



Home Office

Annual Report on the Home Office Forensic Early Warning System (FEWS)

A system to identify New Psychoactive
Substances in the UK

July 2013

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Overview

This is the second annual report on the Home Office Forensic Early Warning System (FEWS). FEWS was set up to identify New Psychoactive Substance (NPS) more promptly to help enable Her Majesty's Government to take action before a harmful substance takes a foothold in the UK. FEWS is part of the Government's wider action, including the UK-wide Drugs Early Warning System and the introduction of Temporary Class Drug Orders (TCDO) under the Misuse of Drugs Act 1971, to tackle the emergence of NPS. The 2011-12 FEWS annual report is available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/98031/fews.pdf.

This report describes activities undertaken, and provides results of the analysis of samples tested under FEWS between April 2012 and March 2013. It reports the identification of new substances (10 NPS) not previously seen in the UK and, where appropriate, action taken by Government in response. The report also highlights key learning points from the results and key messages on the harms and risks associated with the use of NPS.

New substances identified in the UK are reported to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) through submissions to the UK Focal Point. Four of the substances highlighted in this report are reported in the EMCDDA 2012 Annual Report on the implementation of EU Council Decision 2005/387/JHA; the information exchange, risk assessment and control of new psychoactive substances.

The Government's New Psychoactive Substances Action Plan, published as an annex to the 2012 Drug Strategy Annual Review, sets out the Government's ambition and makes clear its determination to take effective action against NPS¹.

The Government will continue to highlight the risks and harms associated with NPS. The Government's aim is to deliver its commitments under the Drug Strategy '**Reducing demand, restricting supply, building recovery: supporting people to live a drug-free life**' by reducing the demand for NPS, ensuring that statutory services are able to provide treatment effectively and support recovery from NPS misuse, encouraging individuals to take personal responsibility, and promoting the choice not to take unknown potentially harmful psychoactive substances.

The FEWS analysis continues to affirm Government messaging that; just because a substance is termed 'legal' does not make it safe or 'legal' and the contents of a package are probably 'not what it says on the tin'. Products marketed as 'legal highs' can also contain a number of different substances which increases the risk of harm to users.

¹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118345/drug-strategy2010-review-may2012.pdf

1. Introduction and background

The Home Office funded Forensic Early Warning System (FEWS) was set up in January 2011 in response to the emergence of NPS, often referred to as ‘legal highs’. NPS are mainly synthetic drugs manufactured in a laboratory or factory (mainly based overseas) to mimic the effects of already controlled drugs and are used mainly as recreational drugs in the UK, Europe and the rest of the world. The majority of NPS are sold in mixtures. The increased development and availability of NPS is changing the face of the drug scene and its “marketplace” with greater access via the internet for both their purchase and the sharing of information in forums and blogs.

The main aim of FEWS is to forensically identify NPS quicker and more effectively, to inform the Advisory Council on the Misuse of Drugs’ (ACMD) considerations and the Government’s wider response through UK health and other warning systems. FEWS results are also fed into the UK-wide Drugs Early Warning System² to inform Government’s efforts to tackle the threat from NPS.

Some of the drugs advertised for sale as NPS are already controlled or ‘illegal’ under the Misuse of Drugs Act 1971³ (the 1971 Act). Also, not all NPS are “highs” or stimulants, some will cause paranoia, anxiety, narcosis or psychosis, so the term “legal high” is misleading and hence the term ‘New Psychoactive Substances’ (a new substance which affects the brain) has been adopted. Examples of NPS seen in the UK market in the past year are , AM-2201, AM-694 and RCS-4 and substances sold under branded names such as ‘Annihilation’, ‘Black Mamba’, and ‘Benzo-fury’.

Most of the NPS being offered for sale have harms similar to the controlled drugs they have been manufactured to mimic. However, further research is needed to establish the full harms associated with these new drugs. The Government is concerned about the harms posed by these drugs, and the continuing rise in reports linking the use of NPS to A&E presentations, hospitalisation and deaths.

The increased availability of NPS and the concerns around their emergence is not limited to the UK drugs market. The EMCDDA reported that 73 NPS were officially identified for the first time across the EU in 2012, compared to 49 in 2011. It noted that “the reasons for the growth in this market include the increasing complexity and volatility of the drugs market set against a backdrop of globalization and technological advancement.” The EMCDDA also noted an important development “in the growing interaction between the illicit and ‘legal highs’ markets, whereby some substances are legally sourced and either sold directly on the illicit market or turned into products and sold as ‘legal highs’.” Thirteen substances were reported for the first time to the EMCDDA by the UK this year (up from 11 in 2011, but lower than the 16 reported in 2010). Of these, four were encountered through FEWS analysis.

The key to the effective action, including legislation, needed to tackle newly emerging drugs is prompt identification of substances before they take a foothold. FEWS brings together expertise from forensic laboratories and chemical standard suppliers⁴, UK-wide law enforcement agencies and experts in the field to develop a co-ordinated UK-wide approach to laboratory testing and analysis of law enforcement seizures and test purchasing to identify NPS more quickly.

2 An alignment of drugs early warning systems across health and law enforcement bodies at the local, national and international levels to ensure the ACMD has access to joined-up, evidenced and timely UK wide information to support the delivery of advice on drug harms and drug control.

3 The Misuse of Drugs Act 1971 (“the 1971 Act”) controls drugs that are “dangerous or otherwise harmful” primarily under a three-tier system of classification (A, B and C) which provides a framework within which criminal penalties are set with reference to the harm a drug has or is capable of having when misused and the type of illegal activity undertaken in regard to that drug.

The Home Office acknowledges the contribution of the FEWS project team based at the Home Office Centre for Applied Science and Technology to the continuing success of the programme.

2. Aims and objectives of FEWS

The aim of FEWS was to create an improved national understanding and response by creating a “Forensic Early Warning System” for NPS through;

- bringing together expertise from operational forensic laboratories, a chemical standard supplier and law enforcement agencies;
- developing a protocol for the analysis of samples, the results of which are reported to the Home Office and the ACMD; and
- developing a synergy with the UK-wide Drugs Early Warning System.

3. FEWS programme 2012-13

During 2012-13 FEWS has collected samples from the internet and head-shops⁵, music festivals, the police and the border to identify which NPS are present in the UK or being offered for sale in the UK market.

The aims of the collection plans are to promptly identify NPS, monitor the existence of NPS and to note any further information on the physical and/or chemical properties of the sample and packaging.

4. Analysis, results and key findings

During 2012-2013 FEWS has:

- obtained approximately 2000 samples from FEWS collection plans;
- provided support for the ACMD’s ongoing monitoring of NPS;
- attended six UK festivals with on-site laboratories;
- engaged with the UK Border Force to improve their capability to detect and detain suspicious substances in fast parcels; and
- promptly identified NPS in urgent cases where illness or death had occurred.

A total of 3289 samples from the collection plans have been analysed under FEWS since inception. The results are summarised in Tables 1- 4 below and include NPS that are both controlled and non-controlled under the Misuse of Drugs Act, 1971.

During 2012-2013, 10⁶ new NPS have been identified which have not been previously encountered in the UK or Europe, meaning that the total number of new samples identified through FEWS is now 27.

4 Suppliers of chemical reference standards used to identify samples seized by law enforcement agencies for use in prosecutions.

5 Shops, market stalls and internet traders selling drug paraphernalia and equipment principally for cannabis and cocaine, and “legal” alternatives to illegal drugs.

6 The new substances at both UK and EU level are tetracaine, sibutramine, fencafamine and diphenhydramine and just at UK level are XLR-11, the C4 homologue of RCS-4, N-ethyl amphetamine, β k-MDEA, JWH-081 and N-ethyl cathinone

In some cases more than one substance was identified in each sample, making the total of the number of substances identified different to the number of samples collected. Some samples contained cutting agents such as caffeine, lidocaine and benzocaine and these are not accounted for in the table.

Table 1: Chemical Groups of identified controlled and not controlled NPS

Chemical group	Total number of substances identified through FEWS	Number of substances identified in 2012-2013
Synthetic Cannabinoids	8	3
Phenethylamines	3	1
Cathinones	3	2
Tryptamines	4	0
Others	9	4

Table 2: The number of NPS encountered for the first time in the UK through the different collection plans.

Total number of NPS			Number identified in 2012-2013	
Sample Collection Source	Controlled	Non-controlled	Controlled	Non-controlled
Internet	7	4	3	0
Head-shops	0	0	0	0
Festivals	0	1	0	0
Police non-casework	5	3	0	0
UKBF samples	3	4	3	4

The information on synthetic cannabinoids and methoxetamine and other compounds related to ketamine (Class C), and phencyclidine (Class A) has been assessed by the ACMD as causing significant concern to warrant legislative action. The Government has taken action to extend the control on the synthetic cannabinoids and to introduce a generic control for methoxetamine and other compounds related to ketamine (Class C), and phencyclidine (Class A)..

Table 3: The total number of times controlled and non controlled drugs, including NPS have been reported through each of the collection plans since the beginning of FEWS.

Collection Source	No. of samples	Controlled Drugs			New Psychoactive Substances	
		Class A	Class B	Class C	Controlled	Non controlled
Internet	226	1	0	0	101	232
Head Shops	152	0	0	0	149	136
Festivals	1747	768	524	183	488	84
Police Collection Plan	1064	255	43	58	766	55
UKBF Samples	100	0	0	45	25	30

Table 4: The number of times controlled and non controlled drugs, including NPS, encountered by FEWS were reported through each of the collection plans in 2012.

Collection Source	No. of samples	Controlled Drugs			New Psychoactive Substances	
		Class A	Class B	Class C	Controlled	Non controlled
Internet	119	1	0	0	26	135
Head Shops	92	0	0	0	108	62
Festivals	1091	636	38	71	356	69
Police Collection Plan	596	181	30	32	559	11
UKBF samples	100	0	0	45	25	30

Key Findings

Products advertised as ‘legal’ alternatives to already established drugs are not always ‘legal’.

Of the samples analysed that contained NPS, 81% have been identified as mixtures of either two (36%) or three (35%) different active components. One percent of samples have been identified as containing up to seven different active components.

Products with the same brand name such as ‘Black Mamba’, ‘Benzo-fury’ ‘Ocean Snow’ and ‘Gogaine’, including those from the same suppliers have been observed to contain mixtures of different components.

5. Actions taken by Government to tackle NPS

Government action to tackle the threats posed by NPS is outlined in the New Psychoactive Substances Action Plan. The ACMD, as advisors to Government, continues to monitor the latest evidence and trends in emerging new psychoactive substances including those already identified under FEWS. However, specific action taken as a result of, or informed by FEWS work is as follows;

Legislation

FEWS results supported the control of methoxetamine and related substances and a further group of synthetic cannabinoids which were brought under the control of the 1971 Act on 26 February 2013 as Class B drugs.

Health Information

Updates to FRANK service

The Government funded FRANK service recognises that to reduce the demand for all drugs, young people in particular need quality education on the effects and harms of drugs and to develop the skills and confidence to reject them.

FEWS has provided facts about new drugs such as methoxetamine and products such as “Black Mamba” (with its ever-changing ingredients) for both the FRANK website and the FRANK helpline. More information on the range of the FRANK service can be found at www.talktofrank.com.

Reference Standards:

Development of new drug reference standards⁷

Eighteen (18) new chemical reference standards have been synthesized or purchased under FEWS during 2012-13 to aid identification of new substances to enable enforcement partners carry out their duties. This brings the total number of chemical reference standards developed under FEWS, since inception, to thirty-one (31).

Reference Library

FEWS has a library of chemical identification data, managed by the FEWS project team, to which NPS spectra are added. This, together with the chemical reference standards, allows the forensic scientist to rapidly identify substances when they occur in casework.

Enforcement:

Enforcement activities

FEWS has been working with the police and Trading Standards officers to tackle the sale of NPS in “headshops” this year, providing officers with technical advice on the forensic analysis of NPS samples. Further activity with law enforcement agencies to tackle NPS sales in “headshops” is expected in 2013-14.

⁷ Certified drug reference standards which generate a reference spectrum against which an evidential sample can be compared for identification. Drug reference standards are needed to identify substances in order to establish that an offence has been committed under UK laws in relation to a controlled substance

6. Looking Forward

The introduction and availability of NPS in the UK, across the EU and all over the world continues to be of major concern to the Government. The Government's response to the threat from NPS has to be swift and effective in order to protect the public from the harms posed by these drugs. FEWS is a valuable tool which enables the Government to monitor the availability of NPS in the UK. More importantly, it gives us the advantage of identifying substances more promptly to inform the Government's independent experts, the ACMD, and their advice to Government on new substances, including where necessary advice on subjecting substances to temporary control.

The Home Office has committed funding for FEWS until April 2014. In 2013/14 FEWS will continue to identify and monitor NPS through collection plans, with a particular focus on maintaining the UK's capability to identify new substances, obtaining drug reference standards for identification of new substances, and maximising the benefits from FEWS findings by merging with other relevant data such as toxicology and pathology. FEWS will also develop and maintain national and international collaborations to encourage the sharing of information and data on NPS. The collection plans will include a survey of products bought from the internet and "headshops", and UK summer festivals.

FEWS will continue to build on the good working relationship it has with the EMCDDA and the United Nations Office on Drug Crime to share best practice and scientific data on NPS.

At the recent UN Commission on Narcotic Drugs the Government led a resolution that will lead to the development of a global early warning system, enabling NPS monitoring at a global level for the first time. The resolution received comprehensive international support, with 41 co-sponsors from across every UN region. At the G8 Expert Group meeting on New Psychoactive Substances: Responding to the challenges in April, the Government also gained agreement from G8 countries and partners from Poland, Sweden, New Zealand, UNODC, EMCDDA, and EU Commission for a Statement of Intent which articulates a shared will to cement international information sharing and cooperation; and an intention to identify concrete avenues for further collaboration in specific areas.

