

Research and market monitoring based on Drug Checking



A pill testing service in 1999



Ecstasy pill testing: harm minimization gone too far?

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First published: August 2001 [Full publication history](#)

DOI: 10.1046/j.1360-0443.2001.96811397.x [View/save citation](#)

Cited by (CrossRef): 36 articles [Check for updates](#) | [Citation tools](#) ▼



[View issue TOC](#)
Volume 96, Issue 8
August 2001
Pages 1139–1148

Abstract

Harm reduction has become the focus of public health initiatives and therapeutic intervention in the management of dependent drug use over the last 20 years. The last decade has seen such approaches being extended to recreational drug use. Most harm reduction initiatives have aimed to inform users about risks and ways of minimizing risk. The concept of providing illicit drug users with quality assessment of their chosen drug is one possible harm reduction intervention that until recently has received little attention. In response to well-publicized 'ecstasy'-related deaths organizations in some European countries and the United States have chosen to provide a 'pill testing service' for users. There are two broad categories of pill testing offered. Simple colour reagent test kits (Marquis Reagent and colour charts) form the most widely used on-site pill testing

ntlv. but more accurately. laboratory personnel with access to sophisticated

A Drug Checking service nowadays

On-site Mobile Lab, with 4 parallel HPLC systems (coupled with LC-MS).
analysis time: 7 min, 25 samples / h (off-site: a high-res. Q-TOF is available).



Drug Checking services spread around the world



DPMP Global Drug checking Bulletin, 2017

Commentary van der Gouwe et al. (2017): Drug-testing services and cryptomarkets come of age

Drug-checking services present an opportunity to improve public health awareness of illicitly manufactured drug supply chains and provide superior information on the purity and potency of drugs to people who use them. Important methodological questions remain regarding analytical protocols and dissemination of results.

That medicines can become street drugs has been evident since the metamorphosis of heroin from pharmaceutical to illicit manufacture a century ago. During the past 5 years there has been a global profusion of illicitly manufactured opioids and cannabinoids, paralleling the longer history of street preparations of amphetamine-like stimulants, including 3,4-methylenedioxy-methamphetamine (MDMA) and methamphetamine. Like previous illicit manufacturing trends, the current crisis is borne out of pressure exerted by the supply-side focus of international drug policy, but different in that it was enabled by sophisticated digital dissemination of information and product, facilitated further by pseudonymous cryptocurrencies such as

prevent harm. Heroin tainted with fentanyl led to 126 overdose deaths in the United States in 1991 and 1992, and cocaine adulterated with levamisole in North America was detected only because of severe neutropenia in 2009 [5]. Laboratory testing of street samples serves a surveillance purpose for government authorities interested in scheduling molecules, but these life-and-death results are not made available to those who can put the knowledge to immediate use to prevent harm; namely, front-line drugs workers and drug users themselves.

Cryptomarkets are internet-based platforms that facilitate pseudonymous transactions of drug information and product. Cryptomarket users have adopted drug-checking services to establish the purity of drugs sold on-line, allowing verification of vendors' claims [2]. Vendors offer samples of drugs to be tested by third-party laboratories, and buyers include results along with reviews of the vendors' practices and the products' subjective effects [6].

Products flowing through cryptomarket supply chains



1. They can monitor drug markets and can be useful in the monitoring and reporting of NPS (Vidal et al., 2017)
2. They identify discrepancies between what drug users think they are using and what they actually consume (Barratt & Ezard, 2015)
3. They deliver health warnings and advice in a rapid way, sometimes faster and better than those coming from Health Authorities (Dasgupta N et al., 2017)
4. They can establish contact with hard-to-reach populations (Hungerbuehler et al., 2011)
5. Their presence can act as a form of quality control regulation (Brunt, 2017)

Monitoring the market of traditional drugs

CRYSTAL MDMA

1036 SAMPLES ANALYZED IN ENERGY CONTROL

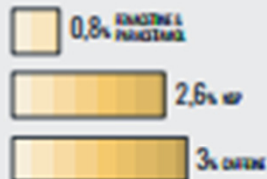
SUBSTANCE PURITY



76%
AVERAGE
PURITY

98% | 2%
PUREST | LESS
SAMPLE | PURE

MAIN ADULTERANTS



MIXES



36%
SPEED



34%
CANNABIS



85%
ORAL

INTAKE METHOD

839
PEOPLE



USERS

TYPE OF SOURCE AND AVERAGE PRICE



67%
BOUGHT THEIR SAMPLES TO
TRUSTABLE DEALERS



38c

This data is the result of drug testing results made by Energy Control in 2015 and may not represent accurately the actual Spanish drug market. More info in www.energycontrol.org

MDMA PILL

624 SAMPLES ANALYZED IN ENERGY CONTROL

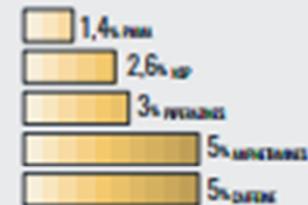
DOSAGE DETECTED



111mg
AVERAGE
PURITY

284mg HIGHER DOSAGE
2mg LOWER DOSAGE

MAIN ADULTERANTS



MIXES



52%
ALCOHOL



18%
SPEED



93%
ORAL

INTAKE METHOD

568
PEOPLE



USERS

TYPE OF SOURCE AND AVERAGE PRICE



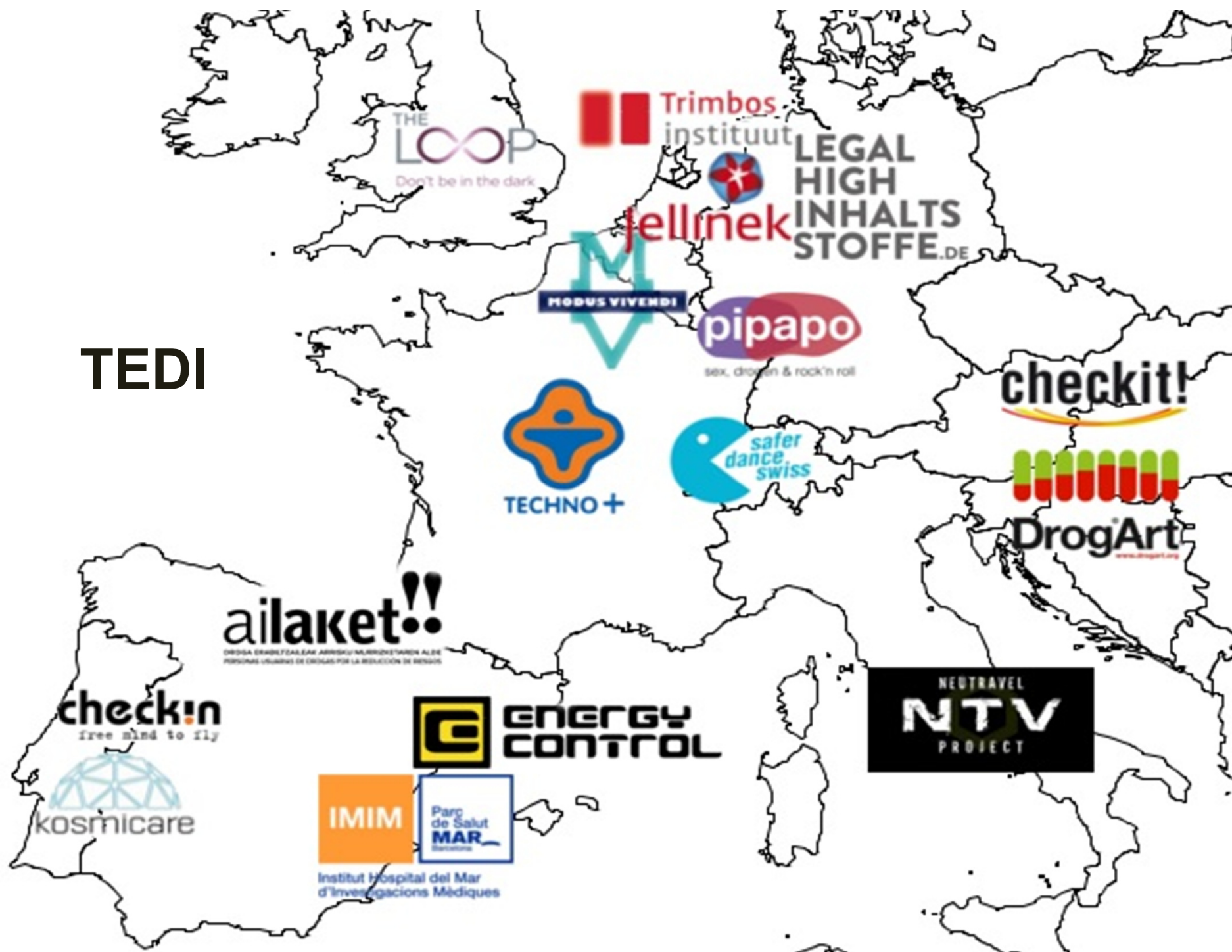
61%
BOUGHT THEIR SAMPLES TO
TRUSTABLE DEALERS



8c

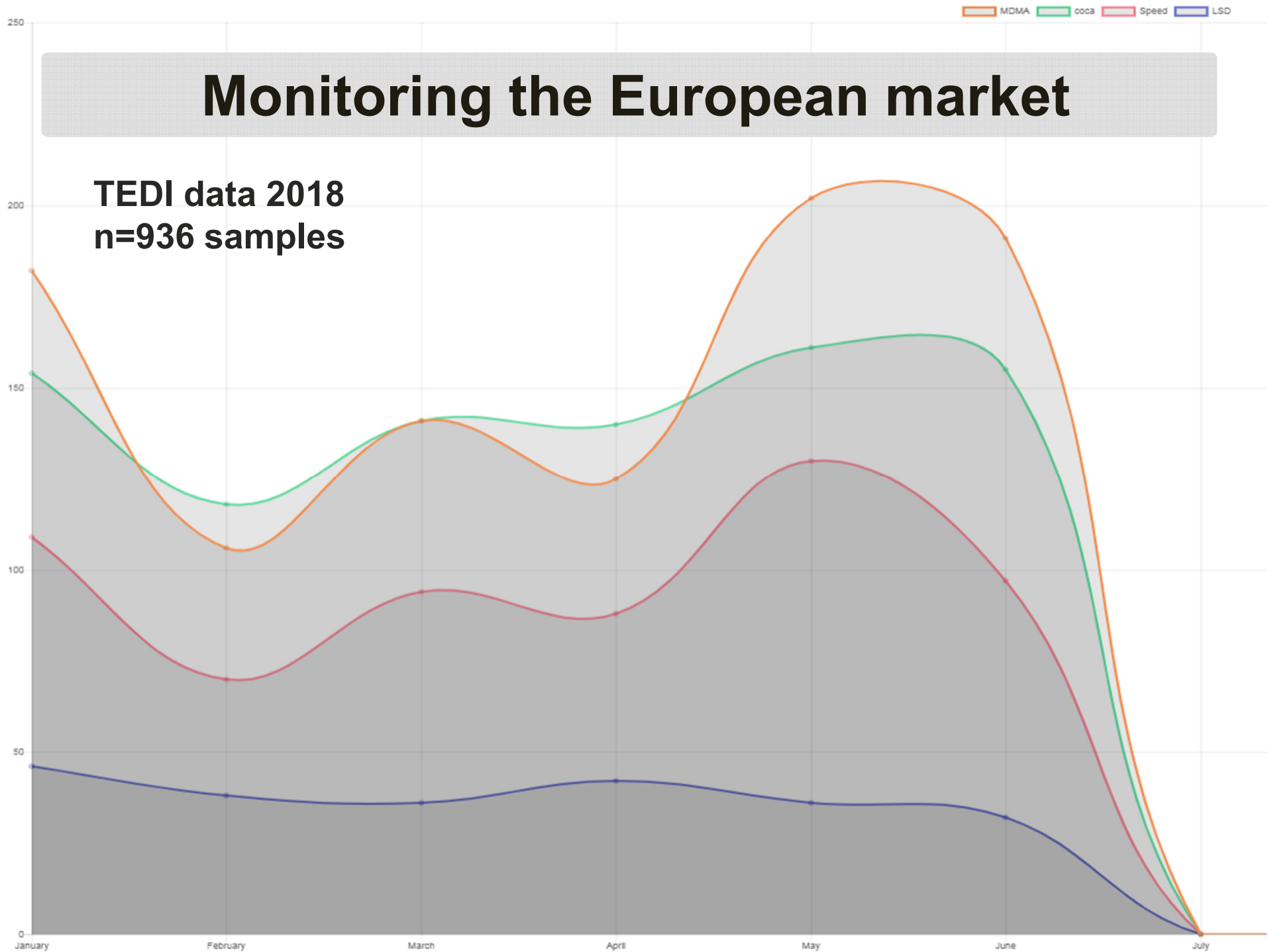
This data is the result of drug testing results made by Energy Control in 2015 and may not represent accurately the actual Spanish drug market. More info in www.energycontrol.org

TEDI



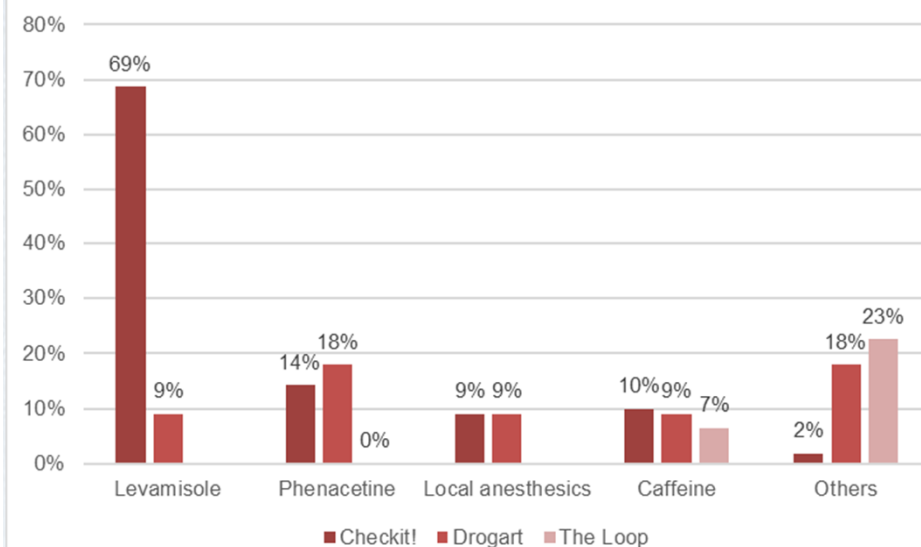
Monitoring the European market

TEDI data 2018
n=936 samples

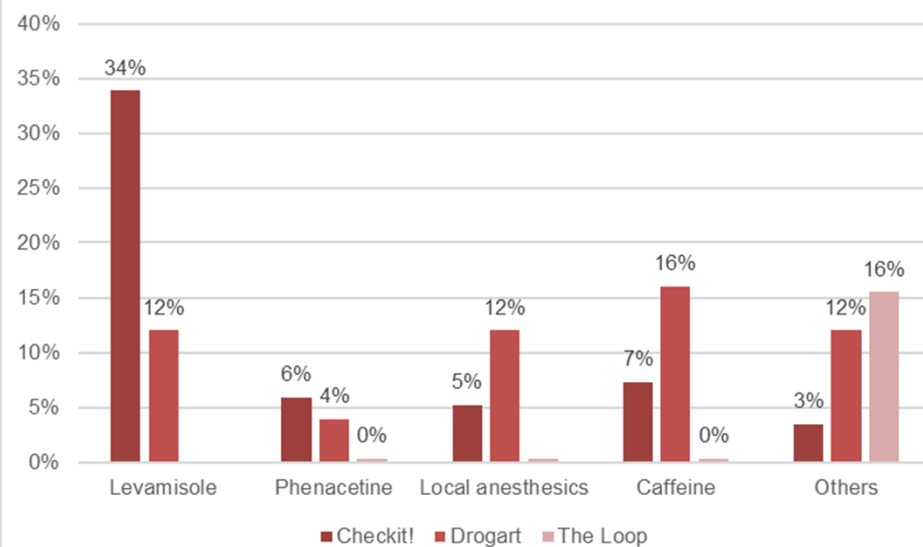


Adulterants in European cocaine samples

2016

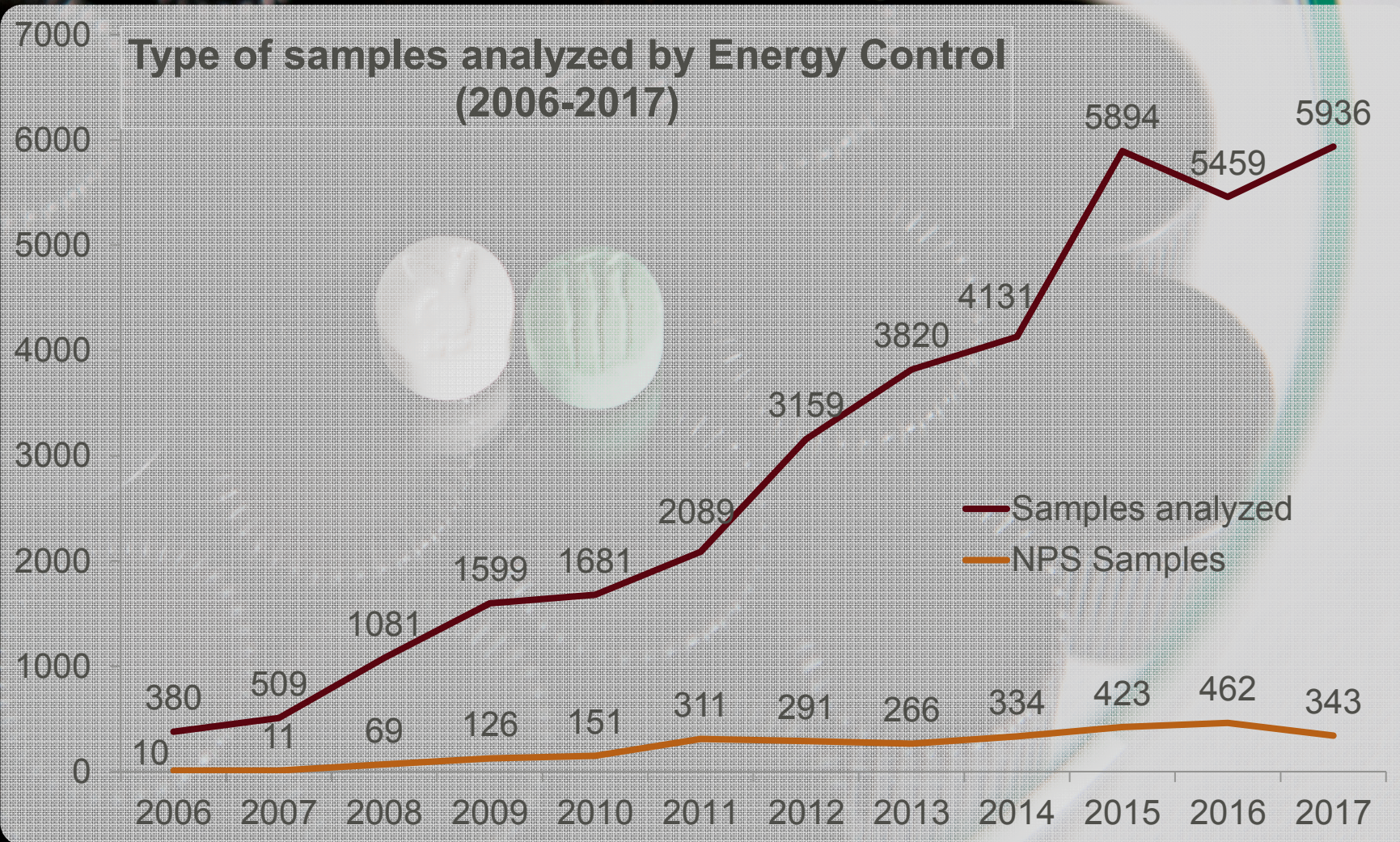


2017



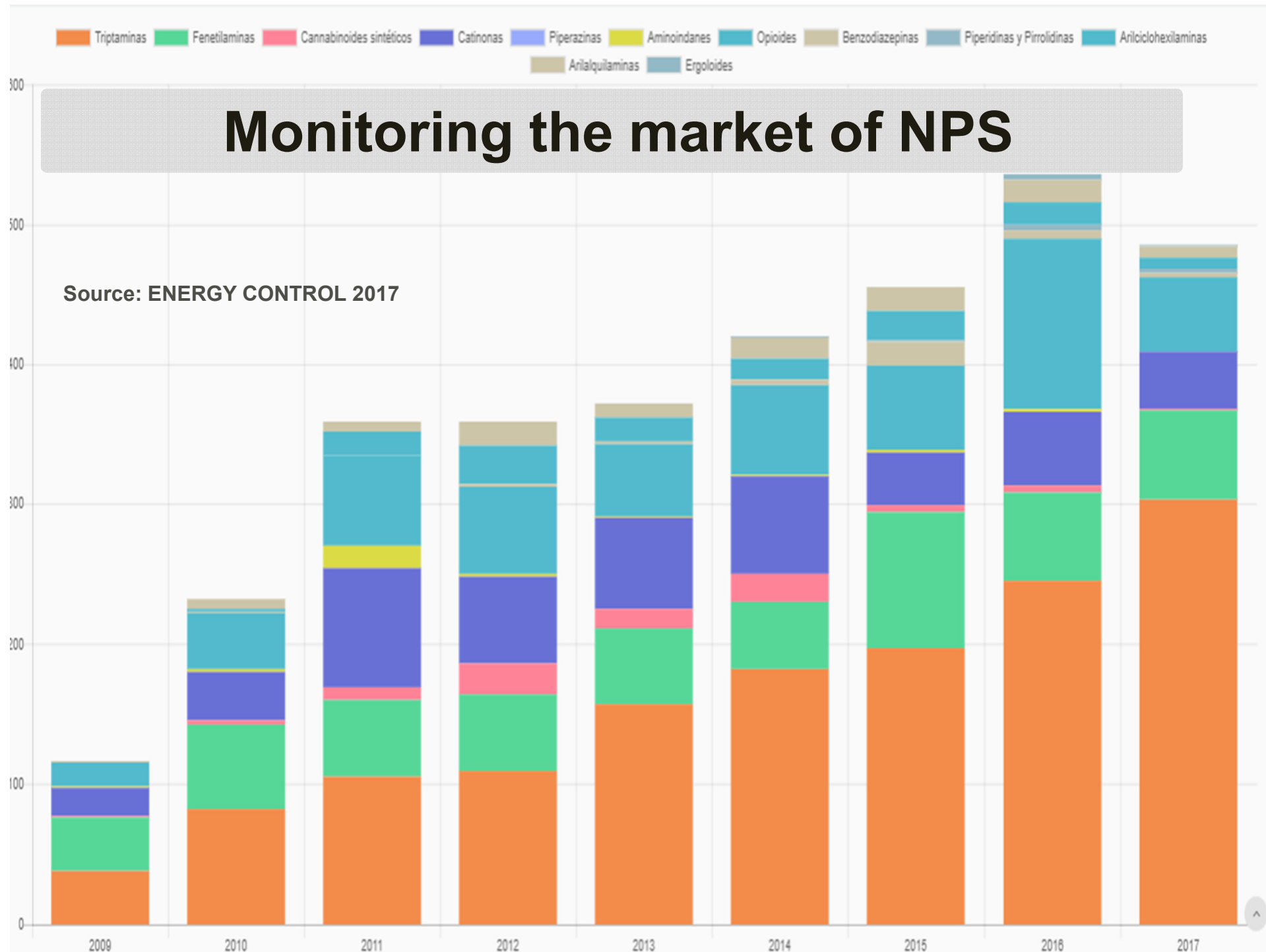


Monitoring the market of NPS



Monitoring the market of NPS

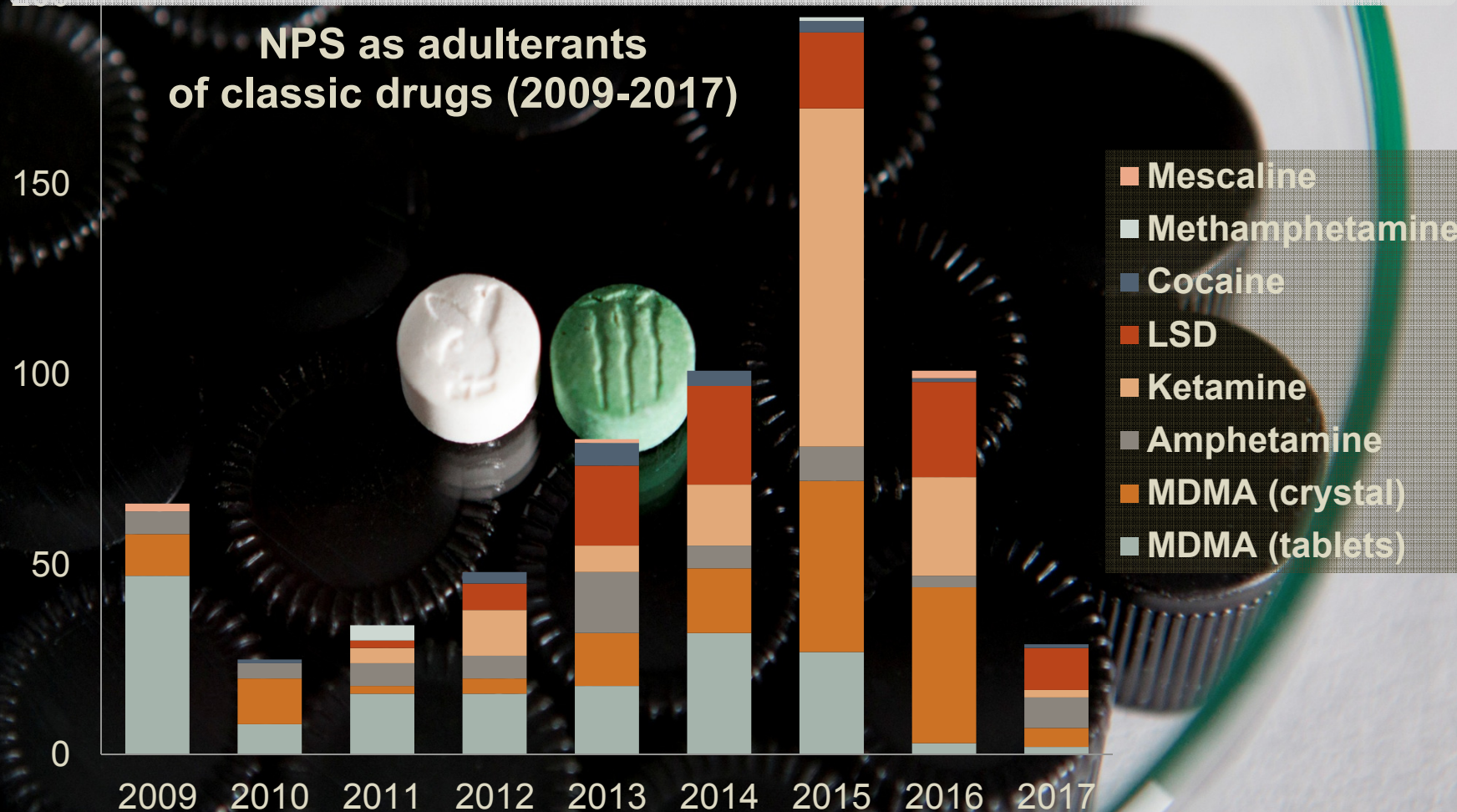
Source: ENERGY CONTROL 2017





Identifying discrepancies

NPS as adulterants of classic drugs (2009-2017)



Source:

1. Vidal, C.; Fornís, I., y Ventura, M. (2014). New psychoactive substances as adulterants of controlled drugs. A worrying phenomenon? *Drug Testing and Analysis*, 6, 7-8, 819-824.
2. Drug Checking service data (2013-2017)

Diffusion of warnings



ALERTA!!

FECHA	PROVINCIA BARCELONA
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LOGO Superman	COLOR Rosa Salmón
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DIÁMETRO 10 mm	GROSOR 5,9 mm	PESO 348 mg
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COMPOSICIÓN 142 mg de PMMA + 20 mg de AMFETAMINA

RECOMENDACIONES No consumir!!!! La PMMA es potencialmente tóxica y mortal. Si la has tomado y te encuentras mal acude al dispositivo de urgencias.

Más información en el stand



checkit!
checkyourdrugs.at

Diffusion of warnings (Deep web)

WARNING: FENTANYL BEING SOLD AS HEROIN ON DNMS

POSTED BY: DEEPODOTWEB OCTOBER 17, 2015 IN FEATURED, NEWS UPDATES 10 COMMENTS

 Like  17  Tweet  2  Share

Provided by Doctor X & "International Drug Testing Service" from Energy Control which in collaboration with ASUD and TechnoPlus, has recently analyzed heroin samples (n°3, for smoking and n°4 intranasal/intravenous). We have been informed that **these samples were delivered through Deep Web Marketplaces** and offered from Europe (big sellers from France and Belgium).

In April 2015, in Belgium, a young man died after taking a brown powder he had bought on the deep web and actually **was ocfentanyl**. In their June's newsletter, the British harm reduction project Wedinos said they had already analyzed six samples of **ocfentanyl powder**.

These samples were suspicious for adulteration, and this idea has been confirmed. Analysis results shows ocfentanyl presence, a synthetic opioid which is hundred times more potent than heroin. Effects are similar to other opiates, but this adulteration can increase overdose and severe adverse effects risks. Overdose-related fentanyl and fentanyl derivatives from opiate samples, have been recently reported in United States, Canada and Europe.

Energy Control warns heroin users who buy this product from Deep Web. There are no quick or qualitative tests for fentanyl and fentanyl derivatives. The only way to know the exact composition of a drug is submitting a sample to analysis. Energy Control offers users an **International Drug Testing Service**."

DEEP WEB

Contact with hard to reach populations

More than 60% of users said that they would not have contacted drug related prevention services

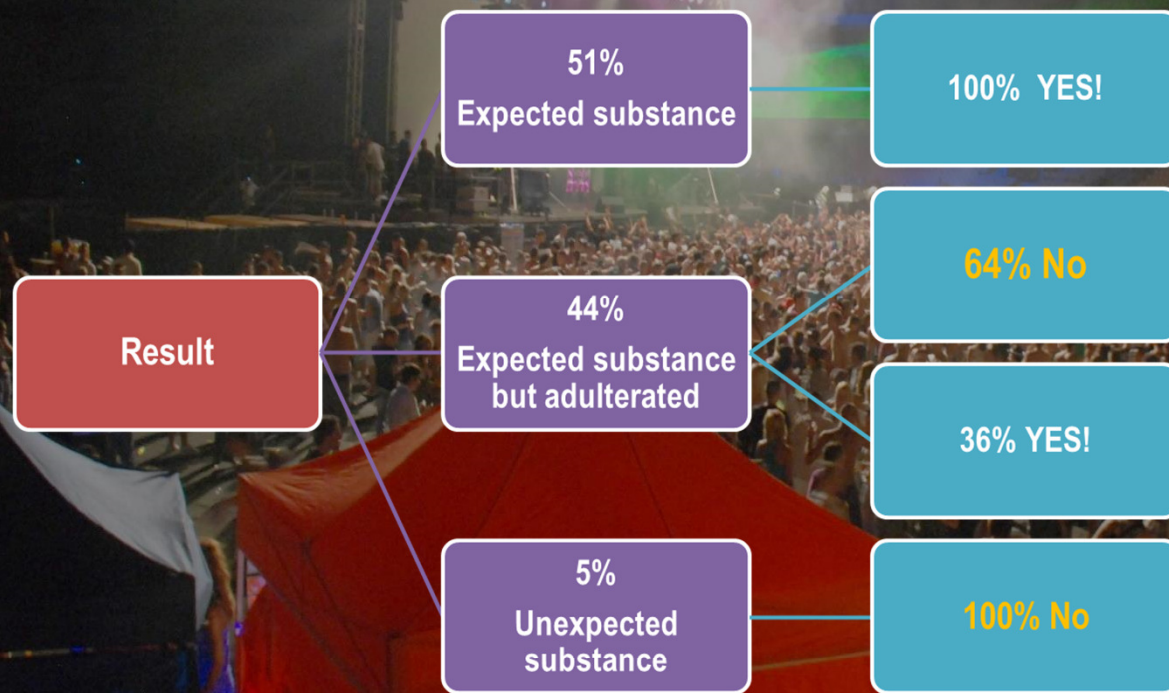
Excellent evaluation of the service (9,27)

High evaluation of the utility of the service (9,31)

100% of users recommend the service to their friends

Source: ENERGY CONTROL 2017

Impact on drug users



Source: ENERGY CONTROL 2017



Impact on drug users

Hum Psychopharmacol. 2017 May;32(3). doi: 10.1002/hup.2608. Epub 2017 Jun 21.

The detection and prevention of unintentional consumption of DOx and 25x-NBOMe at Portugal's Boom Festival.

Martins D^{1,2}, Barratt MJ^{3,4,5}, Pires CV¹, Carvalho H¹, Vilamala MV⁶, Espinosa IF⁶, Valente H².

⊕ Author information

Abstract

OBJECTIVE: This paper describes the misrepresentation of LSD at Portugal's Boom Festival 2014 and the prevention of unintentional consumption of DOx and 25x-NBOMe among LSD consumers attending a drug-checking service.

METHODS: Two hundred forty-five drug samples expected to contain LSD were submitted to the drug-checking service for chemical analysis. One hundred ten post-test questionnaires were successfully matched with test results.

RESULTS: About 67.3% of the alleged LSD samples tested contained only LSD; 0.8% contained LSD combined with adulterants; 24.1% did not contain LSD but did contain another psychoactive substance, including 11.4% that were 2,5-dimethoxyamphetamine derivatives and 9.8% that were N-benzyl-2,5-dimethoxyphenethylamine derivatives; and no psychoactive substance was detected in 7.8%. The majority of service users who received unexpected test results regarding their alleged LSD (74.2%) reported that they did not intend to consume the drug. Following dissemination of alerts on day 2, a larger than expected proportion of all tests conducted were for LSD, when comparing the 2014 festival to 2012, where no such alert was disseminated.

CONCLUSIONS: Although these results support the provision of integrated drug-checking services in party settings, evidence of their utility and effectiveness would be improved through future research incorporating more robust measures of outcomes following provision of drug-checking results.

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Intentional behaviour vs actual behaviour

Different studies performed during summer 2018

n=778 (Spanish study)

Influence on their pattern of consumption

75% mortality of sample

A grayscale background image showing a laboratory or research setting. In the foreground, there's a person's arm and shoulder. In the background, several people are working at a table, and various laboratory equipment like bottles and containers are visible. The text is overlaid on this image.


Difficulties for research in recreational settings

Intervention vs research

Low resources and facilities to implement evaluation

Need of external evaluation

Drop in centers



1.367 persons during 2017
82% Male
51% University studies
57% Working

Profile of cocaine users



85% Male

32 y Median age

47% University studies

71% Working

Drug checking services as quality control regulation

Sorry
I'm not a
DEALER.



Drug checking services as quality control regulation



Conclusions of drug checking services



- Monitoring tool
- High efficiency reaching target group
- Remove toxic substances from the market
- Work with drug users under health & pleasure perspective
- Still not evidence-based. Need of collaborations

Thanks!

Contact

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With the collaboration of:



With the support of:



Generalitat de Catalunya
Agència de Salut Pública de Catalunya
Subdirecció General de Drogodependències

NOV 15 — 17
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issues

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