REGIONAL ANALYSIS OF THE PROVISION OF DRUG CHECKING SERVICES IN THE CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA REGION

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ACRONYMS

2C-B	4-Bromo-2,5-dimethoxyphenethylamine
3-MMC	3-Methylmethcathinone, also known as metaphedrone
ATS	Amphetamine-Type Stimulant
BAONPS	Be Aware On Night Pleasure Safety
BDP	Bristol Drug Project, UK
CDSA	Controlled Drugs and Substances Act, Canada
CE	Capillary Electrophoresis
CEECA	Central and Eastern Europe and Central Asia
DIMS	Drug Information and Monitoring System
DIZ	Drug Information Center Zurich
EDM	Electronic Dance Music
EECA	Eastern Europe and Central Asia
EHRA	Eurasian Harm Reduction Association
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EU	European Union
EWS	Early Warning System
FTIR	Fourier Transform Infrared
FTS	Fentanyl Test Strip
GBL	Gamma butyrolactone
GC-MS	Gas Chromatography–Mass Spectrometry
GHB	Gamma Hydroxybutyrate
GmbH	Private Limited Company
GTP	Good Testing Practices, The Netherlands
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HPLC	High-Performance Liquid Chromatography
HPLC-MS	High-Performance Liquid Chromatography-Mass Spectrometry
HRMS	High-Resolution Mass Spectrometry
IDTS	International Drug Testing Service
IMPRESA	Implementing Metamphetamine Prevention Strategies into Action
IT-MS	Ion Trap Mass Spectrometry
KYSNZ	KnowYourStuffNZ
LC-DAD	Liquid Chromatography Diode Array Detection
LC-MS	Liquid Chromatography–Mass Spectrometry
LSD	Lysergic acid diethylamide
LSR	License Scheme Regulation, New Zealand
MALDI	Matrix-Assisted Laser Desorption/Ionisation
MANDRAKE	Manchester Drug Analysis and Knowledge Exchange

MAST	Multi Agency Safety Testing, UK
MDM	Médecins du Monde
MDMA	3,4-Methylenedioxymetham-phetamine, Ecstasy
MoH	Ministry of Health
NGO	Non-Governmental Organisation
NMR	Nuclear Magnetic Resonance
NPPS	Netherlands Public Prosecution Service
NPS	New Psychoactive Substance
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development
PRSC	People's Republic of Stokes Croft, UK
RCF	Robert Carr Fund
SIN	Social Drug Policy Initiative, Poland
SOP	Standard Operating Procedure
STI	Sexually Transmitted Infection
TEDI	Trans-European Drug Information network
TLC	Thin Layer Chromatography
UHPLC	Ultra-High-Performance Liquid Chromatography
UK	United Kingdom of Great Britain and Northern Ireland
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNODC	United Nations Office on Drugs and Crime
UV-Vis	Ultraviolet–Visible Spectroscopy
WEIDNOS	Welsh Emerging Drug Identification and Novel Substances

EXECUTIVE SUMMARY

Illicit drug use in the Central and Eastern Europe and Central Asia (CEECA) region continues to be a public health concern. The prevalence of opioids, new psychoactive substances (NPS) and amphetamine-type stimulants (ATS), including polydrug use (very often NPS combined with other traditional drugs), is observed not only among experienced drug users, but also among young people and other key populations. Injection is a common route of administration for opioids and NPS and the CEECA region has one of the highest prevalence of injecting drug use worldwide. Overdose remains highly underreported due to poor data collection and reporting mechanisms from the responsible agencies at local and national levels.

Repressive policies remain in place in relation to drug possession and supply which, in turn, affect the access and quality of harm reduction services and the implementation of novel interventions. The harm reduction philosophy is acknowledged by the vast majority of CEECA countries and recognised in national health and drug strategies. However, the harm reduction goals are mainly connected to HIV responses. The harm reduction infrastructure is mainly designed to cover the needs of people who use opioids and are not yet ready to cope with the problems of people who use NPS.
Addressing the challenges of illicit drug use requires the implementation of effective and innovative strategies and interventions.

> **Drug checking services** are not only a harm reduction intervention but also a valuable monitoring mechanism that provides reliable data on the drug market, its changes and developments, supporting policymakers and public health experts to respond to newly emerging needs.

In the region, drug checking services are in the infantile phase, with small-scale interventions operating in several countries supported by the government or donor initiatives and private donations. They operate in a legal grey area, limited in terms of modes of operation, with staff not allowed to handle drugs and clients at risk of prosecution.

Several barriers that hinder the introduction and implementation of drug checking services were identified. Legal restrictions, fear of criminalisation and policies that encourage police enforcement practices were identified as the most common barriers. The lack of sustainable funds, trustworthiness and staff expertise were also identified as barriers that critically affect the programme quality and utilisation of drug checking services.

Overcoming barriers that impede the adoption, leverage and scaling-up of drug checking services requires a careful examination of the country's political and social context. However, the evidence currently available suggests that drug checking services can be piloted and/or implemented in the CEECA region, taking into consideration some recommendations from countries where these programmes have been operating for many years.

Ensuring partnerships with national laboratories, universities or harm reduction programmes that have already the legal arrangements and testing technologies to jointly run drug checking services is highly recommended. The service should cover not only the needs of recreational users at festivals/night events but also the needs of people with drug use experience and people who inject drugs who are the most vulnerable and stigmatised groups. Facing the huge opioid crisis in North America (including fentanyl and carfentanyl) and also fentanyl being a common substance among people who use drugs in some countries of Eastern Europe (i.e. Estonia and Lithuania), colorimetric reagent tests, and especially fentanyl test strips, are also recommended. Advocacy efforts should be focused to convince the respective government to allocate domestic funds under the framework of harm reduction or a scientific research component.

INTRODUCTION

Notwithstanding the countless efforts and billions of dollars to reduce the phenomenon of illicit drug use and the health problems associated with its use and abuse, such use remains common and is on the rise in the majority of countries worldwide. According to the World Drug Report 2022 published by the UN Office on Drugs and Crime (UNODC)[1], the number of people who use drugs continues to increase. In 2020, the estimated prevalence was 5.6%, or nearly 284 million people aged 15-64 years who had used any type of drug during the last 12 months. This figure marks a 26% increase compared with the 2010 period when the prevalence of drug use was 5% or nearly 226 million people. In the European region, the use of illicit drugs remains a public health concern as well. Data from the European Drug Report (2022)[2] show that nearly 29% of adults or 83.4 million people (aged 15-64 years) have experienced, or have ever used, illicit drugs. Globally, cannabis continues to remain the most prevalent used illicit drug, followed by opioids, amphetamine, cocaine and other stimulants.

In the CEECA region, cannabis, followed by opioids and stimulants, are the most used categories. Nevertheless, in the last few years, many countries in the region have seen a growing trend in the use of ATS. A study conducted by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2022) that analysed the municipality wastewater for drugs and metabolic in nearly 80 European cities showed a significant increase in the use of methamphetamine in the region, particularly in Czechia, Latvia, Slovakia, Poland, Estonia and Lithuania[3].

The European Union (EU) Drug Market Report (2019) highlights that the European illicit drug market is mixed with the presence of "traditional" illicit drugs as well as new ones (including NPS), with consumers having access to a variety of more potent and cheaper drugs. Globalisation, an increase in local products, encrypted services, darknet markets and the unstable political situation have influenced the increased availability of illicit drugs in European countries[4]. As noted in the EMCDDA Drug Report (2022), there have been increasing reports about the purity of cannabis which is often adulterated with synthetic cannabinoids, the high availability of secondary cocaine processed in European laboratories, crack cocaine use among vulnerable groups, and the availability and use of non-controlled cathinones.

Increased availability and changes in the dosage, purity and potency have been also reported in several Eastern Europe and Central Asia (EECA) countries[5]. In 2021, EHRA published a regional report analysing a region-specific understanding and use of NPS in EECA countries[6]. This report identified a variety of factors influencing the use of NPS, such as the absence, poor quality, or unaffordable price of the drug of choice; the desire to experiment with a different drug;

[1] UN Office on Drugs and Crime (UNODC). World Drug Report 2022. Vienna; United Nations, 2022. https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2022.html (accessed 30 November 2022).

[2] European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2022). European Drug Report 2022: Trends and Developments. Luxembourg; Publications Office of the European Union. https://www.emcdda.europa.eu/system/files/publications/14644/TDAT22001ENN.pdf (accessed 30 November 2022).

[3] European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). (2022) Wastewater analysis and drugs — a European multi-city study. Lisbon; European Monitoring Centre for Drugs and Drug Addiction. https://www.emcdda.europa.eu/publications/html/pods/waste-water-analysis_en (accessed 30 November 2022).

[4] European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and Europol (2019). EU Drug Markets Report 2019. Luxembourg; Publications Office of the European Union. https://www.europol.europa.eu/sites/default/files/documents/drug_markets_report_2019_pdf.pdf (accessed 30 November 2022).

[5] Kurcevič, E., Lines, R. (2020). New Psychoactive Substances in Eurasia: A Qualitative Study of People Who Use Drugs and Harm Reduction Services in Six Countries. Harm Reduction Journal 17 (94). https://doi.org/10.1186/s12954-020-00448-2 (accessed 30 November 2022).

[6] Eurasian Harm Reduction Association (EHRA) (2021). New Psychoactive Substance Use in Eastern Europe and Central Asia: Regional Report. Daan van der Gouwe. Vilnius, Lithuania; EHRA. https://harmreductioneurasia.org/wp-content/uploads/2021/09/2021_8_24_EHRA_NPS-RegionalReport_EuropeAsia_EN.pdf (accessed 30 November 2022).

context-driven motives by avoiding the legal consequences of possession or use of drugs as NPS requires some specific tests for it to be detected in urine or blood samples. The cheaper price of NPS, the lower technical skills needed to prepare and inject such drugs, enhancement of sexual performance, as well as the trend of young people to use designer drugs to be distinguished from older users, are other influencing factors among experienced users and young people with less or no history of drug consumption[7]. The increasing presence of NPS poses challenges for harm reduction programmes that have traditionally targeted people who inject drugs and ecstasy users at electronic dance music events. Therefore, the availability of drug checking services is critical, not only in monitoring drug market changes, but also by giving a clear picture of what consumers believe they are using and what they are using in reality.

> Drug checking services provide realistic data on the evolution of the NPS market which is collected from drug users, and also facilitates the direct engagement of NPS users with harm reduction programmes and other follow-up care services[8].

Unsafe drug injecting practices among people who inject drugs put them and their injecting and sexual partners at greater risk of contracting and transmitting viral infections such as HIV, hepatitis and other infectious diseases[9]. According to the World Drug Report 2022, the CEECA region is home to nearly 3.1 million people who inject drugs, representing the second-highest prevalence of injecting drug use worldwide. Opioids continue to be the most commonly injected drug throughout the region and the estimated annual prevalence of opiate use (injected heroin) remains higher than the global average (0.33%), at 1.2% of the adult population[10,11]. On the other hand, injection is a common route of NPS administration, particularly for synthetic cathinones and synthetic opioids[12]. Due to differences in their properties, the stimulating effects of most NPS are short-lived, tolerance is developed faster[13] and, therefore, attaining euphoria requires more injections (20-30 per drug session) in comparison with opioids. This implies that more needles, syringes and other drug paraphernalia are needed and involved in the process of injecting a stimulant. While under the influence of drugs and the limitation to accessing sterile injection paraphernalia, the risk of sharing contaminated needles/syringes and involvement in unprotected sexual relationships has led not only to outbreaks of HIV, but also of the hepatitis C Virus (HCV) and sexually transmitted infections (STI). A drug checking service represents a direct response to the need to reduce the health risks of illegal drug use. For instance, in addition to the benefits of monitoring drug market changes or by reducing overdose, drug checking services provide opportunities - particularly for recreational users who often are not targeted by harm reduction programmes - to utilise HIV/Hepatitis testing services, helping service users to know their health status and be informed about the risk of sharing contaminated drug paraphernalia.

The number of worldwide deaths attributed to drug use continues to remain high, with nearly 494,000 new cases in 2019[14]. The majority of deaths caused by fatal overdose are mainly attributed to opioids and stimulant drugs. As reported by the UNODC and EMCDDA Drug Reports (2022), opioids were responsible for nearly 75% of fatal overdoses in the USA and EU. Heroin continues

[7] EHRA (2021), Ibid.

[8] Giné CV, Vilamala MV, Measham F, et al. (2017). The utility of drug checking services as monitoring tools and more: A response to Pirona et al. Int J Drug Policy. 2017 Jul;45:46-47. doi: 10.1016/j.drugpo.2017.05.018 and, https://energycontrol-international.org/wp-content/uploads/2017/10/Vidal2017_Utility-of-Drug-Checking-services.-Answer-to-Pirona_IJDP.pdf (accessed 30 November 2022).

[9] Joint United Nations Programme on HIV/AIDS (UNAIDS) (2019). *Health, rights and drugs: harm reduction, decriminalization, and zero discrimination for people who use drugs. Geneva*; UNAIDS. https://www.unaids.org/sites/default/files/media_asset/JC2954_UNAIDS_drugs_report_2019_en.pdf (accessed 30 November 2022).

[10] Hickman M., Larney S., Peacock A., et al. (2018). Competing global statistics on prevalence of injecting drug use: why does it matter and what can be done? Addiction 2018; 113: 1768. doi: 10.1111/add.14383 (accessed 30 November 2022).

[11] Kupatadze, A. (2021). Production, trafficking and consumption of illicit drugs in the EECA region. Eastern and Central European and Central Asian Commission on Drug Policy (ECECACD). https://ececacd.org/production-trafficking-and-consumption-of-illicit-drugs-in-eeca-region/ (accessed 30 November 2022).

[12] EHRA (2021), Op.cit.

[13] Shafi A, Berry AJ, Sumnall H, et al. (2020). New psychoactive substances: a review and updates. *Ther Adv Psychopharmacol*. 2020;10:2045125320967197. Published 2020 Dec 17. doi:10.1177/2045125320967197 (accessed 30 November 2022).

[14] United Nations Office on Drugs and Crime (UNODC). World Drug Report 2022. Vienna; UNODC. https://www.unodc.org/unodc/en/data-and-analysis/wdr-2022_booklet-2.html (accessed 30 November 2022)

to remain the most used opioid in Europe, but the latest data reveals that there is a considerable increase in the use of several synthetic opioids, such as buprenorphine, methadone, fentanyl and tramadol[15]. The Global State of Harm Reduction 2020[16] shows that there is a decreasing trend regarding drug overdoses in the CEECA region. The prevalence of reporting of fatal overdoses varies by country with some reporting from zero (Uzbekistan) up to hundreds of cases per year (Kazakhstan). Despite country fluctuations in estimating overdose cases, its popularity remains high in the region. The prevalence of drug-induced mortality in Lithuania and Estonia remains very high, the highest in Europe among the adult populations (15-64 y/o). For instance, in Lithuania, one-out-of-nine officially overdose reported deaths are related to opioids, including methadone, fentanyl and carfentanil. Other countries also report high rates of overdose episodes among people who use drugs. The Russian Federation reports a high overdose prevalence as nearly 50% of people who are drug users have experienced at least one overdose episode in their life. Nevertheless, overdose cases and drug-induced mortality remains strongly underreported in the region due to poor data collection and reporting methodology at country level. These figures underpin the necessity to introduce drug checking services. In response to the overdose crisis,

> attention is being focused on scaling-up harm reduction programmes, including drug checking services which are considered an evidence-based strategy and an instrumental public health response in overdose prevention and a potentially life-saving service[17].

Despite resistance from politicians and law enforcement agencies to implementing public health-oriented approaches to address socio-health problems related to drug use, nowadays many countries across the world are adopting less punitive and more pragmatic drug policies, recognising the implementation of harm reduction programmes as a tool to mitigate the spread of HIV and hepatitis among people who use drugs. Harm reduction programmes are also available and recognised in countries of Central and Eastern Europe and Central Asia, however many of them are severely underfunded and depend on international donors[18]. Even though some of the countries in the region are starting to develop harm reduction packages for stimulant users, most of the existing harm reduction programmes are primarily focused on the needs of people who use opioids and are not yet ready to address the problems and needs of people who use NPS.

> Drug checking services are relatively new in the CEECA region, operating in a "legal grey area".

They are being implemented in a few countries, mostly by distributing reagent test kits at music festivals and nightlife events. Hence, expanding the geographic coverage of drug checking services as a public health intervention, particularly in countries with restrictive and punitive drug policies, requires careful evaluation of the policies and mechanisms in place in a country, government support, as well as the readiness and commitment of key stakeholders.

EHRA, through support of an international expert, sought to examine existing barriers impeding the implementation of drug checking services in the CEECA region and to provide tailor-made recommendations to overcome the existing barriers and facilitate the process of expanding the geographic coverage of drug checking services in CEECA countries and beyond.

Therefore, the general aim of this report is to identify and document the main legal, social and financial obstacles initiating the provision of drug checking services in the CEECA region and to provide recommendations to overcome the existing obstacles.

[15] Organisation for Economic Co-operation and Development (OECD) Library. Health at a Glance: Europe 2020: State of Health in the EU Cycle. https://www.oecd-ilibrary.org/sites/fc8a3fcf-en/index.html?itemId=/content/component/fc8a3fcf-en (accessed 30 November 2022).

[16] Harm Reduction International (HRI). Global State of Harm Reduction 2020. London; HRI. https://www.hri.global/files/2021/03/04/Global_State_HRI_2020_BOOK_FA_Web.pdf (accessed 30 November 2022).

[17] Wallace, B., van Roode, T., Pagan, F. *et al.* What is needed for implementing drug checking services in the context of the overdose crisis? A qualitative study to explore perspectives of potential service users. *Harm Reduct J* 17, 29 (2020). https://doi.org/10.1186/s12954-020-00373-4 (accessed 30 November 2022).

[18] Ibid.

METHODOLOGY

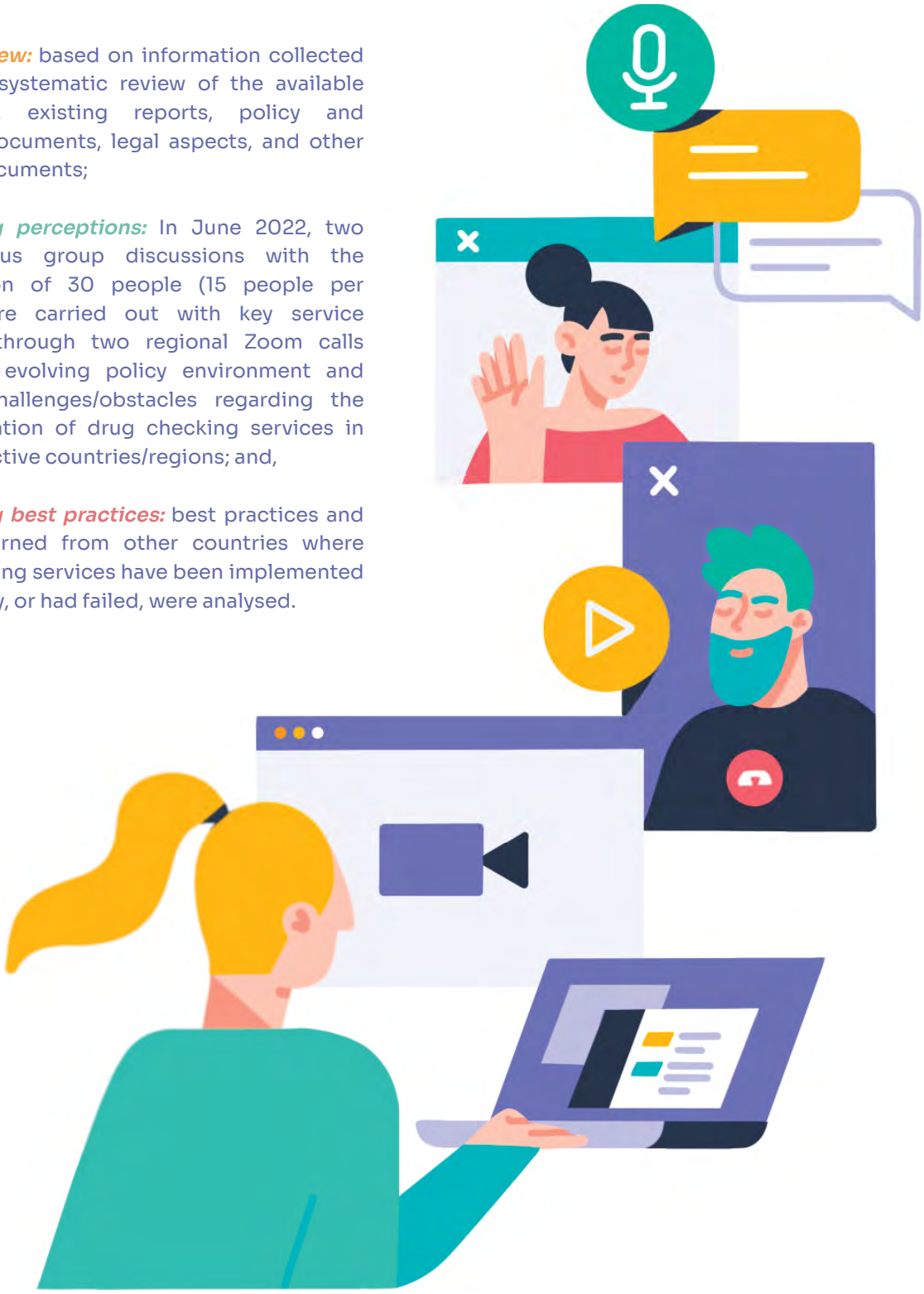
The methodology included using a mixed method approach combining any relevant and appropriate quantitative and qualitative data to provide a panorama and in-depth analysis of the existing practices and the opinions and experiences of service providers.

The data collection process included the following steps:

- ***Desk review:*** based on information collected through a systematic review of the available documents, existing reports, policy and strategic documents, legal aspects, and other relevant documents;

- ***Exploring perceptions:*** In June 2022, two virtual focus group discussions with the participation of 30 people (15 people per group) were carried out with key service providers through two regional Zoom calls about the evolving policy environment and the key challenges/obstacles regarding the implementation of drug checking services in their respective countries/regions; and,

- ***Capturing best practices:*** best practices and lessons learned from other countries where drug checking services have been implemented successfully, or had failed, were analysed.



THE DRUG CHECKING SERVICE LANDSCAPE

The incidence of harm mainly caused by repressive drug policies, which do not allow people to make informed choices and to take healthy decisions, continues to increase and remains one of the major challenges for public health and has placed immense pressure on healthcare services. Fatal overdoses contributed to nearly 9,000 deaths in 2016 in Europe[19] and almost ten times more in the USA in 2020[20]. Globally, over recent decades, a variety of public health interventions based on harm reduction approaches have been introduced and implemented, attempting to respond to the risks related with drug use, including fatal overdose.

Drug checking services emerged as novel interventions to prevent and reduce overdose mortality and, nowadays, they are operating under the principles of the harm reduction philosophy.

> The basic principle of **drug checking**, known also as **drug safety testing**, or **pill testing**, is supporting experienced people who use drugs and those who use drugs recreationally to reduce possible harms and prevent overdose by testing illicit drugs to determine their composition (content, purity, potency) and provide the user with harm reduction advice and support.

According to the EMCDDA, a drug checking service is defined as, "*a harm reduction intervention that enables individuals to submit substances for chemical analyses providing information on the content and purity of submitted samples and providing health information to users to make an informed choice whether to use or how to use them*"[21]. Furthermore, it is an evidence-informed harm reduction tool that helps in monitoring drug market changes by informing policymakers, public health experts, service providers and the general public about the presence of particularly dangerous substances and helping them to adapt policies and interventions to respond to newly emerging trends[22]. Drug checking helps providers to share tailor-made harm reduction information with drug users; to facilitate more informed decision-making; to form a positive relationship between providers and drug users; it increases the utilisation of services; and also, to a certain degree, adjusts the "drug market" with the supply chain, matching client expectations. Overall, drug checking services operate under the philosophy of harm reduction. However, their operational model, structure and drug analysis techniques depend very much on the country's legislation and support, budget allocation, availability and commitment of trained staff, etc.

> Drug checking services were pioneered in Europe in the early 1990's to respond to the wave of misuse and fatal overdoses, particularly associated with the use of synthetic "party drugs", such as MDMA at rave and electronic dance music events.

The very first recognised drug checking service was established in the Netherlands, named the Drug Information and Monitoring System (DIMS)[23], as an effort to coordinate existing drug checking initiatives and to monitor the

[19] European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2018). Preventing overdose death in Europe (Perspectives on drugs). Luxembourg; Publications Office of the European Union. https://www.emcdda.europa.eu/publications/pods/preventing-overdose-deaths_en (accessed 30 November 2022).

[20] National Institute on Drug Abuse (NIDA) (2022). Trends and Statistics. *Overdose rate deaths.* North Bathesda, MD; NIDA. https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates (accessed 30 November 2022).

[21] Brunt, T. (2017). Drug checking as a harm reduction tool for recreational drug users: *opportunities and challenges*. Background paper commissioned by the EMCDDA for Health and social responses to drug problems: a European guide. Luxembourg; Publications Office of the European Union. https://www.emcdda.europa.eu/system/files/attachments/6339/EuropeanResponsesGuide2017_BackgroundPaper-Drug-checking-harm-reduction_0.pdf (accessed 30 November 2022).

[22] Eurasian Harm Reduction Association (EHRA). Know your stuff – *an informative leaflet*. Vilnius, EHRA, undated. https://api.harmreductioneurasia.org/efe452a3-ca29-4258-b900-dbb277baf602.pdf (accessed 30 November 2022).

[23] Brunt, T. (2017), Ibid.

nationwide presence of illicit drugs[24]. Supported by the Netherland Ministry of Health (MoH) and hosted at the Trimbos Institute, it currently consists of a network of 31 office-based drug checking facilities in 29 cities. DIMS acts as a monitoring agency and collected data are reported to the European Early Warning System (EWS). Since then, a number of drug checking services have been established and are operating in many European countries, the Americas and Australasia.

Following the European experience, drug checking services began to be set up in North and South America and Australasia. The first recognised drug checking service in the Americas was the Dance Safe founded in the San Francisco bay area in 1998. This programme is based on harm reduction principles and peer education approaches. It provides drug checking and harm reduction services at raves and nightlife events across the U.S.[25]. Later, other drug checking services emerged in Canada (2002), Australia (2013), Colombia (2013), Mexico (2014), New Zealand (2015) and Uruguay (2016)[26].

> A global review in 2017 of drug checking services that were operating revealed 31 active drug checking services in 20 countries across the world run by 29 different organisations[27].

The vast majority of them operated in the European region with only eight (8) drug checking services operating in North and South America as well as Australasia, respectively: the United States (2); Canada (1); Columbia (1); Mexico (1); Uruguay (1); Australia (1); and New Zealand (1). The modes of operation varied greatly by the regulatory environment of each country, but overall, three modes of operation were noted: on-site, fixed site and postal. Nearly ninety percent of reviewed drug checking services reported operating via an on-site mode, including music festivals, night life clubs and other events where drug users socialise. Fixed site modes of operation (including office-based and outreach centres) were reported by eighteen services, and only three services reported a postal submission as their main mode of service operation.

Efforts to expand the network of drug checking services, to share knowledge and compare experiences, resulted in the establishment of the Trans-European Drug Information network (TEDI) in 2011. The network consists of 20 fieldwork drug checking services representing thirteen European countries (Table 1). The TEDI project uses the generated data to monitor and analyse the evolution of various European drug trends in recreational settings and also helps to improve public health and intervention programmes with analytical facts[28].

TABLE 1: Trans-European drug information (TEDI) Network in Europe

Drug Checking Services, part of the TEDI network	
Name of the service	**Country of Operation**
WEDINOS	United Kingdom
The Loop	United Kingdom
Jellinek	Netherlands
DIMS	Netherlands
Modus Vivendi	Belgium
Analyze ton Prod.	France
Checkin	Portugal
Kosmicare	Portugal
Ailaket	Spain
Energy Control	Spain
NTV Neutravel proj.	Italy
Borgorete	Italy
Saferparty Streetwork	Switzerland
Drogart	Slovenia
Drogenarbeit Z6	Austria
Checkit!	Austria
PIPARO	Luxembourg
Legal High Inhalts Stoffe	Germany
Drug Checking Berlin	Germany
A - Clinic Foundation	Finland

[24] Trimbos Institute (2019). The Drugs Information and Monitoring System (DIMS). Factsheet on drug checking in the Netherlands. Utrecht; Trimbos Institute. shorturl.at/bwzCJ (accessed 30 November 2022).

[25] https://dancesafe.org/about-us/ (accessed 30 November 2022).

[26] Barratt, M.J., Kowalski, M., Maier, L.J., et al. (2018). Global review of drug checking services operating in 2017. Sydney; National Drug and Alcohol Research Centre, Drug Policy Modelling Program Bulletin No. 24. https://shorturl.at/jloyX.

[27] Barratt, M.J., et al. (2018), Ibid.

[28] Brunt, T. M., Nagy, C., Bücheli, A., Martins, D., Ugarte, M., et al. (2017). Drug testing in Europe: monitoring results of the Trans European Drug Information (TEDI) project. Drug Testing and Analysis Feb;9(2):188-198. https://doi.org/10.1002/dta.1954 (accessed 30 November 2022).

ASPECTS OF DRUG CHECKING SERVICE MODELS

MODES OF OPERATION

Despite different modes of operation, settings or analysis techniques, the philosophy of drug checking services remains the same: reducing harm, inadvertent overdoses, premature deaths and, where possible, providing harm reduction advice. The model of drug checking is based on the approach used to deliver services most commonly known as "*front of the house*" or "*back of the house*". Their mode of operation is closely related to the location or setting where they provide their services, which could be "onsite", such as at drug festivals, or "fixed sites", through a permanent laboratory. Barratt, et al., in the *Global review of drug checking services operating in 2017* uses three definitions regarding the modes of operation: on-site, fixed site, and postal. To provide a better overview regarding the modes of operation of drug checking services, examples will be given for the following models: **back of the house, front of the house, fixed sites and postal services**[29]. A summary of types of drug checking services and their possible advantages and disadvantages are provided in Table 2.

'**Back of the house**' is a form of drug checking service employed mostly for monitoring purposes and can be used to support harm reduction programmes in the absence of "front of house" drug checking services to communicate the presence of very risky substances to the public. Drug analyses are carried out on samples that are collected at the event site (festivals, nightclubs, etc.) from different agencies, such as seized drugs from the police, emergency departments, amnesty bins, or community services, but not directly from users[30]. Test results are communicated indirectly to event attendees via onsite communication channels and social media posts.

'The Loop' in the United Kingdom (UK) adopted this approach in 2013 which was called "*halfway house*" testing. The difference with the previous approach ('back of the house') is that samples are still "*obtained from different agencies on site at festivals and nightclubs and test results were then reported back to all agencies to inform health responses and better monitor local drug markets*"[31].

The "Back of the house" approach offers a variety of benefits, such as: fewer policy and legal requirements from national authorities for the programme to run the drug checking service; samples obtained through different mechanisms; and the anonymity of the individual is also ensured. Furthermore, this approach contributes to monitoring drug markets and developing appropriate harm reduction interventions and communication strategies. However, this approach has some drawbacks, such as a lack of face-to-face or direct communication with users and difficulties in reaching hard-to-reach populations. Also, it is important to keep in mind that in the event that substances are analysed in order for them to be used, it can be used as evidence to prosecute people and, therefore, cannot be called drug checking.

'**Front of the house**': commonly known as on-site or mobile drug checking facilities that operate at events or places where illicit drugs are consumed by a large number of people, such as music festivals, events, or in specific venues such as nightclubs. Test results are given directly or indirectly to clients on-the-spot and waiting time depends on the drug testing techniques[32].

[29] Keenan, E., Killen, N. (2021). Report of the Emerging Drug Trends and Drug Checking Working Group 2021. Dublin; Health Service Executive. https://www.hse.ie/eng/services/publications/report-of-the-emerging-drug-trends-and-drug-checking-working-group-2021.pdf (accessed 30 November 2022).

[30] It is important to mention that analysis of seized substances itself is not drug checking. Drug checking services do not analyse samples in order to use it as evidence to prosecute people.

[31] The Loop (2016). Multi Agency Safety Test (MAST). https://wearetheloop.org/mast (accessed 1 December 2022).

[32] Bartle, J., Lee, N. (2019). What works. Testing drugs for harm reduction. 360Edge. https://shorturl.at/dhkzW (accessed 1 December 2022).

Usually, services are provided through mobile units or tents located in visible places and promoted to encourage consumers to utilise the drug checking service. Even though this approach is not considered a state-of-the-art laboratory facility, they have proven to be effective and its effectiveness is higher when combined with other analysis techniques. A number of countries and organisations throughout the world are using the front-of-the-house or on-site approach, such as Checkit! (Austria), Safer Dance (Switzerland), The Loop (UK), and Pill testing (Australia), etc. The most recognised benefits are those related to direct engagement and communication with consumers and supporting them to make an informed decision on the use of their drug of choice. The main identified barrier with the "front of house" service is that the operation of this service requires specific legal arrangements and legislative changes to allow programmes to operate at festivals or nightlife settings.

'**Fixed site**': Bartle and Lee, in their review "*What works. Testing drugs for harm reduction*" (2019)[33], portray fixed site drug checking services as

> facilities that operate as stationary services, outreach or community centres and, to a lesser degree, in churches[34] and a pharmacist community[35].

These services may use mobile or access fixed-site laboratories for more advanced chemical analysis techniques. A great example of fixed-site drug checking services is the Drug Information and Monitoring System (DIMS) in the Netherlands, where the hub fixed-site laboratory is located at the Trimbos Institute, whereas the 31 drug checking facilities are located in 29 cities. Samples submitted to drug checking services are analysed using a reagent test or chromatography and the user is provided with some information about the test results. Underdetermined samples, or those that require further analysis, are sent to the DIMS bureau. Other examples of fixed-site drug checking services include Energy Control in Spain, Drug Information Center Zurich (DIZ) and MANDRAKE (Manchester Drug Analysis and Knowledge Exchange), UK, etc.

As with other methods, this approach offers possible advantages and disadvantages. One of the advantages is that people can receive test results and harm reduction advice in advance of attending the event in which they are planning to use drugs. The extended network of fixed-site drug checking services, such as in the case of DIMS, increases the odds to access hard-to-reach groups or networks of users who may have not have previously been in contact with harm reduction programmes (i.e. young people who use drugs recreationally). This approach allows the utilisation of more specialised drug analysis testing techniques that provide more accurate results. Some barriers to the application of this approach have been also noted, particularly related to reaching the drug user population who may not engage in nightlife or festival events (i.e. people with drug use experience who live on the streets). The operational cost is also considered a barrier as fixed-site drug checking services provide more in-depth analyses by using the Gas Chromatography–Mass Spectrometry (GC-MS)

[33] Bartle, J., Lee, N. (2019), Ibid.

[34] Measham, F. (2020). City checking: Piloting the UK's first community-based drug safety testing (*drug checking*) service in 2 city centres. Br J Clin Pharmacol. 2020; 86: 420– 428. https://doi.org/10.1111/bcp.14231 (accessed 1 December 2022).

[35] Guirguis, A., Gittins, R., Schifano, F. (2020). Piloting the UK's First Home-Office-Licensed Pharmacist-Led Drug Checking Service at a Community Substance Misuse Service. *Behav.* Sci. 2020, 10, 121. https://doi.org/10.3390/bs10080121 (accessed 1 December 2022).

technique which, in turn, has a high acquisition or maintenance cost.

'**Postal drug checking**': this service is provided through fixed site facilities and accepts samples sent through mail services with results sent back through direct contact or are posted on online catalogues using an anonymous key. There are a few agencies/projects employing this testing technique, with the Energy Control Project (Spain) running such a project since 2014 as part of the International Drug Testing Service (IDTS). They also accept samples internationally and provide qualitative and quantitative analyses of the submitted samples using a variety of advanced drug analysis testing techniques, such as GC-MS and Liquid Chromatography-Mass Spectrometer (LC-MS), High-Performance Liquid Chromatography (HPLC), and Ultraviolet–Visible Spectroscopy (UV-Vis), etc.[36].

One of the main benefits of postal drug checking services is the removal of geographic barriers as people from different cohorts or countries where drug checking services are unavailable in their area can submit the drug of choice to be analysed. Submitting drug samples to be analysed before use is considered an advantage as it allows people to make an informed choice or be involved in healthy behaviours well before attending an event. However, concerns regarding the legal implications, particularly related to drug samples through postal transportation, have been raised by critics of drug checking services.

WAITING TIME

Despite different modes of operation Barratt, et al., (2018) in the report, 'Global review of drug checking services', provided data regarding the waiting time for consumers to know their test results. For on-site services, the average waiting time was up to thirty minutes (15-29 minutes), followed by up two-three days (1-3 days) for fixed-site services and over a week for postal-related services.

TABLE 2 : Types of drug checking services, their advantages and disadvantages

Types of drug checking services	Advantages	Disadvantages	Test Results Waiting time
Back of the house	Support harm reduction programmes at events in case of the absence of "front of house" to communicate risks through on-site communication channels. Valuable data for an Early Warning System and development of tailored harm reduction programmes.	Lack of face-to-face contact with consumers. Depends on the willingness of consumers to deliver samples in amnesty bins.	Approximately 2 weeks*
Front of the house (on site)	Direct engagement with consumers and health information is provided directly/indirectly to them. Provides services directly in the areas with a high concentration of drug use.	Requires law and policy amendments.	15-29 mins.
Fixed site	Potential to reach traditional and non-traditional drug consumers. Employs different and integrated services, either as stand-alone or network services. Provides more in-depth analysis using specialised drug analysis techniques (GC-MS methods).	May not reach consumers who engage in nightlife or festival events.	1-3 days
Postal services	Removes access barriers and be used by a variety of consumers. Encourages hard-to-reach groups to use drug checking services. Provides more in-depth analysis using specialised drug analysis techniques (GC-MS methods).	Requires law and policy amendments. Lack of face-to-face contact with consumers.	1 week or more

Source: Adapted from Bartle, J., Lee, N. (2019); Keenan, E., Killen, N (2021); and Barratt, et al. (2019).
** Test results are communicated through on-site communication channels and social media posts.*

[36] Energy Control International. Drug Checking Services. https://energycontrol-international.org/ (accessed 1 December 2022).

COMMUNICATION APPROACHES

Communication and behaviour change strategies employed by drug checking services aim to communicate and provide health information directly to clients. For instance, 'The Loop' in the UK communicates directly with clients, informing them about the purity and the potency of the analysed substances. However, due to different circumstances, such as the type of drug checking service, settings, or regulations, other channels are used, such as websites or social media channels.

In order to increase the awareness of event attendees on what type and quality of drug is currently circulating,

> "Checkit!" Vienna/Austria and "Pill Testing Australia" communicate results at the event using the front-facing system where anonymous test results are hung up on differently coloured slips of paper (white, yellow and red colours) on the result wall.

An individual can identify his/her/their sample result by using an individual assigned number (Figure 1). For example, if the submitted drug has no other adulterants or is the same as the consumer anticipated it to be, the anonymous test result is published on the white paper, and so forth.

FIGURE 1 : Front-facing system with drug checking results

[37] https://checkit.wien/drug-checking/#events

Some drug checking services employ other communication channels to provide test results. DIMS uses a website (drugs-test.nl) to provide detailed information on the presence of risky substances, including images and descriptions of their possible harm, adulterants and potency. On the other hand, a RED Alert system has been developed and is available to be installed on mobile phone applications to inform consumers and the general public about the presence of new risky substances.

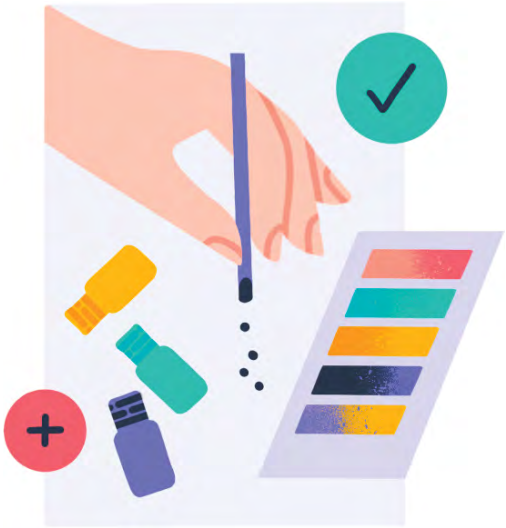
'Energy Control', Spain, Welsh Emerging Drug Identification and Novel Substances Project (WEIDNOS), Wales and 'Ecstasy Data', USA, operate at an international level through postal drug checking services. Results are mostly given through direct contact (e-mail, phone) with the person who mailed the sample, or posted online at their respective websites.

DRUG ANALYSES TESTING TECHNIQUES

Ideally, a drug checking service should employ a state-of-the-art analysis technique operated by qualified staff that provides reliable results as fast as possible on the content and purity of a wide range of submitted substances. Until now, there is no agreement regarding the best model of analytical technique to be used by drug checking services even though the main objective for all services is to check for unexpected drug contents and purity. The reason for this is simple: testing techniques depend on the type and model of services, goals, settings, allocated budget, qualified staff, and regulations, etc. Some programmes use low-cost testing methods - including liquid reagent tests and thin-layer chromatography kits that simply identify the presence or the absence of the targeted substance - to more sophisticated technologies that provide qualitative and quantitative data on a targeted substance. However,

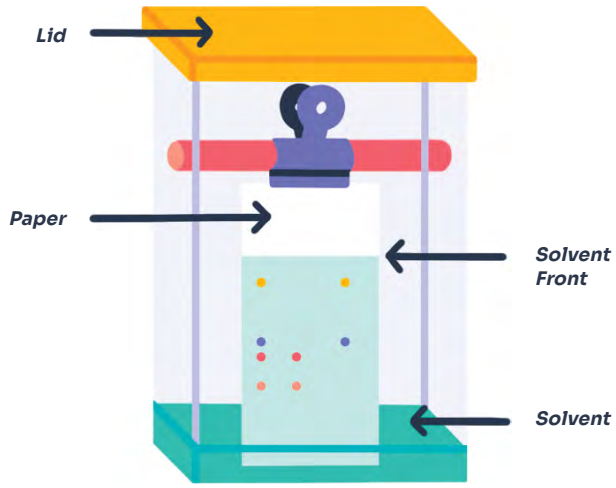
> the majority of drug checking services use a combination of techniques to better serve the needs of consumers.

A summary of the most common analytical techniques used by drug checking services globally is presented below, based on the work of Keenan (2021), Bartle (2019), Brunt (2019), Barratt (2018) and TEDI (2022).



Colorimetric reagent kits: contain chemicals that change colour to determine the presence or absence of a compound in a sample, but not its quantity or other adulterants. The most routinely used colorimetric reagents are Marquis (for 2C-x, DMT, MDMA, meth/amphetamine, mephedrone, opioids), Morris (for ketamine and cocaine), Mandelin (for ketamine and PMA [para-Methoxyamphetamine]), Mecke (for 2C-x, cocaine, DMT, MDMA, meth/amphetamine, opioids), Hofmann and Ehrlich (DMT, LSD) and Fentanyl Test Strips (FTS) for fentanyl. It is a quick, easy-to-use and cost-effective alternative testing method. It requires trained staff and operators able to perform testing techniques, interpret the results and analyse data.

Chromatography: allows the separation of individual compounds in a sample. The most used methods by drug checking services are Thin Layer Chromatography (TLC) and High-Performance Liquid Chromatography (HPLC). TLC is considered to be a cost-effective method (~€1-3/sample and around €500-2,000 for non-consumables), easy to use, efficient and accurate. However, one of the main disadvantages of this method is that it does not quantify how much of a substance is present in the tested sample or requires additional testing methods, such as colorimetric reagents, to identify complex mixtures or poly drugs. TLC is not suitable for identifying new psychoactive substances. The application of this method requires qualified staff, a chemist or pharmacist, and trained operators. Chromatography can be used in on-site and fixed-site settings but requires good ventilation with a temperature below 25C, a refrigerator to store reagents, tested samples, and a flat surface for the elution chambers for best results.



Spectroscopy: electromagnetic radiation is used to obtain information about the structure of the tested substance. The most commonly used techniques are Fourier Transform Infrared spectroscopy (FTIR), Ultraviolet-Visible Spectroscopy (UV-Spectroscopy) and Raman Spectroscopy.

- *FTIR* works by shining colours of light and then measuring the amount of each colour absorbed in a sample. This allows a unique fingerprint to be measured for each molecule. This is easy-to-use, portable (5-10kg's, 400mm x 300mm), fast (2-3 minutes per sample) and a medium cost (€18,000) technique. However, it does not measure the purity of the components it detects, may not identify substances present at a low percentage level and requires skilled and trained staff. It is recommended to be used with other testing techniques, such as colorimetric reagent kits in case of identification of MDMA or 2C-B mixed with large amounts of tablet binder. On the other hand, in cases where analysis confidence is low, it is highly recommended to be combined with Thin Layer Chromatography (TLC).

- *UV Spectroscopy:* a quantification method that measures the intensity of light passing through a sample and compares it to the intensity of light before it passes through the sample and captures this information to create a characteristic spectrum. When used, a sole testing analysis technique cannot analyse trace quantities of substances and may provide unsuitable results. Therefore, it is recommended to be used as a secondary technique in a lab that needs a low-cost method to increase quantification capacity or increase the specificity of TLC. It is mainly suitable for MDMA and 2C-B and unsuitable for heroin, cocaine and amphetamine (samples usually suspected as being adulterated). This is an inexpensive (€3,000-15,000), easy-to-use, fast (3 minutes per sample), portable (2kg, 30x40cm's) and does not require high-level, technically qualified staff.

- *Raman Spectroscopy:* a technique that involves shining a laser on a sample and detecting the scattered light. It does not require much preparation and analysis can be performed through the drug container, avoiding any contact by the operator and the tested sample, either tablets, powders or liquids, are not destroyed. This is a very fast technique (60 seconds), easy to perform and the device is portable. However, there are some drawbacks, such as poor identification of substances under 10% concentration and not physically separating samples into their constituents.

Mass Spectrometry (MS): it is the most discriminatory of the drug testing techniques which allows the separation of different chemicals in a substance by their mass. Separation can be accomplished through gas chromatography (GC), liquid chromatography (LC), or capillary electrophoresis (CE). This technique is considered a gold standard as it is precise, requiring only a very small sample size (milligrams) and any substance can be identified using MS in combination with a separation (chromatographic) technique. A major drawback of MS is that this technique can only be implemented in a fixed-site laboratory, is very expensive (i.e. GC costs €50,000–120,000) and requires ongoing expenditures due to consumable materials, with some of these being poisonous/hazardous.

Table 3 provides a comparative summary of some of the testing methods, including their properties, price and suitability for drug checking services[38]. As stated above but also specified in the comparative summary, the expensive technologies provide more advanced results; however, cheaper technologies are more suitable and user-friendly in terms of operation for on-site drug checking services.

[38] Kerr, T., Tupper, K. (2017). Drug checking as a harm reduction intervention: Evidence Review Report. Vancouver, Canada; British Columbia Centre on Substance Use. https://www.bccsu.ca/wp-content/uploads/2017/12/Drug-Checking-Evidence-Review-Report.pdf (accessed 1 December 2022).

TABLE 3: Comparative overview of testing methods and their properties

Technology	Detect a wide variety of compounds	Ability to detect fentanyl or other opioids	Ability to detect multiple substances at once	Identify unknown substances	Specificity	Sensitivity	Quantitative analyses	Speed per sample	Cost	Suitable drug checking settings
Colorimetric reagent testing	Moderate	Low	Low	No	Low	Low	No	<6 min	Low	Stationary and mobile
FTIR	High	Moderate	High	No	High	High	Low	<2 min	Moderate	Stationary and mobile
TLC with UV detection	Moderate	Weak	Moderate	No	Moderate	Moderate	Low	30 min	Moderate	Stationary
CE with UV detection	High	Moderate	Moderate	No	Moderate	Moderate	Moderate	<2 min	Moderate	Stationary
HPLC with UV detection	High	High	High	No	High	High	High	15 min	Moderate	Stationary and mobile
HPLC with MS detection	Highest	Very high	Very high	Yes	Very high	Highest	Highest	7.5 min	High	Stationary
GC with MS detection	Very high	Very High	Very high	Yes	Very high	Very high	Very high	14.5 min	High	Stationary
Ion Mobility Spectrometry	Moderate	Moderate	Moderate	No	Low	High	Moderate	<1min	Moderate	Stationary
Ion Mobility with MS detection	Hight	High	Very high	Yes	High	Very high	High	20- 30 min	High	Stationary

Source: Adapted from Kerr & Kuper (2017).

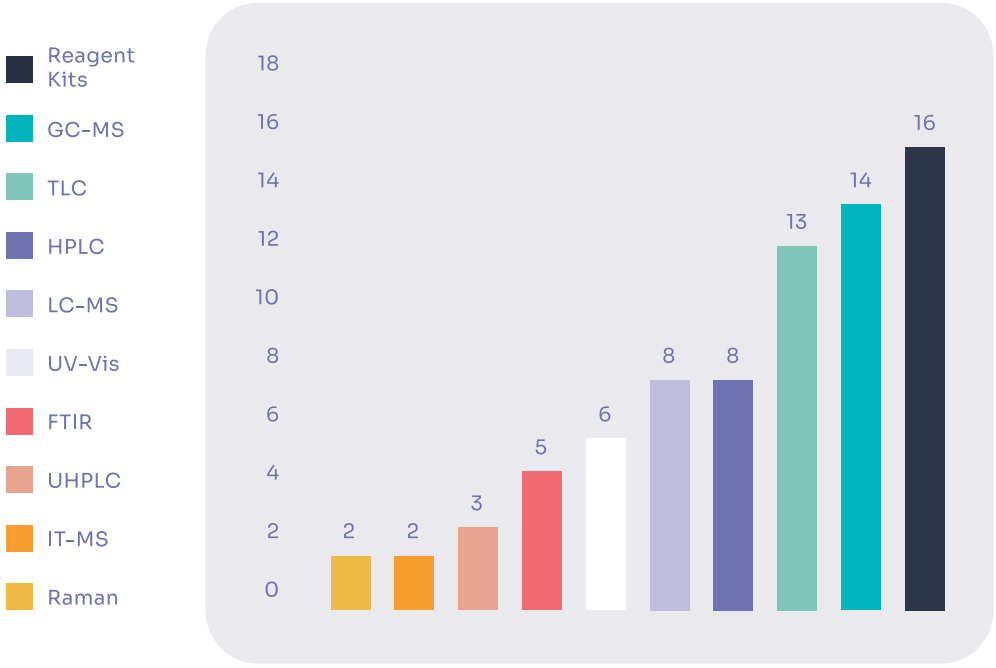
In 2022, the TEDI network developed the TEDI guidelines on drug checking methodology whereby they compared analytical parameters that can be considered with analytical methods used in drug checking (Table 4).

TABLE 4: Comparison of analytical parameters that can be considered with analytical methods used in drug checking

Source: TEDI Guidelines (2022). Drug Checking Methodology. Trans-European Drug Information (TEDI) network. https://www.tedinetwork.org/wp-content/uploads/2022/03/TEDI_Guidelines_final.pdf

As described in the previous sections, globally in 2017 there was 31 drug checking services in 20 countries. The vast majority of services employ more than one analysis technique as a way to provide reliable test results (Chart 1). Sixteen (16) out of thirty-one (31) drug checking services reported the use of reagent tests and four (4) were exclusively using reagent tests. Furthermore, fifteen (15) services reported the use of at least one mass spectrometry or liquid chromatography method (GCMS, LC-MS, HPLC, UHPLC, IT-MS) and eleven (11) reported using at least one spectrometry method (FTIR, UV-Vis, or Raman).

CHART 1: Drug analysis method employed by drug checking services



Source: Barratt, M.J., Kowalski, M., Maier, L.J., & Ritter, A. (2018).

FUNDING OVERVIEW OF DRUG CHECKING SERVICES

Regarding funding sources, government support or donation has been identified as the main sources of funding for drug checking services. Barratt, et al, in the Global Review Report of Drug Checking Services (2018) found that among 31 services operating, nearly two-thirds (21) received some form of government funding, either from national funding (10), state funding (8) and municipal funding (8) and only four (4) reported reliance on international funding. A combination of funding sources from the non-state budget has been also identified, mainly by international development agencies, promoters, and service users in the form of co-payments, philanthropic, auspice organisations and private donors.

EXAMPLES OF EXISTING DRUG CHECKING SERVICES IN EUROPEAN COUNTRIES AND NEW ZEALAND

Worldwide over recent years, we have seen a more positive attitude towards the implementation of drug checking services as quite a few countries have acknowledged drug checking services as part of their drug policies. Most importantly, the EU Drug Strategy (2021-2025) supports the introduction of drug checking services mainly as a support mechanism for the Early Warning System and as a harm reduction tool to reduce drug-related deaths and non-fatal overdose. However, consumption, possession and supply of illicit drugs are considered illegal in many countries worldwide and considered a legal offense; therefore, handling and/or testing illegal substances makes drug checking service staff subject to punishment by law. As such, the operation of drug checking services requires specific legal amendments, as well as arrangements with law enforcement agencies and other institutions at the national and local levels, to ensure the safe operation of the programme and to allow consumers to submit drugs without being prosecuted.

> Except for New Zealand, where drug checking has been fully regulated[39], in all other countries they either operate through receiving a license (for monitoring or research purposes) or operate in a "legal grey area" (*not forbidden, but also not explicitly regulated by national laws*).

In countries where drug checking services operate under legal restrictions, different strategies are used to overcome barriers that impede their operation. A dozen programmes have been able to negotiate and make agreements with government institutions to allow the operation of drug checking services. One strategy used to mitigate legal risks either for staff or consumers is to **house the programme within already "protected" programmes** (DIMS – The Netherlands, SINTES - France, DrogArt - Slovenia, etc.), such as public health agencies, or existing harm reduction programmes. Another important approach has been to **introduce the programme as a pilot or scientific research project** implemented with reliable government partners or university institutions (DIMS – the Netherlands, BAONPS - Italy, Check it – Austria).

Some countries are applying **specific exemptions** to overcome legal barriers that impede the implementation of drug checking services. Canada, for instance, has placed harm reduction components as one of the core pillars of the country's drug policy in the new Drugs and Substances Strategy. Along with the strategy was the tabling of Bill C-37, proposing an amendment to the Controlled Drugs and Substances Act (CDSA) to ease the process of acquiring exemptions for medical purposes for programmes dealing with illegally obtained controlled substances, such as supervised consumption sites, which could also include drug checking[40].

[39] Ministry of Health – Manatū Hauora (2022). Drug Checking. Wellington; Ministry of Health – Manatū Hauora https://www.health.govt.nz/our-work/regulation-health-and-disability-system/drug-checking (accessed 1 December 2022).

[40] Kerr, T., Tupper, K. (2017), Ibid.

EXAMPLE 1:

NEW ZEALAND

Drug checking services have been in place in New Zealand since the early 2010's and have operated in a legal grey area until the end of 2020. As of December 2020, New Zealand started to regulate drug checking services. Initially as a pilot initiative, the programme was first approved in December 2020 having a one-year permission to operate.

> In April 2022, the Ministry of Health provided recommendations to regulate drug checking, ensuring legal protection for programme staff and clients.

The drug checking service operates under the Drug and Substance Checking Legislation Bill (No 2)[41] which amends the Misuse of Drugs Act 1975, the Psychoactive Substances Act 2013 and the Medicines Act 1981. This means that the presence of drug checking services at events (music festivals, nightlife, etc.) is no longer considered an offence and programme staff "*can handle substances legally and can be in possession of small amounts of substances while they are sending these off for further testing*"[42].

> The client can visit the services without fear of criminalisation as every person possessing and submitting an illicit drug for testing analyses at drug checking services will not be arrested or prosecuted.

Regarding funding for drug checking services, the Misuse of Drugs Regulation Act has not anticipated any funding regulations as the MoH is working with partners and service providers to calculate the final bill to meaningfully support drug checking services financially. However, in October 2021 the New Zealand MoH issued a Bill for NZ$800,000 (nearly US$545,000) to support festival drug checking services. This Bill covers the national co-ordination of services, training of drug checkers and the provision of health promotion and behaviour change information concerning drug-related harms[43].

The MoHealth and the Director-General of Health provides a license for the services and appoints the drug checking service providers. They have also developed and approved the License Scheme Regulations (LSR) for a maximum of three years. A licensed drug checking service can provide the following services: harm reduction advice enabling people to make a safer and informed decisions about drug use; test submitted substances and return the substance to whoever gave it for testing; and dispose of any samples surrendered for testing or given up by someone who no longer wants to keep it.

To ensure a comprehensive and quality service, the MoH has approved drug checking technology and testing methods. Under the LSR, it also specifies the technology and testing methods that each provider is certified to use in drug checking services. Table 5 provides a summary of drug testing and the methods to be employed by drug checking services in New Zealand.

[41] Health Committee (2021). Drug and Substance Checking Legislation Bill (No 2). Commentary. Wellington; Parliamentary Counsel Office. https://shorturl.at/uDFH5 (accessed 1 December 2022).

[42] University of Auckland. Drug checking clinics. https://shorturl.at/mpyX9 (accessed 1 December 2022).

[43] Lincoln, T. Festival drug-checking services gets $800,000 government boost. NZ Herald, 23 October 2021. https://shorturl.at/wBITV (accessed 1 December 2022).

TABLE 5: Approved technology and testing methods

Equipment	
Method/Technology Name	**Notes**
Fourier Transform Infrared (FTIR) spectrometer.	Suitable for the field.[44]
Gas Chromatography-Mass Spectrometry (GC-MS) bench instrument.	Not suitable for the field.
Quick probe GC-MS bench instrument.	Not suitable for the field.
Liquid Chromatography with tandem Mass Spectrometry (LC-MS-MS) bench instrument.	Not suitable for the field.
Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC-QTOF-MS) bench instrument.	Not suitable for the field.
Liquid Chromatography with Hybrid Triple Quadrupole Linear Ion Trap Spectrometers (LC-QTrap-MS-MS) bench instrument..	Not suitable for the field.
Gas Chromatography with tandem Mass Spectrometry (GC-MS-MS) bench instrument.	Not suitable for the field.
Nuclear Magnetic Resonance (NMR), portable and laboratory instruments.	Not suitable for the field.
High-Performance Liquid Chromatography (HPLC).	Not suitable for the field. Only to be used for cannabis plant material and cannabinoid products. Results to include THC and/or CBD only and must be reported as a percentage (whole number or percentage range).

Reagent and TestStrips	
Method/Technology Name	**Notes**
Ehrlich's test is either commercial or prepared by an appropriately accredited laboratory.	Ehrlich's test is approved as a stand-alone test for paper doses of LSD.
Lysergamide Test Strips	Lysergamide Test Strips are approved as a stand-alone test for LSD.
Fentanyl Test Strip.	Fentanyl Test Strips are approved as a stand-alone test for fentanyl.

Source: NZ MoH. Drug Checking- Information about drug checking services and service providers[45].

KnowYourStuffNZ (KYSNZ) (knowyourstuff.nz) is a volunteer-run organisation mainly funded by donations and provides on-site (front of house) drug checking services at music festivals and through fixed site facilities. KYSNZ cooperates closely with Drug Information and Alert New Zealand providing valuable contributions in collecting and disseminating information on the presence of dangerous drugs and drug market changes in the country.

Currently, in addition to KYSNZ, three other drug checking services have been licensed by the Director-General of Health to run drug checking services in New Zealand: NZ Drug Foundation (www.drugfoundation.org.nz); New Zealand Needle Exchange Programme (www.nznep.org.nz); and The Institute of Environmental Science and Research (www.esr.cri.nz).

[44] 'Suitable for the field' means that the drug checking method/technology is suitable to use at festivals and party settings, etc.; it means that the technology is portable.

[45] Ministry of Health – Manatū Hauora (2022), Ibid.

EXAMPLE 2:

THE NETHERLANDS

A great example comes from the Netherlands where a drug checking service born as an initiative to respond to the emergence of the use of ecstasy (MDMA) at so-called 'raves' or 'house parties', now consists of a network of drug checking services and a nationwide drug monitoring system. The Drugs Information and Monitoring System (DIMS), established in 1992 in Amsterdam, coordinates the drug checking network and monitors the nationwide presence of illicit drugs.

DIMS is an integrated part of the Trimbos Institute in Utrecht, coordinated by the DIMS bureau and funded by the Ministry of Health. The DIMS bureau report to the MoH (which is the commissioner of the project) through a Supervisory Committee whose members are also appointed by the MoH. DIMS consists of a network of 31 office-based drug checking facilities in 29 cities that are hosted by institutions for drug dependence care and drug prevention, while the organisational cost of hosting a drug checking service at the local level is financially supported by the respective municipalities.

> DIMS is a government sanctioned programme and operates under specific legal arrangements at national and local levels.

The most important agreement is with the Netherlands Public Prosecution Service that removes legal barriers for programme staff and service users, ensuring that "anyone possessing illicit drugs attending a drug checking service will not be arrested or prosecuted". Additionally, the DIMS staff must possess a waiver from the Opium Act. Prior to operation, drug checking facilities must be approved by authorities and the DIMS bureau and, once approved, they are allowed to handle, store and transport drug samples for research purposes under the strict regulations of Standard Operating Procedures (SOP)[46] or the so-called Good Testing Practices (GTP).

[46] Trimbos Institute (2019), Ibid.

> The main role of DIMS is drug market monitoring, while the local office-based drug checking services provide drug testing analyses for recreational users and those not reached by other harm reduction programmes, offering counseling and health information and, if possible, referral to more specialised socio-healthcare services.

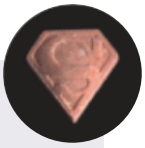
Services are offered for free and a person is allowed to submit up to 3 tablets, capsules or blotters, 1g of powder and 10ml of liquid, per one visit for testing purposes. However, due to a limited budget, one sample per person is allowed to be sent to external laboratories for full analysis.

Only staff certified by the DIMS bureau and supervised by the project coordinator are allowed to handle drug samples. Clients provide information on whether the substance has been used or not, the date, price, and place of purchase of the submitted drug and the intended setting for use (festivals/night settings, etc.).

Testing process: the external characteristics of the tablet, such as weight, colour, diameter, logo, etc., are measured and registered. Then it is tested for the presence of possible recreational drugs (such as MDMA, amphetamines or 2C-B) using a reagent test (Marquis). Tablets that cannot be identified by a 'determination list' on-the-spot, as well as powders, liquids and blotters, are sent for more qualified analyses at the Trimbos Institute in Utrecht.

The most commonly used testing technique is the FTIR, associated with the reagent tests to increase the reliability and accuracy of the testing methods. Samples that cannot be identified are sent for

further chemical analyses using GC-MS and liquid chromatography diode array detection (LC-DAD). Final testing results are registered in the DIMS computerised database and results are available in about one week and drug checking facilities can read the results for a period of up to 8 weeks. For security, after that period testing results are no longer accessible. The information about the test result is communicated only to the consumer. In order for dealers, producers and parents not to misuse the drug checking services, several safety measures are in place. When results are given by phone, the conversation for security reasons is registered in the DIMS database and results cannot be requested by any other person.



Pink Superman Pill

In december 2014, when tourists were about to descend on Amsterdam for the Christmas holidays, the DIMS-bureau received the laboratory results of a pink tablet containing a Superman logo. This tablet contained no MDMA at all, but instead 173 mg of PMMA (para- methoxymethamphetamine), a potentially lethal dose.

Not long after that, DIMS had received further information about the existence of a very large batch, of the same composition, elsewhere. That day, the national core team Red Alert was assembled and a national warning or Red Alert was issued by the Minister of Health. Only one day later, a full Red Alert mass media compaign was launched. The message- "Please don't take this tablet" - was issued through all media platforms: TV, radio, newspapers, the internet and mobile phone networks, together with a clear picture of the tablet. There were no reported incidents in the Netherlands; however several deaths related to this tablet did occur in the United Kingdom over the next fortnight.

Source of picture: https://www.trimbos.nl/docs/cd3e9e11-9555-4f8c-b851-1806dfb47fd7.pdf

***Red Alert* is a warning issued by the DIMS on behalf of the MoH in cases of serious health risks identified by drug checking services or reported by medical authorities (in cases of serious drug-related incidents) or when the police or the National Forensic Institute find hazardous drugs.** Depending on the severity and scope of the situation, the *Red Alert* warning may be released:

1) At an internal level, when only participants of the DIMS network and medical representatives, who are part of Monitor Drug-related Incidents, are informed;
2) At a regional or local level, where all listed local authorities are informed;
3) At a national level, where a warning is communicated via different channels, such as press releases, flyers and through the Red Alert app on smartphones (www.drugsredalert.nl).

EXAMPLE 3:

AUSTRIA

Checkit! is a non-governmental organisation based in Vienna, Austria, that has offered integrated outreach drug checking services since 1997. It provides such services through transportable mobile laboratories at drug festivals and nightlife events, as well as home-based and at pharmacies by informing consumers about the risks associated with the substances submitted and harm reduction counseling and referral. The programme also serves as a mechanism for providing data to early warning systems and monitoring current consumer trends and changes in the drug market at country level[47].

Checkit! has signed special legal arrangements with law enforcement agencies and operates as a scientific project in cooperation with Addiction Aid Vienna, a non-profit GmbH[48] and the Clinical Institute for Laboratory Medicine of the Medical University of Vienna. It is financed by the Addiction and Drug Coordination services of the City of Vienna, a non-profit GmbH, and the Federal Ministry for Health and Women's Affairs.

A short summary of the models of drug checking services provided by Checkit! Vienna is as follows:

Drug checking at events. The programme runs on-site mobile services at festivals and nightlife events, providing qualitative and quantitative analyses, alongside socio-healthcare services and, when possible, referral to more specialised services. The drug checking service is composed of three areas: information and counseling zone with up to eight qualified staff in counseling and communication with partygoers. In this area, clients are welcomed and informed about the drug testing procedures and receive counseling and health information. The next zone is for sampling, where two programme counselors accept samples, prepare the paperwork and deliver the samples to a laboratory area composed of up to three qualified lab technicians.

Due to legal restrictions, a scraping procedure is employed where consumers prepare the sample by themselves. The amount of drug sample to be submitted for powders and pills is 15 milligrams and three drops for LSD, GBL and GHB. Leftovers of submitted substances are not returned to the consumer. One of four high-performance liquid chromatography-mass spectrometry (HPLC-MS; UHPLC, MALDI-IT-MS/MS, and HRMS) are used for substance analyses. Results are given within 30-60 minutes along with counseling and the provision of educational material.

Test results are posted on the front side of the counseling zone where each test result is numbered for easy identification. Results are also associated with brief information in terms of found risks, such as *Caution, Dangerous*, etc. (please see Figure 1 of this report).

Home-based drug checking. Individuals can freely and anonymously submit substances to be checked at the Checkit home-base office in Vienna, twice a week: on Monday without prior reservation and on Friday with a booked reservation. Due to limited dates, only one appointment per week can be reserved and one person is allowed to submit up to two substance samples. Results are given the following Thursday (except for cannabis samples that take two weeks or more) in person at the home-base office, by phone or online via an encrypted consultation platform.

Drug checking in pharmacies. A person needs to register the sample for it to be tested online (https://www.checkit.wien/sdcweb/) and the system generates a nine-digit code that is used to link the submitted substance(s) and test results. A person is allowed to submit two samples per week. In the case of powders, approximately 15mg's of substances are needed, while for LSD, GBL and GHB 3 drops are required which have to be placed in a tight fitting container. The substance(s) need to be tightly wrapped in aluminum foil or small bags and have to be placed in a closed envelope, labeled with a nine-digit code. Then the envelope has to be dropped at the pharmacies that have Checkit! Boxes. Test results are available the following Thursday and can be obtained by phone or online via the Checkit! consultation tool.

[47] Barratt, M.J., et al. (2018), Op.cit.

[48] Gmbh: Gesellschaft mit beschränkter Haftung, meaning 'company with limited liability.

EXAMPLE 4:

SPAIN

Energy Control was founded in Barcelona in 1997 as a pioneer project in the field of harm reduction associated with recreational drug use. Energy Control started operating drug checking services in 1999 and currently operates through fixed-site services and on-site facilities at music festivals, nightlife and other events. The organisation also accepts national and international postal submission of drug samples. In addition to testing drug samples destined for personal use, it offers harm reduction information advice and counseling, and in-person brief intervention sessions. It is part of an Early Warning System and periodically issues warnings on the presence of dangerous substances.

Testing techniques used in the fixed sites are HPLC, GC-MS, LC-MS, IT-MS, UV/VIS and TLC testing, whereas at the on-site facilities the most commonly used techniques are UV/VIS, TLC and reagent test kits such as Marquis, Mecke, Mandelin and Simon[49]. Testing requires the submission of a whole pill or 10-15mg's of powder and leftovers of drugs that have not been used are not returned to the service user.

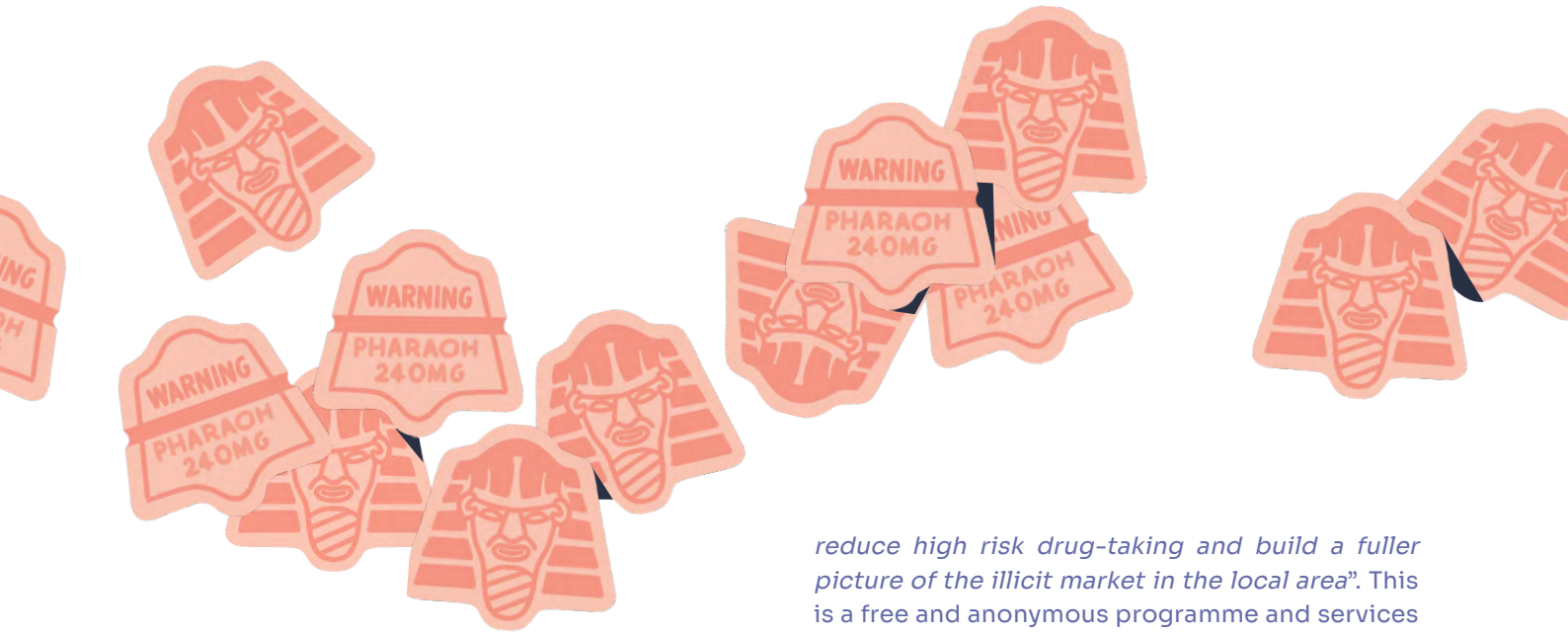
Test results are mostly given in person, or by email if the client prefers this method. For on-site services, results are given after 1-2 hours, whilst at fixed-sites, results are given between 4-7 days for nationally submitted samples or up to two weeks for international samples. Energy Control shares a report using aggregated data with event managers, welfare organisations or public health experts/researchers via email. Also, anonymised collected data are shared with the wider public via their website.

Energy Control is financed through a multi-diverse funding mechanism, including State and city-level funding and co-payment from service users. For instance, qualitative analyses accompanied by an analysis report costs approximately €90 and quantitative analysis €120[50] (Figure 2).

FIGURE 2: Qualitative analyses and quantitative analysis

[49] https://energycontrol-international.org/drug-testing-service/ (accessed 2 December 2022).

[50] https://energycontrol-international.org/drug-testing-service/submitting-a-sample/ (accessed 2 December 2022).



EXAMPLE 5:

UNITED KINGDOM

The Loop, a not-for-profit non-governmental organisation (NGO) based in the UK started efforts to implement drug checking services in 2010, whereby The Loop shadowed experts who were testing drugs at festivals mainly for evidential and intelligence purposes. The operation of drug checking for public safety at nightlife events started in 2013 and, later, at music festivals (2014)[51]. Since 2013, The Loop has employed the "*halfway house*" testing model and samples are obtained from on-site services, such as the police, amnesty bins, emergency departments or community services. In 2016, The Loop introduced the Multi Agency Safety Testing (MAST) programme which is considered the first "front of house" drug checking service in the UK. The Loop is a member of the TEDI and partners with a variety of agencies at country level, including police, health and welfare organisations, researchers and event organisers, etc.

As of May 2022, The Loop runs the first UK Home Office licensed regular drug checking service in close partnership with different agencies, including Bristol City Council, Bristol Drug Project (BDP) and the People's Republic of Stokes Croft (PRSC). The general aim of the programme "*is to reduce high risk drug-taking and build a fuller picture of the illicit market in the local area*". This is a free and anonymous programme and services are provided once per month; however, in case of significant events, the programme has a flexible schedule[52].

Individuals who want to test their intended-to-use substance places it in an amnesty box at the BDP where a pop-laboratory analyses the substance to identify the content and the strength of the submitted substance. Infrared spectroscopy is the commonly used drug testing method, followed by reagent testing, fentanyl testing and drug quantification using Mass Loss Analysis. The person who submitted the substance receives the test results one hour later from a professional health provider at the PRSC. In addition to testing substances, the programme offers harm reduction advice and counseling, brief interventions with service users, safe drug disposal, and medical and welfare assistance.

The leftover tested substances are not returned to service users after testing and all remnants of testing are handed to the police for onward safe destruction upon completion of analyses.

A number of alerts are issued by The Loop in cases of serious health risks identified by the drug checking service. Alerts are published in The Loop's social media platforms, national press media, such as BBC online, the Metro and the Daily Mirror, posters and other informative materials disseminated at music festivals, nightlife events and peer-reviewed journal articles[53].

[51] The Loop. On-site Drug Safety Testing. The Loop. Undated. https://wearetheloop.org/testing (accessed 2 December 2022).

[52] The Loop: The UK's first regular drug checking service set to launch in Bristol, 10 May 2022. https://wearetheloop.org/media-centre/bristol-drug-checking-service (accessed 2 December 2022).

[53] The Loop Briefing Document: Drug Checking Services An innovative healthcare intervention to reduce drug-related harm in the UK. Undated. https://static1.squarespace.com/static/621d3bdf0f7c7c414579182f/t/627a8a61e9ebc020271de0da/1652198020926/The+Loop+Briefing+Document.pdf (accessed 2 December 2022).

OVERVIEW OF THE IMPLEMENTATION OF DRUG CHECKING SERVICES IN THE CEECA REGION

Drug checking services are not yet being recognised by the majority of governments as a harm reduction intervention in the national strategies or policy documents of countries of the CEECA region. However, in some countries (mainly in South-Eastern and Eastern Europe), such as Slovenia, Hungary, Estonia, Czechia, Lithuania, Ukraine, Georgia and Poland, some pilot interventions are in place or have been piloted, providing drug checking services at festivals and nightlife settings. Despite their mode of operation, all of them operate in a legal grey area and are limited in service provision. The programme staff are not allowed to handle the submitted substances; drug test analyses are either transferred to be carried out by forensic national laboratories (DrogArt, Slovenia) or, in the case of programmes using colorimetric reagent kits, drug testing analyses is performed by the consumers themselves. There is a variation with regards to informing clients about drug test results, starting from a few minutes up to two months. Counseling and the distribution of behaviour change educational materials are provided to clients by programme staff.

SLOVENIA

Despite its limitations, Slovenia can be considered the country with the most solid drug checking programme in the CEECA region. The DrogArt NGO has, for nearly two decades, provided harm reduction services, and fixed-site qualitative and quantitative drug checking, as part of the Slovenian Early Warning System coordinated by the National Institute of Public Health. A diverse funding mechanism is in place, including government and funding.

The DrogArt drug checking service was initiated as a scientific project under the framework of international initiatives such as I-SEE (a European project on new psychoactive substances) and the European BAONPS (Be Aware On Night Pleasure Safety) project (co-financed by the EU and the MoH) as well as in close cooperation with national law enforcement and Police agencies and the National Institute of Public Health[54]. It is jointly funded by the Ministry of Work, Family and Social Affairs, the MoH, Ljubljana Urban Municipality and the Youth Office of the Republic of Slovenia.

The project has also ensured a five-year grant for the 2017-2022 period supported by international development agencies[55]. From 2023, it will be funded by the MoH.

Drug checking services are provided in cooperation with National Laboratory for Health, Environment and Food. DrogArt collect samples, provides harm reduction advice and counselling and sends collected samples to the laboratory. Results are provided back in 4-7 days. The following techniques are used in the laboratory to check substances: GC-MS, HPLC, FTIR, LC-MS. Results of drug checks are provided to a person by phone, e-mail, or in person.

[54] DrogArt. Basic Information about testing. https://www.drogart.org/vsebine/2446/osnovne-informacije-o-testiranju.html (accessed 2 December 2022)

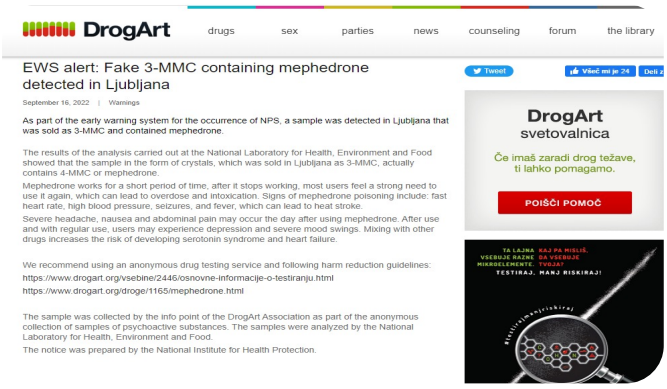
[55] DrogArt. *Osnovne informacije o testiranju*. In Slovenian. [*Basic Information about testing*]. https://www.drogart.org/vsebine/2446/osnovne-informacije-o-testiranju.html (accessed 2 December 2022).

Colorimetric reagent test (EZ test) can also be ordered by mail or partygoers can buy directly at the info-stand of DrogArt[56,57].

DrogArt is part of the Slovenian Early Warning System and cooperates closely with the MoH, Law Enforcement Agencies, the Toxicology Centre of the University Medical Centre Ljubljana and various NGO's. DrogArt informs partners about drug market changes and in case of the presence of dangerous substances - which are double-checked and confirmed by the National Laboratory for Health, Environment and Food and in accordance with the MoH - an alert notice is issued. The alert note is prepared by the National Institute for Health Protection. The warning alerts are also published on the DrogArt website[58].

For example, on 16 September, 2022, a warning alert was published by DrogArt regarding the presence of mephedrone in a substance sold as 3-MMC in Ljubljana[59] (Figure 2).

FIGURE 2 : DrugArt warning about the presence of mephedrone in fake 3-MMC



[56] BAONPS (2016). Drug Checking procedure in Slovenia. http://baonps.coopalice.net/drug-checking-procedure-slovenia/ (accessed 2 December 2022).

[57] DrogArt, Ibid.

[58] DrogArt. EWS opozorilo: Kokain z višjo vsebnostjo levamisola v Mariboru in Novi Gorici. In Slovenian [EWS alert: Cocaine with higher levamisole content in Maribor and Nova Gorica]. 7 October 2022. https://www.drogart.org/opozorila/7456/ews-opozorilo-kokain-z-visjo.html (accessed 2 December 2022).

[59] DrogArt. EWS opozorilo: V Ljubljani zaznan lažni 3-MMC vseboval mefedron. In Slovenian [EWS alert: Fake 3-MMC containing mephedrone detected in Ljubljana]. 16 September 2022. https://www.drogart.org/opozorila/7451/ews-opozorilo-v-ljubljani-zaznan.html (accessed 2 December 2022).

HUNGARY

Hungary is developing drug checking services from a self-led community group. DAT2 Psy Help is a community self-organised group that uses psychedelic drugs and offers drug checking services through an online website (Daath.hu) by sharing reagent test kits with their members. In 2013, this group became more organised into a harm reduction team and now distribute reagent kits on-site, particularly during parties and festivals. Members of the team are not allowed to touch or handle the samples due to legal restrictions; however, they distribute colorimetric reagent kits to consumers. Consumers are advised how to use and interpret test results and are also provided with information and educational materials. This group attends nearly 30 events per year and runs entirely on a voluntary basis and is thoroughly financed by voluntary contributions; reagent tests are donated by volunteers who also donate their time and skills to programme coordination and operational issues.

POLAND

Since 2016, an on-site drug checking service had been provided in Poland by a grassroots initiative named "SIN" (Social Drug Policy Initiative) (https://sin.org.pl/) until approximately 2019. The SIN lab offered qualitative substance analysis by distributing reagent tests to people so that they can check their substance(s). A variety of reagent kits were available and provided to consumers, along with counseling and the provision of educational materials.

GEORGIA

Drug checking services in Georgia are provided by "Mandala", a youth-led harm reduction NGO in cooperation with the "Test Kitty" foundation. Since 2018, they have provided reagent tests (Marquis and Lieberman) to Electronic Dance Music (EDM) festival attendees, in addition to distributing health promotion materials and helping consumers in case of drug/alcohol intoxication. Due to legal restrictions, programme staff are not allowed to handle or test substances, so they teach consumers how to perform and interpret the test results. Drug checking service is mainly funded by the Medecins du Monde (MDM), coupled with donations or contributions of individuals through donation boxes placed

at EDM festivals. Even though funds for drug checking services in Georgia are lacking and do not ensure long-term sustainability, there is an interest and high demand among people who use drugs, particularly among partygoers[60].

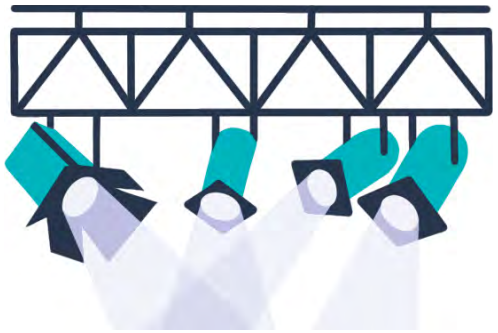
UKRAINE

Efforts to introduce a drug checking programme in Ukraine have been led by the Alliance for Public Health with support of the Elton John AIDS Foundation during the period of 2018-2021 period. The first campaign to launch drug checking services was organised in August 2018 at the Brave Factory festival. Rapid colorimetric tests were distributed among partygoers at seven EDM festivals and nightclubs. During the project implementation phase in 2018, they distributed 430 kits and nearly 235 guests at electronic music festivals were reached[61]. '*Drugstore*', a social project, is based on the '*Smart Pleasure*' concept. As the project is presenting themselves on their website[62], their activities are aimed at "*preserving the health of young people who like the nightlife and experiment with club substances, practice chemsex, succumb to temptations and seek pleasure on the verge of risk.*"

[60] Soselia, G., Maia U., Khathiashvili, T. (2021). Policy Brief Drug Checking: An Essential Response to Emerging Harm Reduction Needs. Tbilisi; Curatio Foundation. http://curatiofoundation.org/wp-content/uploads/2021/05/PB_Drug-Checking_Eng.pdf (accessed 2 December 2022).

[61] Alliance for Public Health. Annual Report 2018. Kyiv; Alliance for Public Health. https://aph.org.ua/wp-content/uploads/2016/07/ar2018en.pdf (accessed 2 December 2022).

[62] https://drugstore.org.ua/en/about (accessed 2 December 2022).



> Currently, the project is continuing distribution of reagent tests by including them into the harm reduction kit called 'PartyBox', which also includes a snorting kit, vitamins, condoms and lubricants, and a HIV rapid test.

An interesting initiative on drug checking, a one-time experiment was conducted by Drug User News in Kyiv, using existing drug marketplaces and drug-related online forums to facilitate the distribution of harm reduction services[63]. The provision of harm reduction interventions via an online platform is referred to as "web or net-outreach"[64], and the objective of this group was to develop a new algorithm for providing harm reduction and prevention services targeting the darknet community. The algorithm was incorporated at the legalizer.info website forum and attracted the attention of many people who requested harm reduction packages, including rapid tests for HIV and Hepatitis, syringes, wipes and lubricant, as well as reagent test kits.

ESTONIA

Drug checking services are not officially supported by the Estonian government. However, the National Drug Policy adopted in 2021 acknowledges the need to expand the range of harm reduction programmes, including drug checking services. Reagentuur OÜ, in cooperation with many volunteers and support from the National Health Development Institute, distributed colorimetric tests and provided health information during music festivals in 2021 and 2022[65].

[63] https://www.youtube.com/watch?v=zr8CGc3G_tg (accessed 2 December 2022).

[64] Davitadze, A., Meylakhs, P., Lakhov, A., et al. Harm reduction via online platforms for people who use drugs in Russia: a qualitative analysis of web outreach work. Harm Reduct J 17, 98 (2020). https://doi.org/10.1186/s12954-020-00452-6 (accessed 2 December 2022).

[65] M. Kalvet (personal communication, October 2022), discussing the LUNEST drug checking service experience.

LITHUANIA

"Young Wave"[66] is a NGO, established by young people who use drugs and who are affected by harmful drug policies in Lithuania, to embrace each other and be a respectable and constructive part of drug policy formation. The organisation provides a wide range of harm reduction initiatives based on the peer-to-peer approach. "Young Wave" started to participate in music festivals and parties and began providing harm reduction and PsyHelp services in 2017.

Since 2018, organisation started to distribute reagent tests for people who wanted to test their substance(s). From 2021, the organisation has been performing tests (with reagents) by themselves.

> A person who wants to check a substance goes to a "Young Wave" tent, puts a substance on a plate and the "Young Wave" team tests the substance.

Afterwards, information on the tested substance and health advice and counselling is provided to the person. The organisation purchases tests using private donations, as well as through the support of more traditional donors.

[66] https://youngwave.lt/ (accessed 2 December 2022).

Another initiative to start implementation of drug checking services was introduced in the summer of 2022 by the Republican Center for Addictive Disorders in Lithuania together with the Be Safe Lab initiative[67]. They piloted a small intervention by distributing reagent tests during festivals held in the summer of 2022. The pilot intervention was part of the IMPRESA (Implementing Metamphetamine Prevention Strategies into Action) project, implemented by partners from Lithuania, Germany, Slovakia, Poland and Czechia, funded by the European Commission Justice Programme.

SERBIA

In Serbia, there are no drug checking services or similar initiatives in place. However, a youth-led NGO called Re-Generation[68] is actively advocating with law enforcement agencies and key stakeholders to update the guidelines on the Early Warning System to create the basis for the implementation of drug checking services in the country.

CZECHIA

Efforts to introduce drug checking services have also been noted in Czechia by local NGOs withing the framework of hard reduction interventions. Some time ago, colorimetric reagent kits were distributed et EDM festivals and nightlife settings. However, due to the pressure of law enforcement agencies, including the police, the drug checking services are no longer in place.

[67] https://www.facebook.com/besafelab (accessed 2 December 2022).

[68] http://www.regeneracija.org/ (accessed 2 December 2022).

BARRIERS TO DRUG CHECKING SERVICES IN THE CEECA REGION

Drug checking services in the context of a harm reduction philosophy

A drug checking service is not a stand-alone service, but is defined as a comprehensive model of a consumer-targeted recreational drug checking service for harm reduction purposes that provides reliable data to policymakers and public health experts, helping them to implement tailormade harm reduction interventions to respond to newly emerging needs.

> The introduction of drug checking services in the CEECA region is in its infantile phase with some countries providing basic services but are under pressure by law enforcement agencies and lack the financial support or acceptance by key stakeholders and the community.

Evidence about drug checking services in the CEECA region is scarce; therefore, analyses about facilitators and barriers to drug checking services and recommendations on how to overcome such identified barriers are drawn mostly from the existing literature on the implementation of harm reduction programmes and drug checking initiatives in the region, focusing particularly on legislation and financial aspects coupled with the perceptions and suggestions of key providers.

Legal barriers

The concept of harm reduction as a public health strategy to address problems associated with substance abuse is well embraced in many countries of the CEECA region. Harm reduction programmes have been operating for nearly 30 years and are mentioned in the vast majority of National Strategies as an important component in the prevention of drug-related harms. Initially supported by international development agencies, there are several countries of the region that are gradually switching from reliance on international support to domestic funding. Despite encountering problems in expanding coverage and financial sustainability, most governments have embraced the recommendations of WHO guidelines[69] and the implementation of harm reduction is backed up by policies and recognised in national strategies or other policy documents in nearly 25 out of 29 countries of the region[70].

Even though some countries of the CEECA region are adapting their legislation and policies to support harm reduction programmes, the environment still remains harsh with policies focusing more on supply reduction and laws that criminalise people who use drugs. The latest report on the Global State of Harm Reduction (2022) notes that drug users in the CEECA region, "*are vulnerable to stigma, discrimination, arbitrary arrest, and ill-treatment by police, health professionals, social services and society at large*"[71].

There is a great variation among countries regarding national drug laws and anticipated offences on drug use, possession for personal use

> Possession of drugs in small quantities for personal use is not a criminal offence in 19 countries of the CEECA region, except for Lithuania, Belarus, Kazakhstan, Hungary, Serbia, Bulgaria, Kosovo*, Slovakia, Romania and Poland, which anticipate criminal liability. (Table 6)

*This designation is without prejudice to positions on status and is in line with UN Security Council resolution 1244 and the International Court of Justice Opinion on the Kosovo declaration of independence.

[69] World Health Organization (WHO). Consolidated guidelines on HIV prevention, diagnosis, treatment and care for key populations – 2016 update. Geneva; WHO. https://apps.who.int/iris/rest/bitstreams/1260189/retrieve (accessed 2 December 2022).

[70] Harm Reduction International (HRI). Global State of Harm Reduction 2022. London; HRI. https://hri.global/wp-content/uploads/2022/11/HRI_GSHR-2022_Full-Report_Final.pdf (accessed 2 December 2022).

[71] Ibid.

TABLE 6 : Criminal law provision on drug possession for personal use in the CEECA region

CEECA regions	Criminal law provision on drug possession of personal use		
	Not punishable	Fine/administrative offense	Criminal Offence
Baltic States: Estonia, Latvia and Lithuania	X	Estonia, Latvia	Lithuania
Central Europe: Czechia, Hungary, Poland, Slovakia, Slovenia	X	Czechia, Slovenia	Hungary, Poland, Slovakia
Belarus, Moldova, Ukraine	X	Moldova, Ukraine	Belarus
Russia	X	Russia	X
Central Asia: Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan	X	Tajikistan, Turkmenistan, Kyrgyzstan, Uzbekistan	Kazakhstan
Caucasus: Armenia, Azerbaijan, Georgia	X	Armenia, Azerbaijan, Georgia	X
South-Eastern Europe: Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, North Macedonia, Romania, Serbia, Kosovo*	Albania, North Macedonia	Bosnia and Herzegovina, Croatia, Montenegro	Serbia, Bulgaria, Kosovo*, Romania

Source: Adapted from the EHRA drug calculator[72].

A few countries, including Croatia, Czechia, Estonia, Latvia, Kyrgyzstan and Slovenia do not foresee harsh punishment policies for possession of small amounts and punishment varies from an administrative fine to a few months in community services. More repressive policies are imposed by almost all countries regarding the supply of drugs. The analyses of the current legal framework clearly shows that the implementation of drug checking services in practice is impeded by criminal laws applied in the majority of CEECA countries and the absence of a legal framework which would regulate the provision of harm reduction services, such as drug checking.

According to current legislation, if implemented, drug checking services will operate in a grey legislative area, meaning that...

> ...there is fear of the legal consequences in running a drug checking service. These fears include restrictions in programme staff handling, or being in direct contact with, submitted drugs for analysis and fear of criminalisation by drug users who may be subject to legal repercussions once visiting the programme.

On the other hand, drug checking equipment and supplies under current legal frameworks may be easily interpreted as drug paraphernalia, and either the programme staff or the drug users are at risk of being criminalised for allegedly facilitating drug consumption.

In the CEECA region, most countries concentrate their efforts on demand and supply reduction through encouraging "enforcement-based policing practices", resulting in high levels of monitoring, searches and stops in areas where harm reduction programmes operate or where there is a flux of people who use drugs. In turn, such practices are contextual barriers that discourage people who use drugs from utilising harm reduction services. Legal restrictions and fear of criminalisation have also been noted as key barriers even by harm reduction service providers during virtual meetings. These findings were also supported by harm reduction service providers who were consulted in the development of this report. For instance, when asked about the possible risks of implementing drug checking services in their region, one key informant from Ukraine mentioned the institutionalised 'double risk' "*for both those who run and use services due*

[72] https://harmreductioneurasia.org/drug-policy/drug-laws (accessed 2 December 2022).

to legislative restrictions and punitive policies". Another service provider from Poland, whose organisation owns a shop selling fentanyl test strips, mentioned that their staff are not allowed to perform drug testing as under the current legislation it can be interpreted as "*facilitation of the drug process and, therefore, is considered illegal and punishable*".

> It is evident that the existing restrictive legal frameworks, together with fear of criminalisation and the absence of a legal framework for drug checking services as a component of harm reduction programmes, remain overwhelming barriers that significantly hinder the implementation of drug checking services in countries of the CEECA region.

Efforts to overcome legal barriers should be concentrated to enable the current legislation to ensure an encouraging atmosphere for drug checking services to operate in a normal and safe environment without fear of disruption from police or being subject of criminalisation. Experience from other countries suggest that where drug checking services have been operating for years, a diverse range of strategies and approaches have been used to overcome the legal barriers, starting from legal exemptions up to full regulation of the service.

The Netherlands is a country that applies lax policies regarding the possession of small quantities of drugs for personal use. Even though such possession is punishable by imprisonment, in reality it is not subject to targeted investigation by the police. However, anyone who is caught by police in possession of a small amount of drugs for personal use will not be prosecuted but the drugs will be confiscated[73]. This country also brings valuable experience in terms of the DIMS operation. Legal arrangements have been made with the Netherlands Public Prosecution Service (NPPS) ensuring that each network member of the DIMS must possess a permission/ license (a waiver of the Opium Act) allowing them to "legally" provide drug checking services. On the other hand, every person possessing and submitting an illicit drug for test analyses at drug checking services will not be arrested or prosecuted.

[73] EMCDDA. Netherlands Country Drug Report 2019. https://www.emcdda.europa.eu/system/files/publications/11347/netherlands-cdr-2019.pdf (accessed on 3 December 2022)

In the UK, for example, as of April 2016, the Psychoactive Substances Act came into force[74]. According to this legislation, possession of a psychoactive substance is no longer considered an offence, except in custodial institutions, such as prisons, young offender centres, etc.). In addition, implementation of drug checking services has been backed up by legal exemptions through Home Office licenses for staff working in drug checking services who handle controlled substances[75]. At the local level, explicit arrangements have been made with local law enforcement and police agencies and the Ministry of State for Policing and the Fire Service.

In Germany, drug checking services have been forbidden for a long time. The problem is that once the staff of a drug checking service are in possession of a drug, they are considered as having committed a criminal offence. However, since 2021 in the State of Thuringa, drug checking has been introduced as a pilot project – supported by the regional government[76]. '*SubCheck*' and '*Miraculix*' have developed a quick test to analyse the active ingredient of hallucinogenic mushrooms. Over time, more and more substances have been added. '*SubCheck*' and '*Miraculix*' started the '*ALIVE*' project which stands for 'analysed-based intervention'. The test is accompanied by a counselling service with the goal to improve the

[74] Psychoactive Substances Act 2016. https://www.legislation.gov.uk/ukpga/2016/2/contents/enacted (accessed 3 December 2022).

[75] Falzon, D., Aston, E.V., Carver, H. et al. (2022). Challenges for drug checking services in Scotland: a qualitative exploration of police perceptions. *Harm Reduct J* 19, 105. https://doi.org/10.1186/s12954-022-00686-6 (accessed 3 December 2022).

[76] https://drogerie-projekt.de/ (accessed 3 December 2022).

competencies of the user to assess their drug use. Furthermore, in 2021, the new German government stated in their coalition treaty to introduce drug checking services[77].

New Zealand is a country that currently has undertaken many significant reforms of its drug laws. As of August 2019, the country removed penalties for the possession, use and social supply of all drugs[78]. New Zealand is a country where drug checking services are fully regulated and this was ensured through amendments and regulations to several national laws, such as the Misuse of Drugs Act 1975, Psychoactive Substances Act 2013, and the Medicines Act 1981, as well as approval by the Ministry of Health of the License Scheme Regulations and drug checking methods. Legislative amendments allow programme staff to handle substances for testing and clients can visit the programme without fear of legal prosecution.

All of the above-mentioned examples show that...

> ...political support enables protective environments for the operation of drug checking services and contributes to the creation of a supportive police culture towards harm reduction programmes and breaks the concept of criminalisation and a penal approach.

In the CEECA region, creating supportive policies and environment for drug checking services is complex work taking into consideration the resistance of politicians, law enforcement agencies and opponents of harm reduction programmes. Therefore, energy should be directed and focused on increasing the understanding and motivation of key actors of the importance of implementing drug checking as a drug-market monitoring tool and a harm reduction intervention that reduces drug-related harm and the prevalence of fatal overdose caused by misuse of adulterated and highly potent traditional and new illicit drugs. This suggestion is in accordance with the approach of harm reduction providers, where one informant from Estonia summarised his advocacy experience as follows: "*Once we explained to the policeforce the approach of the drug checking service, they seemed to be more open and change the rules to better serve the public health needs*".

Advocacy efforts to introduce legal changes and support the implementation of drug checking services should be led by a group of distinguished experts in the field, including advocates and champions of harm reduction programmes, supporters from government and law enforcement agencies, academia and police forces. UN agencies, international development agencies, or other reputable bodies such as professional associations or community-led organisations must also be involved in this process in order to create a supportive environment to overcome existing barriers and to ensure the smooth implementation of drug checking services.

Analyses of legal barriers has highlighted the need for the implementation of different strategies to overcome obstacles that affect the process of implementation of drug checking services in the region. In the short term, efforts should be focused to ensure less punitive laws, such as ensuring temporarily legal permissions to allow the operation of drug checking services in specific settings or events. Advocacy efforts should be placed to start piloting drug checking services at drug festivals or nightlife events. For example, it should be negotiated and agreed with festival organisers and local law enforcement agencies and municipalities that during the events drug checking services could operate with temporary permission allowing staff and consumers to utilise services without the fear of criminalisation.

In countries where there have been previous or existing initiatives operating in a legal grey area, efforts should be focused to ensuring long-term legal amendments or explicit exemptions, including licensing for the programme to operate in a safer environment as well as to increase the geographic distribution of the service.

Financial barriers

Despite some attempts to support harm reduction programmes in the CEECA region, the level of domestic funding ensured by government sources continues to remain weak. The Global State of Harm Reduction Report (2018)[79] and a review of the

[77] https://www.swr.de/swr2/wissen/wie-mit-drug checking-illegale-drogen-sicherer-werden-sollen-100.html

[78] NZ Drug Foundation. Drug Law Reform. Wellington; NZ Drug Foundation. https://shorturl.at/hvFGJ (accessed 3 December 2022).

[79] Cook, C. (2017). Harm reduction investment in the European Union. Current spending, challenges and successes. London; Harm Reduction International. shorturl.at/jJL37 (accessed 3 December 2022).

Country Drug Reports compiled by the EMCDDA (2019) reveal that some countries, such as Georgia, Estonia, Hungary, Latvia, Lithuania, Croatia, Poland, Romania, Slovakia and Slovenia, support harm reduction programmes through government resources. Different mechanisms and schemes are used by governments to support harm reduction services. In Czechia, harm reduction programmes are financed through grant systems that have been established at national and regional levels. The government of Poland found an interesting mechanism to support and increase funding for harm reduction and drug treatment programmes from money accumulated from gambling taxation. Lithuania is a good example of consolidating its legal basis, implementing lax policies and ensuring sustainable funding for the implementation of harm reduction, including defining a mandatory package of services for people who inject drugs. Other countries in the region, particularly non-EU members, continue to rely on the support of international donors with little, if any, funding from government sources[80]. Nevertheless, in countries where funds for harm reduction programmes are allocated from government resources, most funding comes from the government's budget for its HIV response and in most countries the allocated funds for HIV prevention activities remain very low and do not meet the UNAIDS recommendations of 25% for an effective national HIV programme[81].

Compared with the experience of funding harm reduction services where different mechanisms are in place to ensure their operation,

> many drug checking services operate without significant government funding.

Funds are mostly generated by short-term external sources, such as donor agencies or self-funded by volunteer donations. In cases where these initiatives are supported by government resources, mostly from the Ministry of Health, it is hard to realise the funding model and taxonomy.

[80] Shaw, G. (2022). Crisis in harm reduction funding: The impact of transition from Global Fund to Government support and opportunities to achieve sustainable harm reduction services for people who inject drugs in Albania, Bosnia and Herzegovina, Bulgaria, Kosovo*, Montenegro, Romania and Serbia. Amsterdam; De Regenboog Groep/ Correlation-European Harm Reduction Network. http://dpnsee.org/wp-content/uploads/2022/04/Crisis-of-Harm-Reduction-Funding-in-SEE.pdf (accessed 3 December 2022).

[81] Cook, C. (2017), Ibid.

> The mode of operation of a drug checking programme varies greatly depending on the general objective of the programme, the cost of equipment, staffing and, most importantly, on the availability of funds.

Ideally, a programme should provide quantitative and qualitative testing analyses which, in turn, requires advanced drug testing technologies, qualified staff and appropriate infrastructure. In practice, often due to a lack of funds, this approach may not be possible to achieve; thus, interventions are forced to provide limited services, employ less qualified staff and less reliable drug testing techniques. Concerns about the lack of funding and the quality of services were noted as potential barriers, particularly in cases where services are not supported through government funds. A harm reduction provider who works for a voluntary-based organisation distributing fentanyl test strips during music festivals expressed his concern about the lack of funds, stating that: "*The majority of NGO staff are voluntary-based, then the question is who will pay for a full-time lab technician?*".

Financial barriers were also mentioned by harm reduction providers as a contextual factor that affects not only the utilisation of drug services by people who use drugs but also influences them to engage in risky behaviours and practices. A participant from Poland noted that even though fentanyl test strips are available in their NGO shop, most people cannot afford to buy them as "*drug users have spent almost all their money buying drugs and have no interest to buy the test to see the quality of drugs, either because they trust the dealer...or at least they test the drug quality within each other*".

Overcoming financial barriers should begin with a careful analysis of the model that will be implemented based on the country context; a detailed breakdown of service costs; and a mapping of possible sources of finance. Small-scale funding programmes, particularly those that provide basic services during music festivals, such as the distribution of reagent

tests, may seek funds from festival organisers, the business community or the local municipality. Other programmes that aim to provide more advanced testing techniques and therefore have more qualified staff, should seek complementary funding and ensure a partnership with national laboratories and universities within the framework of a scientific research project or as a joint intervention within existing harm reduction or public health programmes to ensure the sustainability of funding.

Parallel with advocacy efforts to ensure less punitive laws regarding the implementation of drug checking services, energy should also be focused to create the legal basis and financing mechanisms for drug checking services.

Social and structural barriers

In addition to legal and financial barriers, social and structural barriers were identified based on the perspective of service providers in the region and ways forward to overcome such existing obstacles. The most commonly mentioned social and structural barriers were those related to trustworthiness, staff skills and experience, a lack of information and evidence-based data among providers and consumers related to the benefits of drug checking services.

Concerns about trustworthy and inexperienced staff providing drug checking services were perceived as barriers to the implementation of drug checking services in the region. A harm reduction service provider from Ukraine who was in favour of a 'self-testing' format said that "*if we introduce DCS, we should do it in the format of self-testing, so clients will test themselves, not supported by providers*". Another harm reduction service provider from Lithuania also supported the operation of 'on-site' drug checking services, arguing that...

> "...users will trust people who do testing in the field (drug festivals) rather than the ones in the laboratory centres. They (users) are a little bit skeptical and prefer to do the test by themselves."

The technical skills and expertise of staff in providing drug checking services was also indicated as a contextual factor in the modes of operation and programme infrastructure. A participant from Ukraine indicated the need for qualified staff to be able to accurately use drug testing equipment and to provide reliable test results. He noted that "*once we provide test results and it shows that is a good quality of drugs, we somehow take the responsibility for the person's life, and this is quite serious. And, God forbid, if something happens, there should be some conditions (appropriate infrastructure) that we should give naloxone or other antidotes*".

A lack of information and evidence-based data about fatal overdose cases, the presence of new psychoactive substances and the benefits of drug checking services were considered as barriers that hinder the implementation of such services.

However, they provided valuable information and insights on the models that are acceptable for application in the region. Under current legal and financial restrictions, harm reduction providers highlighted a few models of drug checking that could be designed to address the needs of users and serve as a monitoring mechanism. A drug checking service is a harm reduction and a community-based intervention and, as such, they should be run by NGOs with extensive experience and qualified staff in the harm reduction field.

> The most preferred model is the distribution of colorimetric reagent tests at dance festivals or nightlife events which can be performed by peers themselves as a way to avoid legal problems and the perceived stigma as well as ensuring anonymity.

The integration of drug checking services within existing harm reduction programmes, as well as fixed-sites, mobile services, and mail-in services, were other alternatives to be considered. A provider from Ukraine summarised his suggestion about the provision of drug checking services as follows: "*A person can come to the service, check what is he using, use it safely and get the harm reduction services*". Increased partnership and communication with university institutions were also mentioned as a feasible approach to implementing and running drug checking services. A provider from Lithuania suggested that "*drug checking services should be run by universities, as the majority of laboratory costs will be covered by the university. This is an optimal way to run a DCS*".

Research studies, awareness campaigns and activities to improve the culture of drug testing and to sensitise key stakeholders and the public on the benefits of implementing drug checking services and the need to revise the current legislative framework should all be carried out.

CONCLUSIONS AND RECOMMENDATIONS

Findings from this review identified several barriers that hinder the implementation of drug checking services in the region. Restrictions caused by the legal framework and fear of criminalisation continue to remain the most significant barriers. The majority of countries of the region are applying less punitive policies regarding drug consumption, but are still imposing harsh policies in terms of drug possession for personal use and supply. National drug policies are mostly focused on demand and supply reduction efforts, thus encouraging police enforcement practices rather than public health responses. Under such circumstances, drug checking services are operating in a legal grey area, equipment or testing machines may be interpreted as drug paraphernalia and programme staff or person using drugs are at risk of being criminalised for allegedly facilitating drug consumption.

The lack of sustainable funds was also found as a structural barrier because only one drug checking initiative in the region is supported by government funds. The rest ensure funding from international development agencies or are running on a voluntary basis. Deficiency of funds greatly influences the modes of programme operation, type of testing techniques, engagement of qualified staff and geographic coverage.

Furthermore, lack of trustworthy and experienced staff was also highlighted as a barrier that affects programme quality and the utilisation of drug checking services.

Regardless of some noted barriers, there are some encouraging practices that may facilitate the process of introducing drug checking services in the CEECA region. Even though the policy environment may look unpromising at first glance, with the imposition of harsh policies for people who use drugs and harm reduction programme staff, there are some positive aspects to be considered to overcome the identified barriers.

Some governments of the region are concentrating their efforts to develop new strategies and policies, recognising the importance of harm reduction programmes as a public health approach in reducing adverse socio-health and economic consequences.

Another positive aspect to be considered is that in several countries the government will ensure domestic funding for harm reduction programmes, particularly in the case of a shortage of funds. Currently in the region, there are a number of harm reduction programmes that are being partially or fully supported by domestic funds as foreseen in the respective national strategy.

> There is room for improvement regarding the financing of harm reduction programmes as the majority of funds are generated from disease-specific budgets;

but, at least, there is a planned budget that ensures the continuation of harm reduction programmes.
Another advantage to be considered is the commitment and experience of key providers working in the field of harm reduction, including a few small-scale drug checking initiatives. This implies that there is already a qualified group of socio-healthcare providers and volunteers who engage daily with people who use drugs and a bridge is being built between them based on trust.

Taken together, the above factors create a positive environment for harm reduction advocates and supporters to start collective efforts to mitigate the current challenges and obstacles that impede the implementation of drug checking services.

The following section provides some recommendations to be considered in order to overcome the existing barriers and to ensure an acceptable and feasible implementation of the programme.

Advocacy efforts to remove legal barriers and forge partnership

According to the current drug law legislation of the region, drug checking services operate in a legal grey framework and either programme staff and/or clients are subject to criminalisation and will face serious consequences. Therefore, efforts must be concentrated on removing such legal barriers that hinder the implementation of drug checking services. Experience from other countries shows that different approaches have been used, starting from the full regulation of drugs (legalisation), decriminalisation of drugs for personal use, or ensuring legislative changes that allow drug checking services to freely operate without fear of criminalisation and related repercussions.

Advocacy efforts to remove legal barriers should be focused on:

- ***Amending temporary legislation and policy changes at the national or local level***

  Special agreements with national/local authorities should be arranged in advance to ensure a safe working environment and allow people who use drugs to freely and anonymously submit drug samples for testing. The shortest way to introduce drug checking services is by making legislative arrangements with local law enforcement agencies, public health agencies and municipalities to temporarily allow the introduction of drug checking services at festivals or nightlife events. For instance, as part of licensing requirements, municipalities may oblige festival organisers to include drug checking services as part of medical aid services during the event.

Another approach to be considered is to start operating a drug checking service as a scientific research project or to integrate it into an Early Warning System (EWS) with a legally recognised partner, such as a national forensic laboratory, a national health institute/hospital, academia/universities that already have advanced laboratories, or existing harm reduction programmes; such approaches will facilitate the process to ensure long-term legal arrangements. In cases where there is a high number of drug-related harms caused by new drugs or high mortality rates caused by overdose, special arrangements should be requested under country emergency conditions.

- ***Drug decriminalisation***

  Drug decriminalisation is a valuable approach to remove criminal penalties and legal barriers not only for drug use and drug possession but also for drug-checking service equipment and supplies that would not be interpreted as drug paraphernalia. At a first glance, the drug decriminalisation process may require time and a lot of advocacy work to convince policymakers and law enforcement agencies to make the necessary changes; therefore, efforts to lower criminal penalties for drug possession in limited circumstances might be considered as a first step.

Depenalisation implies that less punitive policies are applied in terms of drug possession and penalties are reduced from a felony to a misdemeanor and this approach can be used to remove legal barriers to drug checking services. Even though depenalisation possesses some drawbacks and is not the same as the decriminalisation approach, "*it is considered as a step forward to decriminalisation and to establish a public health approach for drug policy*"[82].

Fundraising

In the current reality, where drug checking programmes are surrounded by legal uncertainties and government and donors have limited resources supporting harm reduction programmes, it is imperative to follow a step-wise approach to ensure funding sustainability.

Fundraising efforts should be focused at the policy and technical levels.

- ***Policy level***

  Advocacy efforts should be focused to create a supportive environment to recognise drug checking service as a harm reduction component and to include it in the framework of National Strategies (HIV/AIDS, Drug or Health Strategies), National Action Plans or Local Health Strategies.

[82] Drug Policy Alliance. Drug Decriminalization. https://drugpolicy.org/decrim (accessed 3 December 2022).

Even though a considerable number of international development agencies are no longer prioritising funds for harm reduction programmes, they are present and active in the majority of CEECA countries. Fundraising advocacy efforts should be oriented to increasing their interest in supporting drug checking services as pilot projects or as an adjunct to harm reduction interventions. Exploring other ways to ensure funds from non-traditional sources, such as the business community or private donations, must also be explored.

- ***Technical level***

  The first step is to develop a taxonomy of funding types and possible donors that might be willing to support the implementation of the programme. Existing experience in the region has shown that a variety of funding mechanisms are in place supporting harm reduction and drug checking programmes, starting with domestic funding, international donors and private donations. Additionally, where possible, research on donor policy implications affecting funding of drug checking services must be carried out to better understand the advocacy steps to be followed before approaching donors. The next step is to discuss opportunities with potential donors and present the concept and philosophy of the programme to be implemented based on the country's context.

In addition to the legal framework, a drug checking programmes vary greatly by the way they are implemented and the availability of funds. Therefore, it is important to have clear and realistic objectives on the type of programme to be implemented and the budget and funding sources required to ensure implementation of the programme. Ideally, a drug checking programme should be focused on overdose prevention among individual users or as a surveillance tool to monitor change in the drug market; or a combination of both components. Implementation of this type of programme requires qualified staff and expensive drug testing techniques which, in turn, require a considerable budget. Therefore, efforts should be focused on receiving funds from the government or international donors and to present the drug checking service in the form of a scientific research project or for drug market monitoring purposes, integrated with recognised national agencies/institutions.

In case this scenario is not realistic, on-site drug checking should be considered either for recreational users at festivals or nightlife, or as an adjunct to an existing harm reduction programme offering multi-purpose harm reduction services.

> Running small-scale programmes, particularly by community-led organisations, can generate financial support from private donations or local authorities.

Awareness raising campaigns

Harm reduction programmes, including drug checking services, are unfairly accused by critics as tools that encourage drug use, giving a false perception of drug safety to consumers and the general public, etc. These myths, mixed with other barriers, fuel the austerity against harm reduction and the effectiveness of public health interventions in preventing and addressing drug-related harms.

> Therefore, intensive advocacy and awareness raising campaigns using different communication channels must be organised.

Advocacy efforts must be focused to inform the audience to understand the concept of drug checking services as a harm reduction component, its benefits in terms of overdose prevention and monitoring of drug markets, as well as a connection/referral bridge to other socio-healthcare services.
Evidence-based interventions and positive findings from studies/research measuring the effectiveness and behavioural impact of drug checking services should be widely promoted using printed and electronic media as well as community and scientific forums.

Drug Checking Service format

- ***Purpose of the service:***

before starting, a clear objective must be defined: the programme will be focused on overdose prevention among individual users or as a surveillance tool to monitor drug market change; or a combination of both components. Ideally, a programme should employ both components and make efforts to reach even hard-to-reach populations, such as opioid users, and those living in areas out of programme coverage and encourage them to submit samples for analysis. In case this scenario is not realistic, on-site drug checking should be considered either for recreational users at festivals or nightlife venues, or as an adjunct to an existing harm reduction programme offering multi-purpose harm reduction services.

- ***Technological requirements:***

the most accurate and reliable results are those given by laboratories using mass spectrometry (GC-MS) analysis or so-called state-of-the-art laboratories. Usually, this technique is used for monitoring the drug market and alerting the public about dangerous substances. It is costly, requires the presence of qualified staff, and results are not given in real time. TLC, FTIR, HPLC and Raman Streptoscopy are considered cost-effective, feasible and user-friendly techniques to be employed in limited source programmes.

- ***Protocols and safety measures:***

Standard Operating Procedures (SOP's), workflow symbols and protocol/service rules must be designed in a way to ensure a safe and healthy workplace for staff and clients. Consumers must be informed in advance about the programme's procedures and requirements. Protective clothes/masks/gloves should be worn by programme staff, particularly by those who test substances. Sharp containers should be available and removed regularly by qualified agencies to be destroyed in places outside the area where the programme is located and operates.

- ***Communicating test results and harm reduction strategies:***

the final aim of the programme is to attract people who use drugs to know the content and purity of a substance in order to avoid overdose, provide counseling and also to encourage them to re-visit the service. To be successful, several factors should be considered, such as the provision of services in appropriate settings, results to be given in a few minutes, ensuring the safety and anonymity of consumers, and counseling and harm reduction information to be given in an appropriate manner and setting. Another effective way to inform clients and the general public is through the front-facing system where anonymous and confidential information on test results is given using colour-coded boards.

EXAMPLE OF POSSIBLE DRUG CHECKING SERVICE SCENARIO AT MUSIC FESTIVALS

(When a substance is left with a drug checking team to be checked)

PHASE 1

- Client enters the service and is welcomed by peer/harm reduction worker
- Initial screening for capacity to consent using drug checking service
- Advice on procedures and rules
- If needed (requested): Referred to the medical team

PHASE 2

- Complete the pre-evaluation questionnaire
- Client provides drug sample
- Sample is measured, weighed
- A unique identification number is issued

PHASE 3

- Client can check results on the result wall (white = expected, yellow = unexpected, red= warning)
- Client comes to drug checking team and receives health advice, as well as information about tested substance and its results

PHASE 4

- Client receives educational/ informational materials and counseling
- Complete the postevaluation questionnaire
- Client exits via entry/exit point

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