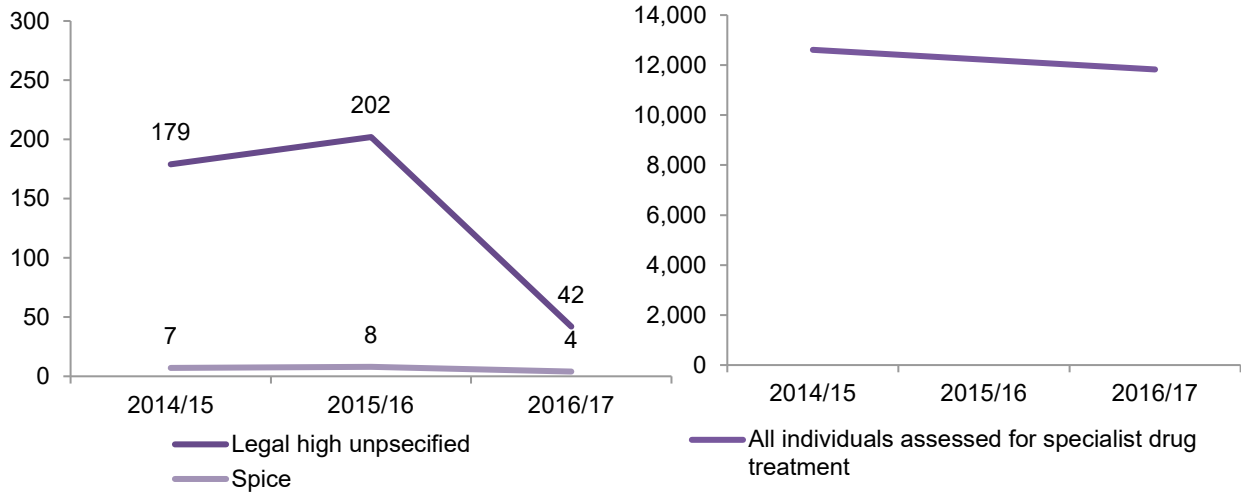
To note – 2015/16 and 2016/17 data runs from April to March, while 2017/18 data runs from April to February

[117] Secure setting statistics from the National Drug Treatment Monitoring System, Public Health England, 2018

[118] Internal data from the Welsh National Database for Substance Misuse, NHS Wales Informatics Service

In Scotland, data is available on the number of individuals assessed for drug treatment with NPS as their main illicit drug[119]. As shown in Figure 39, the number of individuals fell considerably (albeit from small numbers) between 2015/16 and 2016/17 for 'legal high unspecified' and Spice, while the overall number of individuals remained at a similar level. However, it should be noted that this data only captures the main drug that individuals assessed for treatment report using. The data therefore does not capture individuals using benzodiazepine-type NPS such as etizolam alongside opiates, where opiates are reported as the main drug. As described in the drug-related deaths section, etizolam-related deaths have increased considerably in Scotland since the Act was introduced, and most of these deaths also involve opiates.

Figure 39 - Number of individuals assessed for specialist drug treatment with NPS as main illicit drug in Scotland, and total number of individuals assessed, 2014/15 to 2016/17



In Northern Ireland, there was little change in the NPS users in the treatment population after the PSA, with 6% of people presenting to treatment in 2016/17 reporting that they use NPS (equating to 142 individuals), compared with 7% (147 individuals) in 2015/16 and 4% (84 individuals) in 2014/15[120].

NPS-related deaths

In published data on drug-related deaths, the 'NPS' category includes a number of substances which have been controlled under the MDA for a number of years, such as GHB and mephedrone. Customised data has been provided by the statistics agencies for England and Wales, Northern Ireland and Scotland, to allow for a more accurate analysis of the impact of the Act. This customised data only captures deaths where at least one substance in scope of the PSA (at the point at which the PSA was introduced) was involved[121], excluding deaths that involved only substances controlled under the MDA. However, it should be noted that some substances included in this data will have since been controlled under the MDA after the PSA was introduced, such as third generation synthetic cannabinoids and etizolam.

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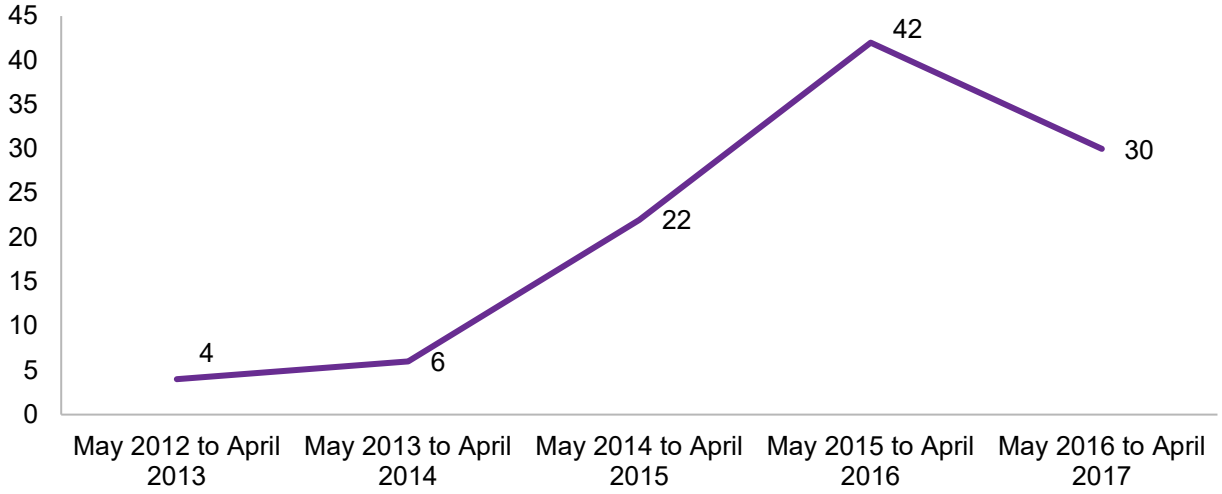
[119] Scottish Drug Misuse Database, Information Services Division Scotland. See Section 1 for further information on data quality and completeness.

[120] Statistics from the Northern Ireland Substance Misuse Database, Department of Health NI, 2018

[121] For England and Wales, this means any death where NPS was named on the death certificate, while for Scotland this means any death where NPS was implicated in, or potentially contributed to, the cause of the death.

To allow for a more specific analysis of the impact of the Act, the data provided below is based on the date that the death occurred, rather than the date when the death was registered (which is how they are presented in annual statistics publications). The data provided in this section is therefore not directly comparable to the drug-related deaths data provided in annual statistics publications. As shown in Figure 40, in England and Wales there was a 29% reduction in the number of NPS-related deaths following the introduction of the Act, after increases in previous years. The overall number of drug poisoning deaths registered in England and Wales was relatively flat over the last year, at 3,744 in 2016 and 3,756 in 2017.

Figure 40 – Number of deaths where an NPS was named on the death certificate in England & Wales, May 2012 to April 2017[122]



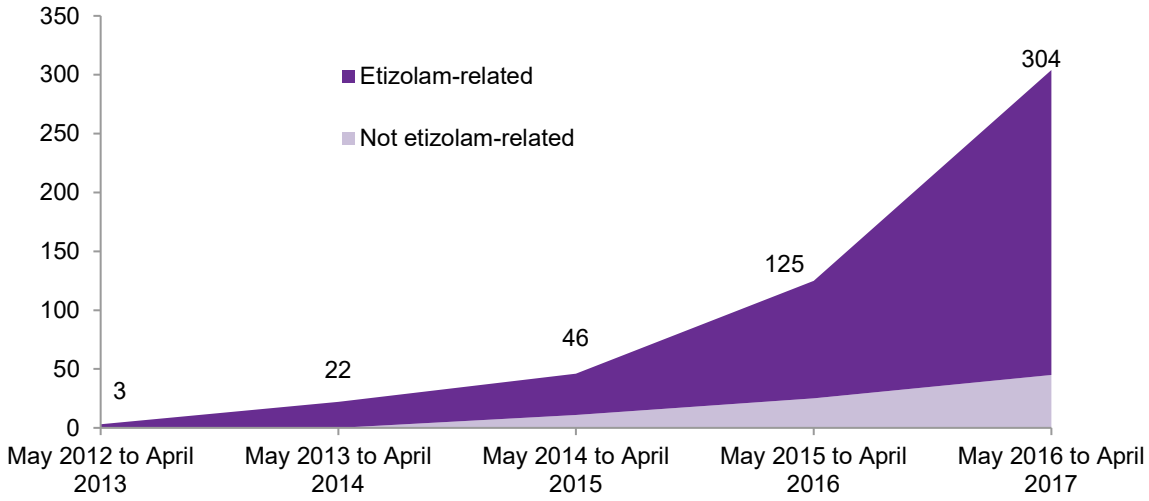
However, as the number of NPS-related deaths is so low, several years of data are required in order to reliably determine whether there has been a genuine change. Also, it should be noted that the ability of coroners to accurately identify NPS is likely to affect the trends in these figures, as coroners may over time become more able to identify new substances which have recently emerged.

In Scotland, there has been a considerable increase in the number of NPS-related deaths since the PSA was introduced, from 125 in the year to April 2016 to 304 in the year to April 2017. As shown in Figure 41, this increase has been mainly driven by deaths related to etizolam, with 100 deaths occurring in the year to April 2016 where etizolam was implicated, increasing to 259 deaths in the year to April 2017. It should be noted that in the large majority of NPS-related deaths in Scotland other substances, such as heroin or methadone, were also involved.[123] Data on NPS-related deaths for Northern Ireland cannot be displayed because it would be disclosive, as there were fewer than four NPS-related deaths each year.

[122] Drug-related deaths in England and Wales, deaths occurring in the period May 2012 to April 2017, ONS 2018

[123] Table NPS3 in Drug-related deaths in Scotland 2017, National Records of Scotland 2018

Figure 41 – Number of deaths where an NPS was implicated in, or potentially contributed to, the cause of the death in Scotland, May 2012 to April 2017[124]



To note – etizolam-related deaths includes all deaths where etizolam was implicated in, or potentially contributed to, the cause of death, regardless of whether other substances were also implicated.

The National Drug-Related Deaths Database (NDRDD) Report[125] provides further information on the nature and circumstances of drug-related deaths in Scotland, including those involving NPS. The report uses the National Records of Scotland definition of NPS, which excludes a small number of deaths where only uncontrolled NPS were involved (7 out of 346 NPS-related deaths that were registered in 2016). It also includes NPS that were controlled under the MDA before the PSA was introduced (7 out of 363 NPS deaths that occurred in 2016). These data show that NPS were implicated in 76% (275) of deaths in 2016 where NPS were found present at post mortem. This was higher than in any other year, increasing from 49% in 2014 and 65% in 2015. Also, in 2016 the proportion of deaths where NPS were present at post mortem and where opioids (heroin/morphine, methadone or buprenorphine) were implicated in death was also at its highest at 87%, compared with 74% in 2014 and 76% in 2015, reflecting increased use of NPS among those with problematic drug use.

NPS-related violence and crime

Violence related to the use of synthetic cannabinoids in prisons has been identified by HM Chief Inspector of Prisons for England and Wales in each annual report since 2013/14[126], as documented below. It appears that this violence has continued since the PSA, as it is also referenced in the 2016/17 and 2017/18 reports:

- *2013/14 annual report: "More prisoners reported victimisation than at the last inspection and at similar establishments. This appeared, at least in part, to be due to the availability of 'Spice' – a synthetic cannabinoid – and associated debt and bullying."*
- *2014/15 annual report: "...the increase in the use of new psychoactive substances was a significant factor in the increase in violent incidents in many prisons – either directly as a result of prisoners being under the influence of these drugs or in increased bullying due to drug debts."*

[124] Internal communication from National Records of Scotland

[125] National Drug-Related Deaths Database Report, Information Services Division Scotland, 2018

[126] HM Chief Inspector of Prisons for England and Wales Annual Reports

- *2015/16 annual report: "The supply and misuse of synthetic cannabis, such as 'Spice' and 'Black Mamba', caused major problems in most adult male establishments we inspected, including medical emergencies, indiscipline, bullying and debt."*
- *2016/17 annual report: "NPS remained a significant issue in most adult male prisons. As identified in our last two annual reports, NPS continued to be linked to violence, debt, organised crime and medical emergencies."*
- *2017/18 annual report: "The misuse of medication, as well as use of cannabis, opiates and synthetic cannabinoids, continued to cause significant problems in most adult male prisons we inspected. In many prisons this was a major factor in high levels of violence, debt and self-harm."*

In the 2016/17 annual report of the Prisons and Probation Ombudsman, the continuing harms relating to NPS use in prisons were also highlighted, particularly regarding the potential association between NPS use and deaths:

> *"The number of prisoner deaths where the use of NPS may have played a part, continued to rise. Although the links between NPS and these deaths were not necessarily immediately apparent or causal, they cannot be discounted. Their impact on the rising numbers of suicides, deaths from drug toxicity, apparent natural causes and even homicides, cannot be overstated. In particular, our investigations suggest that the use of NPS, like other drugs, can be closely associated with organised crime, debt, bullying and violence, with attendant risks to vulnerable prisoners, of mental ill health, suicide and self-harm."*[127]

Outside of prisons, there is qualitative evidence which links NPS use with violence and acquisitive crime, for example among homeless users of synthetic cannabinoids in Exeter[128] and Manchester[129]. Although there has been speculation by some sources that the Act may lead to an increase in violence and acquisitive crime linked to NPS as its availability decreases and its price increases[130], there is a lack of evidence assessing whether or not this has occurred. The recent Serious Violence Strategy[131] identifies drugs as a major driver of the national rise in serious violence since 2014. However, the PSA is not specifically identified as a factor, with the increase in drug-related violence largely attributed to the rise in crack cocaine use and the emergence of the 'county lines' approach to drug supply.

Discussion

The evidence suggests that the potency of NPS, particularly for synthetic cannabinoids, has increased in spite of the introduction of the PSA. The role of the PSA in this increase is unclear, given the wider global trends of newer, more potent generations of synthetic cannabinoids emerging.

The available evidence suggests that NPS-related medical enquiries and concerns reported by users fell considerably before the Act was introduced, which may reflect pre-Act enforcement activity, and subsequently reduced further when the Act was introduced.

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[127] Annual Report 2016-17, Prisons and Probation Ombudsman, 2017

[128] NPS use among the homeless population in Exeter, St Petrock's (Exeter) Ltd, 2017

[129] New psychoactive substance use in Manchester: Prevalence, nature, challenges and responses, Ralphs et al. , 2016

[130] Ibid

[131] Serious Violence Strategy, HM Government 2018

Given the increased potency of NPS, this reduction in health harms may reflect a reduction in the overall number of NPS users since the Act, rather than a reduction in the average harm per user.

National data on NPS-related hospital admissions is not available, but evidence from the IONA study suggests that there has been a fall in the proportion of patients with severe toxicity who have analytically confirmed NPS exposure since the PSA was introduced, although local evidence from Edinburgh and London shows a more mixed picture, with no significant falls in NPS-related admissions. There may be an offsetting impact on health harms if some users have substituted from NPS to other more harmful substances, and the IONA study shows increasing proportions of patients where traditional drugs have been detected since the Act was introduced. However, there is a lack of evidence on the nature and scale of any displacement, which means it is not possible to identify the impact of the Act on overall health harms from drugs.

There have been considerable falls in the number of individuals in treatment for NPS since the Act, which may reflect the overall fall in NPS prevalence, although this is uncertain due to the time lags between starting drug use and presenting to treatment, and other related factors such as changes in treatment provision over time. In Scotland, the picture is further complicated by data completeness issues and the tendency for NPS benzodiazepine use to be secondary to opioid use.

The exception to this trend is in secure settings in England and Wales, where the number of adults in treatment for NPS has increased significantly since the Act. This may reflect the high prevalence of NPS use in prisons, which has continued after the introduction of the Act, as identified in Chapter 4. The trend in NPS-related deaths differs considerably by country, with a reduction in deaths in England and Wales contrasted by a significant increase in deaths in Scotland, mainly driven by deaths related to etizolam.

The evidence suggests that the Act has not prevented the continued violence and medical harms related to NPS use in secure settings, with serious incidents continuing to be reported across most adult male prisons. However, there is insufficient evidence to draw any conclusions on the impact of the Act on violence or crime outside of prison settings.

Chapter 6: Conclusions

An overall assessment of the PSA can be provided by considering whether it has achieved its main aims and whether it has led to unintended consequences. This assessment is provided below, against the main aims of the Act which were identified in the introduction chapter:

1. **To put an end to the open sale of NPS**

This appears to have been achieved, with evidence from police forces and the National Crime Agency suggesting that open sales of NPS in shops and on clearnet websites have been largely eliminated. However, the evidence suggests that the main source of supply for NPS is now likely to be street dealers, particularly for synthetic cannabinoids.

2. **To put an end to the game of 'cat and mouse', where new substances appear on the market in response to legislation**

This does not appear to have been achieved, although this assessment is based on a small number of observations from the Forensic Early Warning System. This data suggests that novel drugs which are not controlled under the MDA have continued to emerge since the introduction of the PSA. This may be due to the global nature of the NPS market, as there may remain an incentive to develop new substances in order to evade drug legislation in other countries.

3. **To reduce the number of people using NPS**

This appears to have been achieved for the general adult population, with a significant reduction in NPS use since the Act, particularly among young adults. The exceptions to this finding are for the use of nitrous oxide among adults and the use of NPS among children, both of which have not changed significantly since the Act. The evidence on NPS use among vulnerable users, including the homeless, is mixed, and where use has decreased there appears to have been some displacement from synthetic cannabinoids to 'traditional' controlled drugs.

In prisons, the PSA does not appear to have restricted the prevalence of NPS, with use of synthetic cannabinoids in particular appearing to have increased since the Act was introduced. There is insufficient evidence to quantify the extent to which NPS users have substituted to other drugs, so it is not possible to identify whether the Act has led to an overall reduction in drug use.

4. **To reduce the various health and social harms associated with NPS**

This appears to have been achieved in the main, although there are some specific areas of concern. There have been considerable reductions in the numbers of medical enquiries, concerns reported by users and individuals presenting to treatment since the Act was introduced. The limited data available on NPS-related hospital admissions suggests that there has been an overall reduction since the Act, although local evidence is more mixed.

Similarly, while there has been a reduction in NPS-related deaths across England and Wales, there has been a considerable increase in Scotland since the Act has been introduced. There is insufficient evidence to draw any conclusions on the changes in social harms such as violence resulting from the PSA, although NPS-related violence in prisons appears to continue since the Act was introduced. Due to the lack of evidence on the extent to which NPS users have substituted to other substances, it is not possible to identify whether the Act has led to an overall reduction in drug-related harm.