European Monitoring Centre
for Drugs and Drug Addiction

European Drug Report 2024: Trends and Developments

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The *European Drug Report 2024: Trends and Developments* presents the EMCDDA's latest analysis of the drug situation in Europe. Focusing on illicit drug use, related harms and drug supply, the report provides a comprehensive set of national data across these themes, as well as on specialist drug treatment and key harm reduction interventions.

Introductory note

This report is based on information provided to the EMCDDA by the EU Member States, the candidate country Türkiye, and Norway, in an annual reporting process.

The purpose of the current report is to provide an overview and summary of the European drug situation up to the end of 2023. All grouping, aggregates and labels therefore reflect the situation based on the available data in 2023 in respect to the composition of the European Union and the countries participating in EMCDDA reporting exercises. However, not all data will cover the full period. Due to the time needed to compile and submit data, many of the annual national data sets included here are from the reference year January to December 2022. Analysis of trends is based only on those countries providing sufficient data to describe changes over the period specified. The reader should also be aware that monitoring patterns and trends in a hidden and stigmatised behaviour such as drug use is both practically and methodologically challenging. For this reason, multiple sources of data are used for the purposes of analysis in this report. Although considerable improvements can be noted, both nationally and in respect to what is possible to achieve in a European-level analysis, the methodological difficulties in this area must be acknowledged. Caution is therefore required in interpretation, in particular when countries are compared on any single measure. Caveats relating to the data are to be found in the online Statistical Bulletin, which contains detailed information on methodology, qualifications on analysis and comments on the limitations in the information set available. Information is also available there on the methods and data used for European-level estimates, where interpolation may be used.

Content

The drug situation in Europe up to 2024

This page draws on the latest data available to provide an overview of the current situation and emerging drug issues affecting Europe, with a focus on the year up to the end of 2023. The analysis presented here highlights some developments that may have important implications for drug policy and practitioners in Europe.**The drug situation in Europe up to 2024**

Drug supply, production and precursors

Analysis of the supply-related indicators for commonly used illicit drugs in the European Union suggests that availability remains high across all substance types. On this page, you can find an overview of drug supply in Europe based on the latest data, supported by the latest time trends in drug seizures and drug law offences, together with 2022 data on drug production and precursor seizures.**Drug supply, production and precursors – the current situation in Europe**

Cannabis

Cannabis remains by far the most commonly consumed illicit drug in Europe. On this page, you can find the latest analysis of the drug situation for cannabis in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more. **Cannabis – the current situation in Europe**

Cocaine

Cocaine is, after cannabis, the second most commonly used illicit drug in Europe, although prevalence levels and patterns of use differ considerably between countries. On this page, you can find the latest analysis of the drug situation for cocaine in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more.**Cocaine – the current situation in Europe**

Synthetic stimulants

Amphetamine, methamphetamine and, more recently, synthetic cathinones are all synthetic central nervous system stimulants available on the drug market in Europe. On this page, you can find the latest analysis of the drug situation for synthetic stimulants in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more**Synthetic stimulants – the current situation in Europe**

MDMA

MDMA is a synthetic drug chemically related to the amphetamines, but with somewhat different effects. In Europe, MDMA use has generally been associated with episodic patterns of consumption in the context of nightlife and entertainment settings. On this page, you can find the latest analysis of the drug situation for MDMA in Europe, including prevalence of use, seizures, price and purity and more. **MDMA – the current situation in Europe**

Heroin and other opioids

Heroin remains Europe's most commonly used illicit opioid and is responsible for a large share of the health burden attributed to illicit drug consumption. Europe's opioid problem, however, continues to evolve in ways that are likely to have important implications for how we address issues in this area. On this page, you can find the latest analysis of the drug situation for heroin and other opioids in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more. **Heroin and other opioids – the current situation in Europe**

New psychoactive substances

The market for new psychoactive substances is characterised by the large number of substances that have emerged, with new ones being detected each year. On this page, you can find an overview of the drug situation for new psychoactive substances in Europe, supported by information from the EU Early Warning System on seizures and substances detected for the first time in Europe. New

substances covered include synthetic and semi-synthetic cannabinoids, synthetic cathinones, new synthetic opioids and nitazenes. **New psychoactive substances – the current situation in Europe**

Other drugs

Alongside the more well-known substances available on illicit drug markets, a number of other substances with hallucinogenic, anaesthetic, dissociative or depressant properties are used in Europe: these include LSD, hallucinogenic mushrooms, ketamine, GHB and nitrous oxide. On this page, you can find the latest analysis of the situation regarding these substances in Europe, including seizures, prevalence and patterns of use, treatment entry, harms and more.**Other drugs – the current situation in Europe**

Injecting drug use

Despite a continued decline in injecting drug use over the past decade in the European Union, this behaviour is still responsible for a disproportionate level of both acute and chronic health harms associated with the consumption of illicit drugs. On this page, you can find the latest analysis of injecting drug use in Europe, including key data on prevalence at national level and among clients entering specialist treatment, as well as insights from studies on syringe residue analysis and more. **Injecting drug use – the current situation in Europe**

Drug-related infectious diseases

People who inject drugs are at risk of contracting infections through the sharing of drug use paraphernalia. On this page, you can find the latest analysis of drug-related infectious diseases in Europe, including key data on infections with HIV and hepatitis B and C viruses.**Drug-related infectious diseases – the current situation in Europe**

Drug-induced deaths

Estimating the mortality attributable to drug use is critical for understanding the public health impact of drug use and how this may be changing over time. On this page, you can find the latest analysis of drug-induced deaths in Europe, including key data on overdose deaths, substances implicated and more. **Drug-induced deaths – the current situation in Europe**

Opioid agonist treatment

Opioid users represent the largest group undergoing specialised drug treatment, mainly in the form of opioid agonist treatment. On this page, you can find the latest analysis of the provision of opioid agonist treatment in Europe, including key data on coverage, the number of people in treatment, pathways to treatment and more.**Opioid agonist treatment – the current situation in Europe**

Harm reduction

Harm reduction encompasses interventions, programmes and policies that seek to reduce the health, social and economic harms of drug use to individuals, communities and societies. On this page, you can find the latest analysis of harm reduction interventions in Europe, including key data on opioid agonist treatment, naloxone programmes, drug consumption rooms and more. **Harm reduction – the current situation in Europe**

PDF version of full report

The European Drug Report 2024 was designed as a *digital-first* product, structured by modules, and optimised for online reading. Within each chapter, you may download a PDF version of the page. However, for convenience we are also making available here a PDF version of the full report (all modules and annex tables combined). Please note that, some errors may have occurred during the transformation process.

Download full PDF version of the European Drug Report 2024 (available shortly)

Data visualisations and list of figures

A list of all figures available in the report is available.

A selection of data visualisations from the report will be made available shortly.

Annex tables

These tables, produced specifically for the European Drug Report, provide national data for estimates of drug use prevalence including problem opioid use, substitution treatment, total number in treatment, treatment entry, injecting drug use, drug-induced deaths, drug-related infectious diseases, syringe distribution and drug seizures. The data are drawn from and are a subset of the EMCDDA Statistical Bulletin 2024, where notes and meta-data are available. The years to which data refer are indicated. In addition, for some indicators, these data tables also provide total values for EU as well as for EMCDDA reporting countries, 'EU+2' (EU Member States, Türkiye and Norway).

European Drug Report 2024 annex tables

Source data

Links to all source data used in the report for by data visualisations may be found at the bottom of each chapter, as well as, in most cases, beneath each graphic.The entire source data set for the report, including data for tables which appear within the report, may be found using the link below. All data is is fully compatible with the Creative Commons Attribution 4.0 International (CC BY 4.0) licence.

Complete set of source data for the European Drug Report 2024

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Reitox national focal points
Reitox is the European information network on drugs and drug addiction. The network is comprised of national focal points in the EU Member States, the candidate country Türkiye, Norway and at the European Commission. Under the responsibility of their governments, the focal points are the national authorities providing drug information to the EMCDDA.

About this page

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Understanding Europe's drug situation in 2024 – key developments (European Drug Report 2024)

The EMCDDA's latest analysis of the European drug phenomenon reveals a drug market that is both resilient and influenced by developments taking place at the global level. The continuing health and security problems presented by established and newer illicit drugs, and increasingly the interplay between them, create a challenging policy context for the shaping and implementation of effective responses. The *European Drug Report* 2024 provides a snapshot of the drug situation in Europe based on the latest data available. This introductory section provides a brief analytical commentary on some of the important issues that are currently featuring on Europe's drug policy agenda.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

EVERYWHERE, EVERYTHING, EVERYONE

Responding to Europe's evolving drug problems

A central message from the 2024 *European Drug Report's* analysis is that the impact of the use of illicit drugs is now seen almost everywhere in our society. Almost everything with psychoactive properties has the potential to be used as a drug. This means that everyone, whether directly or indirectly, can be affected by illicit drug use and the problems associated with it.

Everywhere

Today, drug issues have an impact almost everywhere. Domestically, they are manifest in and exacerbate other complex policy problems, such as homelessness, the management of psychiatric disorders and youth criminality. We are also observing greater levels of violence and corruption driven by the drug market in some countries. Internationally, drug problems are growing in many low- and middle-income countries, undermining governance and development, and adding to the already considerable public health and security challenges many countries face.

Everything

Increasingly, we are observing that almost everything with psychoactive properties can appear on the drug market, often mislabelled or in mixtures, leaving consumers potentially unaware of what they are using, increasing health risks and creating new law-enforcement and regulatory challenges.

Everyone

The impact of the developments we are seeing means that everyone is in some way likely to be impacted by illicit drug use, the operation of the drug market and the problems associated with it. Directly, we see this in those who develop problems and need treatment or other services. Indirectly, we see it in the recruitment into criminality of vulnerable young people, the strain on health budgets, and the social costs for communities that feel unsafe or where institutions or businesses are undermined by corruption or criminal practices.

The European Union Drugs Agency – providing Europe with greater capacity to respond effectively to a more complex and rapidly changing drug phenomenon

Since the EMCDDA's foundation in 1993, the extent and nature of the drug phenomenon has changed significantly. To address the new challenges posed by contemporary drug issues, the agency's mandate has been revised, and on 2 July 2024 the European Monitoring Centre for Drugs and Drug Addiction will be transformed into the European Union Drugs Agency (EUDA).

The EUDA will support the European Union and its Member States through improving and extending our monitoring of drug use and drug-related problems, increasing our preparedness to identify and respond to new threats and investing in competence development. These actions will contribute to the delivery of better interventions in both the health and security areas.

The EUDA will provide services across four overlapping areas: anticipating new and future challenges; identifying and issuing alerts on emerging risks and drug-related threats; assessing needs and available responses; and assisting stakeholders by evaluating and disseminating new knowledge and best practice.

The collection, analysis and dissemination of data will remain key tasks for the EUDA and be complemented by new competences. These include a greater investment in understanding and responding to problems arising from polydrug use and strengthening analytical capacity through the establishment of a new network of forensic and toxicological laboratories. The EUDA will develop a new European drug alert system to extend the current work of our Early Warning System on new psychoactive substances and complement this with new health and security threat-assessment capabilities. Greater investment will also be given to identifying research gaps and needs, and regular foresight and scanning exercises will help increase EU preparedness to respond to future challenges in the drug area. The EUDA will continue to work in close partnership with the Reitox network of national drug focal points, whose role will be reinforced. Support will be provided for the evaluation and development of evidence-based policies, and the agency will be in a position to invest more in supporting EU-level policy needs in its activities. The agency will also be able to do more to develop and promote evidence-based interventions and best practice, play a stronger international role and support the European Union in drug policy at the multilateral level.

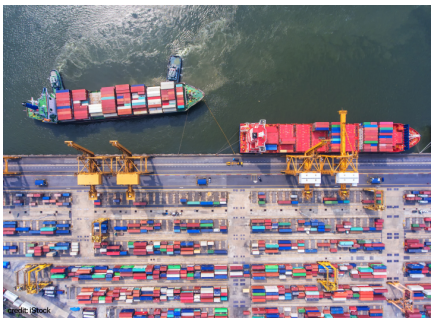
The drug situation in Europe in 2024 – an overview

High availability of wider range of often more potent substances

Analysis of supply-related indicators for commonly used illicit drugs in the European Union suggests that availability remains high across nearly all substance types. In addition, the information available suggests that the market is now characterised by the widespread availability of a broader range of drugs than in the past, with substances often available at high potency or purity or in new forms, mixtures or combinations. These include novel

substances, where both consumer and scientific knowledge about the health risks may be limited. There is a growing diversity in the forms in which substances can be available on the market and, in some cases, such as cannabis for example, the routes of administration by which they may be consumed, with edibles and various forms of vaping technologies appearing. These developments increase concerns that the risks associated with some substances may be growing. In particular, people who use drugs may be placed at greater risk of experiencing health problems, including potentially fatal poisoning, through consuming, possibly unknowingly, higher-potency or more-novel substances.

Targeting of commercial infrastructure is linked to high drug availability



For substances trafficked into the European Union, an important driver of increased availability is the ability of criminal groups to exploit the opportunities provided by modern commercial transportation infrastructure. Almost 70 % of the drug seizures by customs authorities happen in the European Union's ports, with large-volume seizures of drugs, particularly cocaine, detected in intermodal shipping containers. For example, in 2023 Spain reported its largest ever seizure of cocaine in a single shipment, with 9.5 tonnes of the drug concealed in bananas originating from Ecuador. Large ports in Belgium and the Netherlands are also routinely targeted by trafficking organisations, and there are concerns that smaller ports elsewhere in Europe are now increasingly coming under threat.

The methods used by crime groups operating in this area have become increasingly sophisticated with well-documented instances of infiltration of supply chains and exploitation of key staff through intimidation and corruption. In response to this, the 2023 EU Roadmap Against Drug Trafficking includes measures to strengthen customs risk-management and the detection of trafficked drugs and precursor chemicals. This includes supporting the deployment of advanced container-scanning equipment and increasing the interoperability of EU customs information systems. The Roadmap also supports the newly established European Ports Alliance, a public-private partnership, which includes actions to increase the resilience of Europe's key logistical centres to drug trafficking and infiltration by organised criminal groups.

Policy concerns grow about drug-related violence and the exploitation of minors

Concerns are growing that as a consequence of high drug availability, large-volume trafficking and competition between criminal groups in Europe, some countries are experiencing an increase in violence and other forms of criminality linked to the operation of the drug market. Historically, the greatest burden of violent crime associated with the drug market has been borne by producer and transit countries outside of the European Union, and this remains the case. However, in Europe, particularly in countries where large volumes of drugs are known to enter or be produced, levels of violence associated with the drug trade appear to be increasing. Accompanying

this, concerns are also growing about the recruitment and exploitation of juveniles by criminal networks involved in the illicit drugs trade. This is reflected in the increasing priority given to countering these threats by law enforcement agencies. Currently, monitoring trends and developments in drug-related crime at the European level is challenging. In response, the EMCDDA has been investing in improving monitoring tools in this area, an example of which can be seen in recent work to develop an indicator of drug-related homicides. The EUDA, working in close partnership with Europol and the European Commission, will invest more in this area in the future, as sound information is likely to be a prerequisite for the design of effective intervention strategies to counter the violence, corruption and criminal exploitation increasingly associated with the operation of some contemporary European drug markets.

Polydrug consumption and drug mis-selling increase risks to health

Polydrug use is the use of two or more psychoactive substances, licit or illicit, simultaneously or sequentially. A related issue is that substances may be sold that contain one or more drugs other than the one the purchaser was expecting, either in a mixture with the substance they intended to purchase or as a replacement for it. This means that consumers may be unaware of what substance or substances they are actually consuming. Using drugs in combination can increase the risk of health problems and complicate the delivery of effective interventions, an issue for example in responding to acute poisoning.

A key message of this year's European Drug Report is that polydrug consumption is common among those consuming psychoactive substances, and using drugs in this way can increase the risks of incurring serious health problems. Challenges in this area also appear to be growing. This is partly due to increased market integration of established illicit drugs and new psychoactive substances, and partly to the wider availability and use of synthetic substances. Concerns in this area include cannabis products adulterated with synthetic cannabinoids, products sold as MDMA but sometimes containing synthetic cathinones as adulterants, and the appearance of highly potent synthetic opioids mixed with or mis-sold as other substances. It is also important to note that the combined use of alcohol with illicit drugs can also increase health risks, for example when alcohol is taken in combination with cocaine, opioids or new or 'street' benzodiazepines.

Forensic, toxicological and innovative new data sources are needed

One of the challenges facing drug surveillance in 2024 is to gain a deeper understanding of what drugs are actually being consumed and in what combinations. Enhancing the monitoring of patterns of polydrug use and increasing our understanding of what constitutes effective interventions in this area will therefore be priorities for the future work of the EUDA. Improving the sources of toxicological and forensic data and the information they provide will be a key component in achieving a better understanding of what substances are being sold on the market and which drugs or drug combinations are

particularly associated with harm. In addition, the EUDA will continue to invest in developing new data sources that can provide a more detailed picture of drug consumption patterns, such as data from drug testing services or syringe monitoring studies. For example, multiple substances are commonly detected in used syringes collected at syringe exchange sites, often including stimulants and opioids, suggesting that these drug classes are commonly used together in European cities.

Addressing a more diverse and complex set of needs

Supporting the implementation of evidence-based substance use prevention

Substance use prevention aims to stop or delay the use of psychoactive drugs. It also may help those who have started to use substances to avoid the development of drug use disorders. However, not all approaches utilised in this area have been found to be effective, and interest in the identification and implementation of evidence-based prevention programmes has been increasing. Achieving this objective is now supported by the establishment of prevention programme registries, training initiatives and the development of quality standards. The European Prevention Curriculum is designed to improve the overall effectiveness of prevention efforts. More than 25 EU Member States and neighbouring countries now have national European Prevention Curriculum trainers. Prevention efforts are also supported by Xchange, a European online registry of evaluated prevention interventions. Despite the availability of high-quality tools to help identify programmes that are likely to be effective, in many countries there is still either a lack of investment in drug prevention work or evidence that resources are not being used efficiently by investing in programmes that lack robust evidence of effectiveness.

Greater diversity of substances injected increases health risks

Ensuring an effective and comprehensive response for people who inject drugs in Europe remains a key issue for policy and practice if drug-related harm is to be reduced. Challenges in this area are becoming more complex, however, as data reported here highlight the increasing diversity of substances being injected in Europe and that this diversity can be associated with a greater risk.

People who inject drugs are often at greater risk of harms, such as contracting blood-borne infections or dying from drug overdose, than those who use other routes of administration. Injecting drug use can also exacerbate pre-existing health problems or cause abscesses, septicaemia and nerve damage. Although injecting drug use has continued to decline in Europe over the past decade, it still accounts for a disproportionate share of both the acute and chronic harms to health resulting from substance use.

Historically, heroin has been the main drug associated with injecting in Europe, but syringe residue data reported here illustrate how variable and complex injecting patterns have become. A wide range of drugs, including amphetamines, cocaine, synthetic cathinones, opioid agonist medications, other medicines and various new psychoactive substances, are now being detected in syringe

residues, often in combination, potentially increasing the risk of overdose. Syringe monitoring studies support other data suggesting that stimulant injecting, in particular, has become more common among people who inject drugs. This is a concern, as stimulant injecting has been associated both with more frequent injecting and a number of local outbreaks of HIV reported in Europe over the last decade. Local HIV outbreaks linked to stimulant injecting continue to be reported in the most recent data, including an outbreak in Monza, Italy, in 2022.

Harm reduction approaches are now seen as fundamental to reducing HIV transmission among people who inject drugs, particularly the provision of sterile injecting equipment, including distribution both in prisons and through pharmacies. Again, however, our analysis indicates that coverage and access to free needle and syringe programmes remain inadequate in many EU countries.

HIV notifications return to pre-pandemic levels

While new HIV infections related to injecting drug use have been declining in the European Union over the long term, more than half of the countries reporting data saw an increase in new HIV notifications in 2022 compared with 2021. In 2022, the number of new HIV notifications linked to injecting drug use in the European Union increased to 968, compared with 662 in the previous year, returning to a level similar to that observed in 2019. This increase may in part reflect increased rates of HIV testing following the lifting of COVID-19-related restrictions and the return of health services, including HIV testing, to pre-pandemic functioning. Another possible contributory factor is the movement of people living with a known HIV diagnosis between European countries following the Russian invasion of Ukraine. Regardless of its cause, this finding deserves further investigation, as any change in the long-term downward trend observed in this data set would be a concern. Moreover, although the European Union compares favourably with many other regions of the world, the 38 % reduction in HIV notifications since 2010 falls short of the World Health Organization's (WHO) target of a 75 % reduction, indicating that more needs to be done to eliminate drug-related HIV transmission in Europe.

Signs that ketamine is increasingly available and may be causing harm

Part of the mission for the new EUDA will be to extend our monitoring capacity to more-novel substances that currently are not sufficiently visible within the data sets used for routine drug monitoring. A good example of this is ketamine, where the evidence that exists is limited but does suggest that this drug is likely to be consistently available in some national drug markets and may have become an established drug of choice in some settings. However, despite anecdotal evidence that ketamine is widely used by some groups of young people, we lack a good understanding of the patterns of use of this substance.

While not necessarily representative at European level, the quantity of ketamine seized and reported to the EU Early Warning System on new psychoactive substances has varied over time, but has remained at relatively high levels recently, with reported seizures increasing from just under 1 tonne

in 2021 to 2.8 tonnes in 2022. Most of the ketamine seized in Europe is believed to originate from India, but Pakistan and China may also be source countries for this substance.

Ketamine may be used alone or in combination with other substances. In 2022, data from hospital emergency departments participating in the Euro-DEN Plus network reported that cocaine was the substance most often reported in combination with ketamine in acute toxicity presentations.

Ketamine is commonly snorted, but can also be injected, and has been linked to various dose-dependent acute and chronic harms, including neurological and cardiovascular toxicity, mental health problems and urological complications, such as bladder damage from intensive use or the presence of adulterants. Currently, our understanding of the extent that this drug is associated with significant harm in Europe remains limited, and there is a strong case for improving the monitoring of ketamine use and any related harms.

‘Pink cocaine’: an example of new synthetic drug mixtures appearing on the EU market

Ketamine may also be added to other drug mixtures, including MDMA powders and tablets, potentially increasing the risk of inadvertent consumption. Mixtures sold as ‘pink cocaine’ can also contain ketamine. This product appears in parts of the EU drug market, but has a longer history in Latin America, where it has often been reported to contain the substance 2CB, which is reflected in its alternative street name ‘tucibi’. In Europe, however, a range of synthetic substances, including ketamine and MDMA, have been found in this brightly coloured, distinctive product. In many respects, pink cocaine is an example of the more sophisticated marketing of synthetic substances to consumers, who are likely to have very little understanding of what chemicals they are actually consuming.

Europe’s response to cannabis

A need to better understand what responses are most effective for treating cannabis-related problems

Cannabis remains the most commonly used illicit drug in the European Union, with the prevalence of use about five times that of the nearest other substance (Figure At a glance). Cannabis use is associated with a range of physical and mental health problems; with early initiation, regular and long-term use and high-dose use all thought to increase the risks. There remains, however, a need to understand better the types of problems experienced by cannabis users, as well as what might constitute appropriate referral pathways and effective treatment options for those seeking help for their cannabis use. Cannabis accounts for more than one third of all reported admissions to drug treatment in Europe. This finding is difficult to interpret, in part because of the wide variety of interventions provided to cannabis users, which may include brief interventions or directive referrals from the criminal justice system. Further work is needed to understand better the types of services

offered to people with cannabis problems. However, the information that does exist suggests that psychosocial treatments, such as cognitive behavioural therapy, are commonly offered and that e-health interventions are becoming increasingly available.

Evaluating the risk of harm associated with cannabis use is complicated by the apparently increasing range of cannabis-based products potentially available to consumers, which can include edibles, various forms of vaping technologies, high-potency products and various derivatives of the drug. This diversity may have implications for the risk of an individual experiencing problems with their cannabis use, but these are poorly understood. This remains therefore an area that requires greater research and regulatory attention.

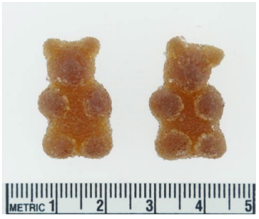
Monitoring and evaluation are key to assessing the impact of cannabis policy changes

Some EU Member States have changed, or are considering changing, their approach to the regulation of recreational cannabis use, creating the possibility of greater access to the drug for some consumers or under certain conditions. In December 2021, Malta legislated to permit home growing and cannabis use in private, alongside non-profit communal growing clubs. In July 2023, Luxembourg legislated to permit home growing and use in private, and in February 2024, Germany legislated to allow home growing and non-profit cannabis growing clubs. Czechia has also announced plans for a regulated and taxed distribution system.

The cultivation, sale and possession of cannabis remain criminal offences in the Netherlands. However, the sale of small quantities of cannabis to adults (aged over 18) in 'coffeeshops' has been tolerated for decades. One of the policy objectives for this tolerance was to separate the cannabis market from the market for other drugs. A concern with this approach is that cannabis sold in coffeeshops is supplied from the illegal market, and criminal groups therefore benefit from this trade. To address this issue, the Netherlands is piloting a closed cannabis supply chain model, where cannabis sold in coffeeshops is produced in regulated facilities.

In Europe and elsewhere, the current dynamic public and policy debate on how cannabis should be regulated is likely to continue. The large commercial markets for this drug that exist in North America and elsewhere are already driving innovation, and are probably indirectly influencing the wider range of cannabis products now available on the European market. It is unclear what direction future European policies will take. What is clear, however, is that any policy development in this area should be accompanied by an assessment of the impact of any changes introduced. This sort of evaluation will depend on the existence of good baseline data; underlining again the need to improve our monitoring of current patterns of use of Europe's most commonly consumed illicit drug.

Changing cannabis markets create new challenges for drug policies



The diversity of cannabis products available in Europe is increasing. This is true for the illicit drug market. It is also true for the consumer market, where products are appearing that contain low levels of THC, or other substances that may be derived from the cannabis plant such as CBD, or both. On the illicit drug market, the availability of high-potency extracts and edibles is of

particular concern and has been linked to acute toxicity presentations in hospital emergency departments. In addition, there are concerns that some products sold on the illicit market as cannabis may be adulterated with potent synthetic cannabinoids.

Some semi-synthetic cannabinoids have also appeared recently on the commercial market in parts of Europe. Probably the most commonly encountered semi-synthetic cannabinoid is hexahydrocannabinol (HHC), but also more recently hexahydrocannabiphorol (HHC-P) and tetrahydrocannabiphorol (THCP) have become commercially available in some EU Member States. These substances have been sold as purportedly 'legal' alternatives to cannabis, adding to the regulatory challenges in this area. While knowledge of the effects of HHC in humans is limited, concerns have been raised as studies have emerged, including some reports of links to psychosis. There have also been reports of intoxication among children caused by consuming edibles containing HHC.

Cocaine and synthetic stimulants now play a greater role in Europe's drug problems

For the sixth year running, record quantities of cocaine seized in Europe

Record quantities of cocaine were again seized by EU Member States in 2022, amounting to at least 323 tonnes. European seizures now exceed those made by the United States, historically a country considered to be among the largest markets for this drug. Cocaine enters Europe by various routes, but the trafficking of large volumes of cocaine through Europe's seaports in intermodal commercial shipping containers remains a significant factor in its high availability.


Policía Nacional and the Spanish Customs Surveillance Force (SVA-DAVA)

The trafficking of illicit drugs is highly dynamic and quickly adapts to geopolitical developments, regional conflicts and changes in trade routes. Developments in Colombia, Brazil and Ecuador are all thought to have contributed to the increase observed in cocaine trafficked to the European Union. As interdiction measures have been scaled up at major known entry points for the drug, traffickers increasingly appear to be targeting smaller ports in other EU countries and countries bordering the European Union, where deterrent measures may be less intensively applied. Some northern European countries, including Sweden and Norway, reported record cocaine seizures at seaports in 2023, suggesting that all entry points to the European Union have now become vulnerable.

Cocaine production sites in Europe reveal how trafficking groups are innovating to avoid detection

The regular detection of large-scale cocaine processing laboratories across Europe, particularly in Belgium, Spain and the Netherlands, reveal how transnational criminal networks from both sides of the Atlantic are working together to develop new methods to traffic cocaine into Europe. This can be seen in the use of specialised equipment and the involvement of chemists with expertise in cocaine concealment and processing. Cocaine


Photos by An Garda Síochána

processing in Europe usually involves the secondary extraction of cocaine that has been incorporated into other materials in order to reduce the risk of detection when it is included in commercial shipments of legitimate goods. These trafficking methods range from the simple impregnation of cocaine into a material, to more sophisticated chemical concealments, where the drug is incorporated into a variety of plastics, polymers or metal complexes.

In addition, coca paste and cocaine base, are also now being trafficked into Europe, with the final stages of processing into cocaine hydrochloride being completed in clandestine laboratories. The reasons for this are not known, but it has been suggested that it may be a response to the relative scarcity of cocaine-processing chemicals in Latin America and the economic advantage of controlling the final stages of the production process in Europe.

Impact of high cocaine availability on public health becoming more visible

Cocaine is, after cannabis, the second most commonly used illicit drug in Europe. There are increasing signs that the continued high availability of this drug is having a growing negative impact on public health in Europe. Although there is considerable geographical heterogeneity observable in the data, overall cocaine is the second most frequently reported illicit drug, both by first-time entrants to drug treatment services and in the more limited information available on acute drug toxicity presentations to hospital emergency departments. European drug checking services, although not nationally representative, note that cocaine was the most common substance they screened in 2022. The available toxicological data suggest that the drug was involved in about one fifth of drug overdose deaths in 2022, often in association with other substances. Moreover, as cocaine use can aggravate underlying cardiovascular problems, a major cause of death in Europe, it is likely that the overall contribution of this drug to mortality is not sufficiently recognised.

Cocaine residues in municipal wastewater also increased in two thirds of cities with data for 2023 and 2022. This, together with other information, suggests that as cocaine has become increasingly available, so too has its geographical and social distribution. Of particular concern is that, in some countries, cocaine use appears to be increasing among more marginalised groups. This contrasts with the public perception of the drug as being more commonly used by socially integrated and affluent people. Smoking and injecting cocaine are both associated with greater health problems than nasal insufflation, and it is therefore worrying that cocaine injection and the use of crack cocaine are reported to be growing in a number of countries. Smokable crack cocaine is a form of the drug that is associated with more problematic patterns of use and use by more marginalised groups. As noted elsewhere in this report, the injection of cocaine has been linked to a number of localised HIV outbreaks in Europe in recent years.

Europe remains a significant producer of synthetic drugs

While monitoring illicit activity is always challenging, the information available suggests that the scale and complexity of illicit drug production within Europe is continuing to grow. In 2022, hundreds of synthetic drug production facilities were reported as having been dismantled in the European Union. These facilities were producing a variety of substances, including amphetamine, methamphetamine, synthetic cathinones and MDMA. Facilities for the final stages of heroin production were also detected. In addition, the regular detection of separate sites for cocaine production, extraction, cutting and packaging in recent years suggests that secondary cocaine production is now well-established in parts of Europe, facilitating the use of innovative methods of chemical concealment and trafficking of this drug into Europe.

Innovation in production processes is also suggested by recent seizures of chemicals that can be used to produce the precursor chemicals needed to manufacture amphetamine, methamphetamine and MDMA, thereby circumventing the controls in place to reduce the availability of these drugs.

A challenge in this area is that the use of a more diverse set of chemicals and the introduction of new routes of chemical synthesis mean that customs, law enforcement and existing regulations can struggle to keep pace with market developments. Moreover, where illicit synthetic drug production takes place, there is a growing awareness of the risks to public health and the environment from the dumping or disposal of the often large volumes of hazardous substances used in the drug production process.

Methamphetamine production and trafficking highlight the potential for increased use in Europe

Globally, methamphetamine problems appear to be growing, and this synthetic stimulant is making a major contribution to drug-related harms in many parts of the world. In Europe, with the notable exception of a few countries, methamphetamine is a relatively uncommonly used stimulant. However, drug trends are increasingly dynamic and can change rapidly. It is a worry, therefore, that some signals exist that methamphetamine use may be spreading to more countries, even if overall levels of use remain low. An additional concern is the continuing evidence of production in Europe. Although the number of methamphetamine production sites dismantled slightly declined in 2022, these overall numbers fluctuate from year to year, as they largely reflect numerous small-scale 'kitchen-labs'. Low-volume methamphetamine production for local consumption is a long-standing phenomenon in parts of Europe, such as Czechia, with established populations using this drug. More recently, however, there is increasing evidence of the existence of larger-scale facilities, often located elsewhere in Europe, that have produced this drug in large volumes for export to non-EU markets.

Seizures of glycidic derivatives of BMK, a precursor used for large-scale methamphetamine production, increased significantly in 2022, while new alternative chemicals from which BMK can be

made were also seized. In addition, large volumes of tartaric acid continued to be seized. Tartaric acid is used in the production of the potent and sought-after form of methamphetamine (*d*-methamphetamine, used for 'crystal meth'). Taken together this information suggests that large-scale production of methamphetamine is now established in the European Union. Currently, production on this scale appears to be mainly for export to non-EU markets. This is a concern in itself, but it also poses a risk that the use of this drug could become more common in the European Union, should market conditions become conducive to this.

Synthetic cathinones represent a growing challenge

The dynamic nature of the European drug market is highlighted by increased reports of the production and use of synthetic cathinones, a class of drugs relatively new to Europe. Data reported here continue to indicate the large-volume trafficking of synthetic cathinones into Europe from source countries such as India. At the same time, there is increasing evidence of production in the European Union, most notably in Poland. The size and scale of the production sites reported as dismantled by law enforcement agencies varies from relatively small-scale 'kitchen-scale' laboratories to facilities capable of producing large quantities of these substances. Given the volumes of precursor chemicals now seized and the interception of unregulated alternative chemicals, it appears likely that large-scale production for both European and external markets is now taking place.

Developments in the opioid area create new challenges for both drug policies and response models

Presence of multiple substances in most opioid deaths deserves greater recognition

The observation that drug consumption patterns are becoming both more dynamic and more complex comes under the spotlight again in our analysis of drug-induced deaths, sometimes referred to as 'overdose deaths'. Opioids remain the group of substances most commonly implicated, but they are often found in combination with other substances, highlighting how patterns of polydrug use are an important driver of drug-related harms in Europe. Benzodiazepines, alcohol or cocaine, for example, are all often reported alongside opioids in the available toxicology data, and it is likely that the co-consumption of these different drug classes is an important, but not always sufficiently recognised, factor for understanding and responding to drug-related mortality.

At EU level, recent trends in deaths where opioids are implicated appear stable, but the proportion of deaths in older age groups is increasing. It is estimated that heroin was involved in more than 1 800 deaths in 2022 in the European Union, and it remains the drug most commonly identified in opioid-related deaths in some western European countries. However, the data available suggest that heroin is now present in the majority of overdose deaths in only a minority of countries, with other

opioids and other drugs playing a more important role. Overall, the situation appears more heterogeneous than in the past, with opioids other than heroin, including methadone and, to a lesser extent, buprenorphine, pain-relief medicines containing opioids and other, more-novel, synthetic opioids being associated with a substantial share of overdose deaths in some countries.

The available data suggest that deaths where stimulants are implicated are rising in some countries. However, interpreting these data is difficult, both because stimulant-related deaths are likely to be particularly prone to under-reporting, and because stimulants are often implicated in deaths where other drugs, including opioids, are also found to be present.

Concern is growing that highly potent synthetic opioids pose a significant threat to public health

Deaths associated with the use of opioids are an important public health concern in Europe, but they currently represent only a small fraction of the number of deaths associated with this class of drugs reported in North America. Both the United States and Canada have been experiencing a public health emergency driven by synthetic opioids, principally derivatives of fentanyl. The situation in Europe is very different. Although some under-reporting is likely, fentanyl derivatives were only linked to 163 deaths in 2022. These fatalities also include deaths associated with fentanyl diverted from medical use rather than obtained from the illicit market.

Despite this difference in scale, concerns are growing that highly potent synthetic opioids are increasingly appearing on the European drug market and are causing harm. Moreover, even if the North American context is different, it does provide a warning on how rapidly trends in opioid use can develop, with dramatic implications for public health. It is therefore worrying that 81 new synthetic opioids have been reported to the EU Early Warning System since 2009, with 7 new substances appearing in 2023. Six of these were highly potent nitazene opioids. Nitazenes were first reported to the EMCDDA around 2019. Since then, 16 nitazenes have been identified in Europe, with the majority of countries having detected one of these substances on their territory.

Appearance of nitazene opioids already associated with harm in some countries

Nitazenes have been sold in preparations that resemble street heroin, or online as ‘synthetic heroin’, and have also appeared in tablets mis-sold as medicinal opioids or other medicines. There are also reports of smoking mixtures adulterated with nitazenes. These drugs have been linked to an increase in drug-induced deaths in Estonia and Latvia in 2023, where they now account for a significant share of overdose deaths. Localised poisoning outbreaks have also been reported in Ireland and France in 2023. In Ireland, nitazenes were mis-sold as heroin, resulting in multiple overdoses, and were also linked to overdoses in two prisons in 2024. Outside the European Union, nitazenes have been linked to drug overdoses in Australia, North America and the United Kingdom. These drugs do not currently figure prominently in the routine data available at EU level. However, due to their high potency and novelty, there are concerns that nitazene opioids may not be routinely

detected in procedures commonly used for post-mortem toxicology. This raises the possibility that the number of deaths or non-fatal poisonings attributed to these substances could be an underestimate.

These developments are occurring in the context of other recent signals of worrying changes to the opioid market in Europe. These include the emergence in 2021 of 'tranq-dope', in which synthetic opioids are mixed with the animal sedative and analgesic xylazine, and 'benzo-dope' in 2022, in which synthetic opioids are mixed with new benzodiazepines (such as bromazolam). Such mixtures are commonly found in parts of North America, where they have been associated with a range of health concerns.

New challenges for policy, practice and research

The emergence of novel and highly potent synthetic opioids creates new challenges for drug policy and practice. It also highlights important knowledge gaps requiring research scrutiny. Many of these substances are not subject to drug control when they first appear. In this respect, Europe is fortunate to have put in place, through its Early Warning System, a fast-track mechanism for drug identification, risk assessment and control. It is vital, however, that Member States support this mechanism with appropriate national measures. Currently, most new synthetic opioids appear to be supplied from Asian countries. Consequently, multilateral follow-up is likely to be important. Some production of fentanyl derivatives is known to take place in Europe, but thus far this has been limited. However, the technical barriers to the production of these substances are relatively low, and it is therefore imperative to consider what may constitute effective measures to prevent the possibility of the large-scale production of these drugs within the European Union.

Recent experience within the European Union has demonstrated how the sudden emergence of potent synthetic opioids can result in multiple poisonings occurring over a short period, with the potential to overwhelm local services. Resilience in this area can be increased by having in place a multiagency rapid response plan, which includes an effective risk communication component in order to alert both those at risk and frontline services. Furthermore, response models in this area need to be expanded in recognition that, as these substances have been sold as or in mixtures with other substances, the population at risk is not necessarily restricted to those with a history of consuming opioids. The capacity to rapidly identify the presence of highly potent opioids on local drug markets will also be important. A critical requirement of response models in this area will be ensuring that adequate supplies of the opioid antagonist naloxone are available to frontline workers, such as police, ambulance and low-threshold service providers, and they are enabled to administer this drug when it is needed. Finally, our evidence base in Europe for what constitutes effective responses to opioid problems has been built largely on our historical experience of responding to heroin problems. Research is therefore urgently required to assess the extent to which our current response models may require adjustment in order to remain fit for purpose in the context of the availability of more-novel and highly potent opioids, especially if these substances appear in mixtures with other drugs such as xylazine.

Could a decline in heroin availability lead to a larger market for synthetic opioids?

In April 2022, the Taliban announced a ban on opium poppy cultivation. A similar, albeit short-lived, ban in 2001 saw the introduction of replacement substances, including stimulants and synthetic opioids, into the European market. These changes were short-lived in most countries, but long-term changes in the opioid market were observed in a small number of countries. Given that Afghanistan is the main source of heroin consumed in Europe, the latest opium ban has prompted speculation that it could result in a future heroin shortage, which might lead to increased supply of synthetic opioids and their use in Europe.

The United Nations Office on Drugs and Crime (UNODC) estimates that opium production fell by 95 % in 2023. While there is considerable uncertainty in this area, evidence suggests that a substantial inventory of opium remains in Afghanistan. This may help explain why we have not observed evidence of any disruption of heroin flows towards the European Union. However, some market adjustments may have occurred in response to a reported increase in opium prices in Afghanistan. At the time of writing, it is too early to say if the current ban on opium production will be sustained over time. Nevertheless, it would be prudent to prepare for a possible heroin shortage in late 2024 or 2025. An immediate response would include ensuring that sufficient drug treatment places were available to those seeking help with managing their opioid use. It would also be important to monitor closely whether changes in heroin supply were having an impact on the availability or use of other substances. Substances to be considered include potent synthetic opioids, but also more established substances such as stimulants.

Could Myanmar replace Afghanistan as a source of heroin for Europe?

Myanmar has historically been a notable source of opium and heroin, though generally not for European markets. Heroin from Myanmar is thought to be trafficked to various countries in Asia and Oceania. After a period of decline, there have been reports of increased opium cultivation over the last 3 years. The UNODC estimates that Myanmar produced 1 080 tonnes of opium in 2023, up 36 % on 2022, but still much lower than the quantities produced in Afghanistan in recent years. Given the potential value to traffickers of this crop when converted to heroin, and the increasing maritime trade flows between South-East Asia and Europe, there is a potential risk that a portion could be diverted to service profitable markets in Europe in the future. Monitoring of any appearance of heroin from this region is merited therefore, but remains challenging given the security context in Myanmar, which has been embroiled in civil war since 2021. However, in the short to medium term, it appears that heroin produced in this region is unlikely to replace the volumes of heroin up to now supplied to the European market from Afghanistan.

At a glance

At a glance – estimates of drug use in the European Union

Cannabis

Adults (15-64)

Last year use

22.8 million

8.0 %

Lifetime use

85.4 million

29.9 %

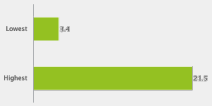
Young adults (15-34)

Last year use

15.1 million

15 %

National estimates of use in last year (%)



Cocaine

Adults (15-64)

Last year use

4.0 million

1.4 %

Lifetime use

15.4 million

5.4 %

Young adults (15-34)

Last year use

2.5 million

2.5 %

National estimates of use in last year (%)

MDMA

Adults (15-64)

Last year use

2.9 million

1 %

Lifetime use

12.3 million

4.3 %

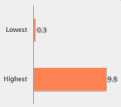
Young adults (15-34)

Last year use

2.2 million

2.2 %

National estimates of use in last year (%)



Amphetamines

Adults (15-64)

Last year use

2.3 million

0.8 %

Lifetime use

10.3 million

3.6 %

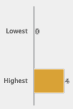
Young adults (15-34)

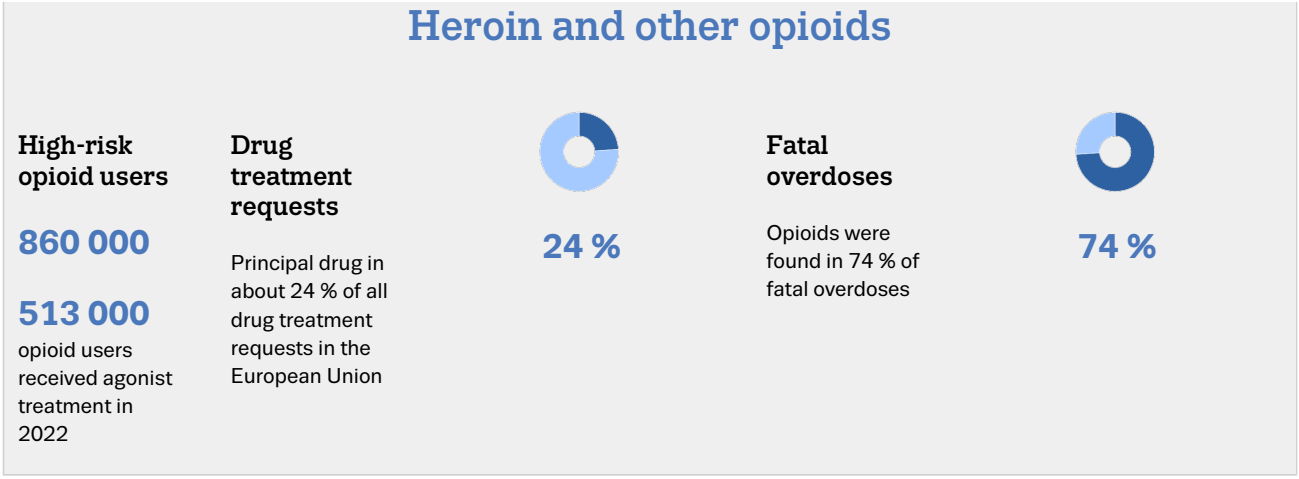
Last year use

1.5 million

1.5 %

National estimates of use in last year (%)





Source data

The data used to generate infographics and charts on this page may be found below.

Drug supply, production and precursors – the current situation in Europe (European Drug Report 2024)

Analysis of the supply-related indicators for commonly used illicit drugs in the European Union suggests that availability remains high across all substance types. On this page, you can find an overview of drug supply in Europe based on the latest data, supported by the latest time trends in drug seizures and drug law offences, together with 2022 data on drug production and precursor seizures.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

High drug availability fuelled by large-volume imports and production within the European Union

Drug availability within the European Union

Analysis of supply-related indicators for illicit drugs in the European Union suggests that availability remains high across all substance types. In addition, the market is characterised by the widespread availability of a broader range of drugs, often available at high potency or purity, potentially increasing risks to health. These include novel substances, where both consumer and scientific knowledge about the health risks may be limited. There is also a growing diversity in the forms in which substances may be available on the market and, in some cases, such as cannabis, the routes of administration (e.g. vaping, edibles) by which they may be consumed. Together, these developments increase concerns that there is a potential for the greater use of illicit substances overall, and that the risks associated with some substances may be growing, especially among vulnerable users such as people experiencing social and economic marginalisation and deprivation. In particular, there are worries that people who use drugs may be at greater risk of adverse health outcomes, including poisonings and deaths, through consuming, possibly unknowingly, high-purity and potency drugs, especially more-novel substances.

Globalisation in the operational methods used by organised crime groups appears to be an important facilitator of high drug availability in Europe. There is closer involvement of European drug producers and traffickers with international criminal networks, resulting in more resilience in the flows of illicit drugs into and out of the European Union. Various countries in South America, West and South Asia and North Africa remain important source areas for illicit drugs entering Europe, while China and India remain important source countries for new psychoactive substances, with India now more important for some substances, such as synthetic cathinones. Drug precursors and related chemicals are also often reported to be sourced from China.

Large seizures of drugs, particularly cocaine, in intermodal shipping containers have continued to be detected in the last few years. For example, in 2023 Spain reported its largest seizure to date of 9.5 tonnes of cocaine in a single shipment concealed in bananas that originated in Ecuador (Figure 1.1). The drug trafficking operations of organised crime groups increasingly target legitimate commercial infrastructure involved in global trade. Documented instances show infiltration of supply chains and exploitation of key staff through intimidation and corruption. Moreover, there are

increasing concerns regarding the recruitment and exploitation of juveniles by criminal networks in the illicit drug trade. This is reflected in the priority given to countering these threats by law enforcement agencies. More generally, and particularly in countries where large volumes of drugs are known to enter or be produced in Europe, there is growing recognition of the need to do more to counter the violence, corruption and criminal exploitation practices associated with drug market operations.

Figure 1.1. 'Operation Nano', 9.5 tonnes of cocaine seized in August 2023 at the Port of Algeciras (Cadiz), Spain

The dynamics of the production and trafficking of illicit drugs internationally adapt in response to geopolitical developments, regional conflicts and changes in trade routes. Developments in recent years in Colombia, Brazil and Ecuador have, for example, contributed to the increased availability of cocaine for trafficking to the European Union by organised crime groups, simultaneously using multiple modi operandi (Figure 1.2) in an attempt to evade detection. The United Nations Office on Drugs and Crime has estimated a 95 % drop in opium cultivation in 2023 in Afghanistan following the Taliban's opium ban. While it is too early to determine the full impact of this situation on European drug markets, it is likely to affect the availability of heroin in Europe in the coming years, with concerns being raised around its replacement with other drugs, such as highly potent synthetic opioids or stimulants. At the same time, conflicts in Ukraine and the Middle East appear to be having an impact on the trafficking routes used by criminals to move illicit drugs to Europe.

Figure 1.2. Example range of drug trafficking methods previously reported by law enforcement in Europe

Almost 70 % of the drug seizures by customs authorities happen in the European Union's ports. Complementing the EU Drugs Strategy and Action Plan 2021-25, the 2023 EU Roadmap Against Drug Trafficking contains measures to enhance customs risk management and the detection of trafficked drugs and precursors. This includes enhancing the interoperability of customs information systems among EU Member States and supporting the deployment of advanced container-scanning equipment. It also supports the newly established European Ports Alliance, a public-private partnership approach, designed to increase the resilience of Europe's key logistical centres against drug trafficking and infiltration by organised crime groups. It will aim to support the implementation of best practices and recommendations from the 2023 Schengen Thematic Evaluation on drug trafficking in ports. This will include not only tackling drug trafficking into Europe, but downstream disruption of trafficking by law enforcement on rail and road networks.

Organised crime groups attempt to evade legislative and customs controls restricting the use of chemicals widely used in legitimate industries by creating alternative chemicals. In response, the EU Roadmap supports making EU legislative scheduling to control precursors more rapid to match the pace of criminal innovation by extending it to cover known derivatives and related chemicals that can be converted into or substituted for established drug precursors. The EMCDDA's revised mandate will see it transformed into the European Union Drugs Agency, playing a greater role in supporting the European Commission in the monitoring, scheduling and threat assessment of

precursors. The EU Roadmap also seeks to tackle the issue of alternative chemicals by supporting the equipment needs of customs laboratories. Information exchange with countries where precursors are sourced will be enhanced, including, for example, through the EU-China Joint Follow-up Group on Precursors. The European Commission is also a member of the United States-led Global Coalition to Address Synthetic Drug Threats, which targets precursors, including those required to manufacture new synthetic opioids, through collaboration on priority actions.

Drug production within the European Union

These policy developments are taking place at a time when Europe remains an important production region for various illicit drugs. Cannabis produced in the European Union is generally for EU consumption, and many thousands of cannabis cultivation sites are reported as dismantled each year in EU Member States. Synthetic drugs, such as MDMA and amphetamines, are also produced in the European Union and may be trafficked to non-EU markets. Reports indicate that the hundreds of illicit drug production facilities dismantled in the European Union produced a variety of substances ranging from amphetamine, methamphetamine, synthetic cathinones and MDMA to cocaine and heroin. Although it can be difficult to determine, in some cases, a single laboratory may have been producing multiple substances, such as various synthetic stimulants that have similar chemical and equipment manufacturing requirements. It is difficult to estimate the production capacity of individual dismantled laboratories. Overall, this means that while it is possible to determine that the production of various illicit drugs takes place in Europe, commenting on the total number of facilities, trends or changes in capacity remains problematic. While large-scale methamphetamine and amphetamine laboratories are reported, many are small-scale, hence larger numbers are reported and these fluctuate annually. While the majority of dismantled MDMA production sites were reported by the Netherlands and Spain, some Member States that usually dismantle large numbers of facilities did not report information for 2022. The detection of separate facilities for cocaine production, extraction, cutting and packaging in recent years suggests that cocaine production is now well-established in Europe and that innovative methods are being used to facilitate the entry of this drug into Europe.

Innovation in production processes is also evident from some recent seizures of chemicals that can be used to manufacture the precursor chemicals needed to produce amphetamine, methamphetamine and MDMA, thereby circumventing the controls in place to reduce the availability of these drugs. Large seizures of precursors in 2022 suggest that the production of synthetic cathinones remains significant, particularly in Poland. The size and scale of the production sites reported as dismantled by law enforcement varies from ‘kitchen-scale’ laboratories to higher-throughput facilities operated by multiple ‘cooks’, which produce several dozens of kilograms of finished product per batch in special reactors. In smaller sites, production appears to be destined mostly for local markets and, occasionally, for sale on the darknet. Although information is very limited, larger production sites also appear to supply local markets and occasionally the finished product is exported outside Europe.

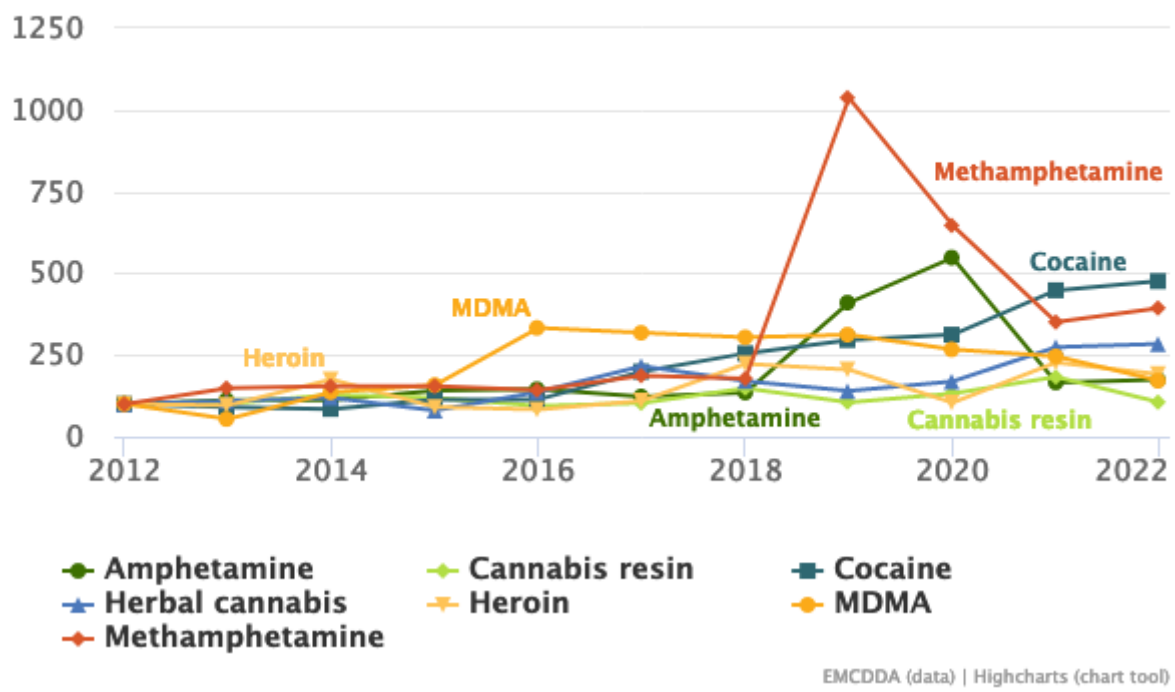
The use of a wider set of chemicals to create both new substances and different synthesis processes for more established drugs presents a complex challenge for customs, law enforcement and legal regulation. Illicit synthetic drug production within the European Union for export and local markets remains a source of risks to public health, both to people consuming the potentially hazardous substances and from the environmental damage their production can have locally.

Key data and trends

Drug supply trends

- Indexed trends, overall, show that the quantities of all drugs seized in the European Union increased between 2012 and 2022, particularly in the past 5 years, although there has been some fluctuation in the quantities of amphetamine and methamphetamine seized in the last 3 years (Figure 1.3).
- Between 2012 and 2022, the largest increases have been for cocaine (+376 %), methamphetamine (+293 %), herbal cannabis (+184 %), heroin (+91 %), MDMA (+71 %), and amphetamine (+74 %). The small increase observed for cannabis resin (+5 %) reflects the 52 % decrease reported by Spain for 2022, likely related to shifting drug trafficking routes. Sizeable consumer markets for these drugs exist in Europe. However, it is likely that increases in quantities seized reflect, at least partially, the larger role played by Europe as a place of production, export and transit for these drugs.

Figure 1.3. Drug seizures in the European Union – quantity of drugs seized, indexed trends (2012 = 100)



The indexed trends presented reflect relative changes in drug seizures over a 10-year period but give no indication of the actual amounts.

MDMA tablets were converted to mass-equivalents by assuming a mass of 0.25 grams MDMA per tablet.

- Interpreting trends in drug seizures is complicated by the fact that they are influenced by policing and law enforcement strategies and priorities, the success or otherwise of trafficking groups to

avoid detection, and any underlying change in availability and use.

- An estimated 1 million seizures were reported in 2022 in the European Union, with cannabis products being the most frequently seized, accounting for 71 % of the number of all seizures (Figure 1.4 and Figure 1.5).

Figure 1.4. Drug seizures in the European Union – number of reported drug seizures, breakdown by drug, 2022 (percent)

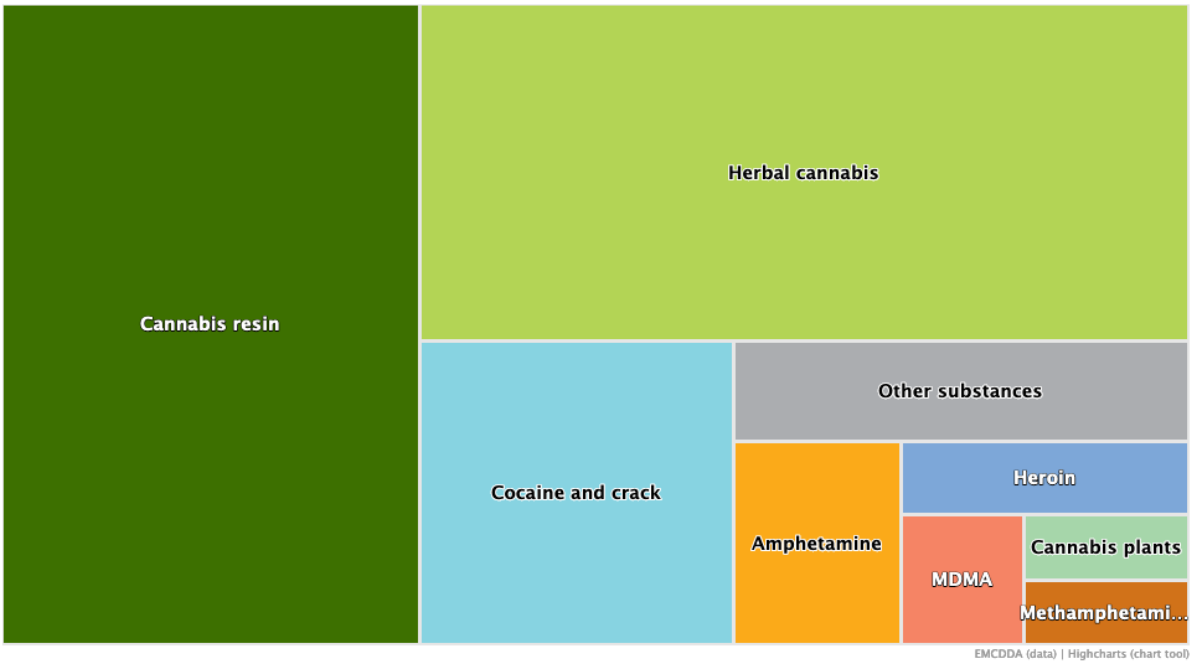
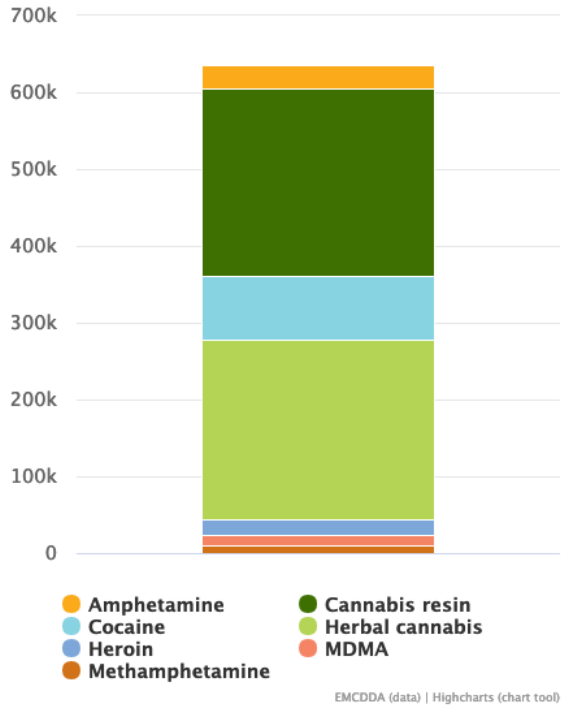
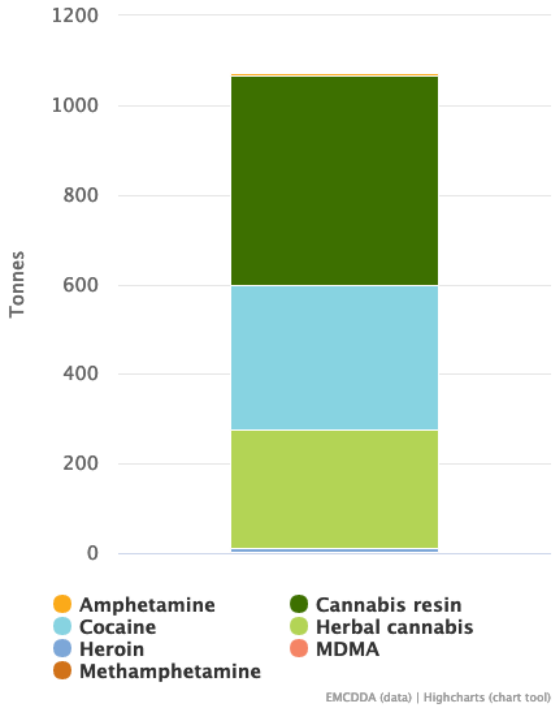


Figure 1.5a. Drug seizures in the European Union – number of seizures in 2022



Data for seizures related to the main controlled drugs; not included are other seizure categories, including new psychoactive substances, medicines, hypnotics and sedatives, and seizures of unknown or unspecified substances.

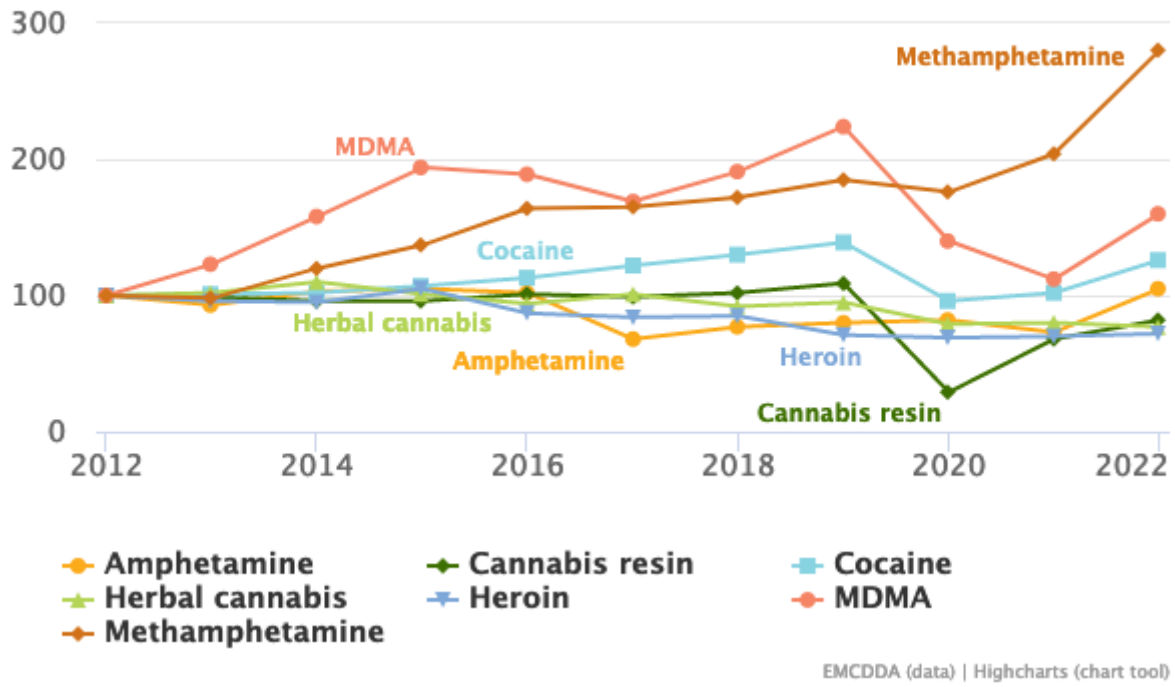
Figure 1.5b. Drug seizures in the European Union – quantity seized in 2022 (tonnes)



MDMA tablets were converted to mass-equivalents by assuming a mass of 0.25 grams MDMA per tablet.

- In terms of numbers, fewer seizures were made in 2022 than in 2012 of cannabis resin (−18 %), herbal cannabis (−23 %) and heroin (−28 %) (Figure 1.6). This may reflect changes in policing practices, consumption patterns or drug availability.
- The largest increases observed in the number of seizures between 2012 and 2022 were for methamphetamine (+180 %), MDMA (+60 %), cocaine (+26 %) and amphetamine (+5 %).

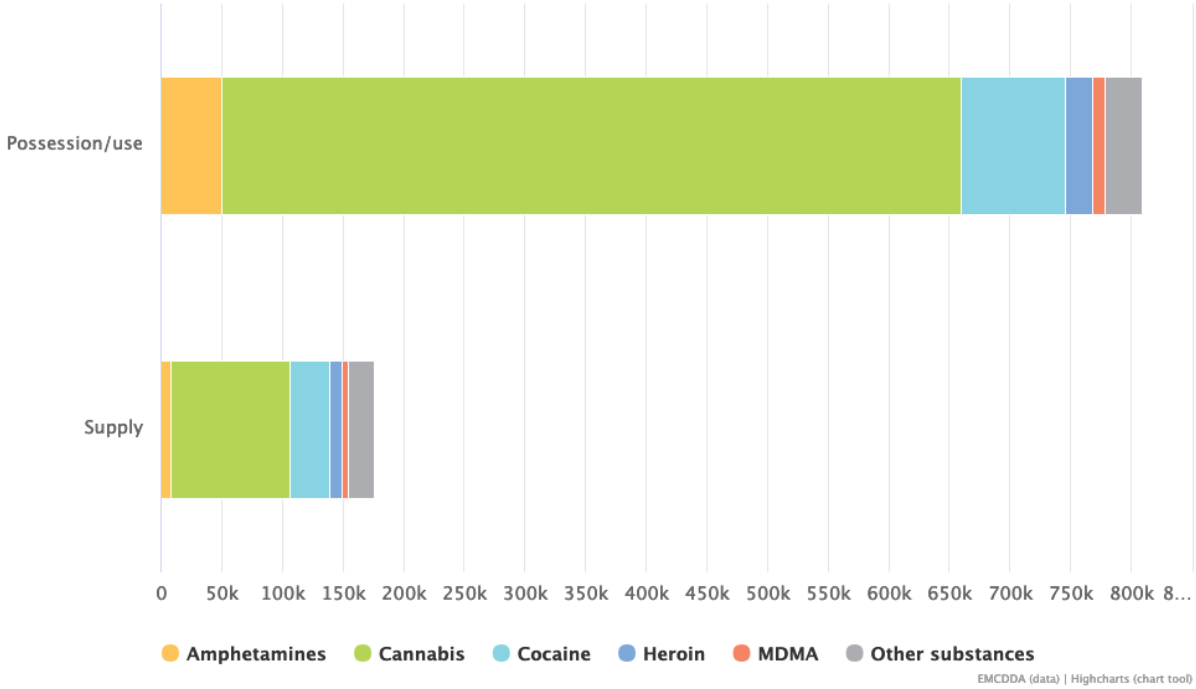
Figure 1.6. Drug seizures in the European Union – number of drug seizures, indexed trends (2012 = 100)



Drug law offences trends

- In 2022, an estimated 1.5 million drug law offences were reported in the European Union, an increase of 26 % since 2012. More than three quarters of these offences (77 % or 1.2 million) relate to use or possession for personal use.
- Of the estimated 1.5 million drug law offences, the drug mentioned in the offence is reported in just under 1 million offences, of which 809 000 were for possession or use, 177 000 were for supply-related offences and 3 000 were for other types of offence (Figure 1.7). Definitions of what constitutes a supply-related offence may vary between countries.
- With approximately 609 000 reported offences in 2022, cannabis accounted for more than three quarters of the use or possession offences (75 %), for which the drug is known, and just over half or 98 000 of the drug supply offences (56 %). The predominance of cannabis in both supply and possession offences reflects the level of demand for the drug; it also attests to the policy importance of this drug.
- Both drug possession and drug supply offences remain at higher levels than in 2012 for all drugs apart from heroin (Figure 1.8 and Figure 1.9).

Figure 1.7. Drug law offences – number of offences, supply and use/possession, 2022



Data for offences for which the drug involved has been reported.

Figure 1.8. Drug law offences – possession/use offences, indexed trends (2012 = 100)

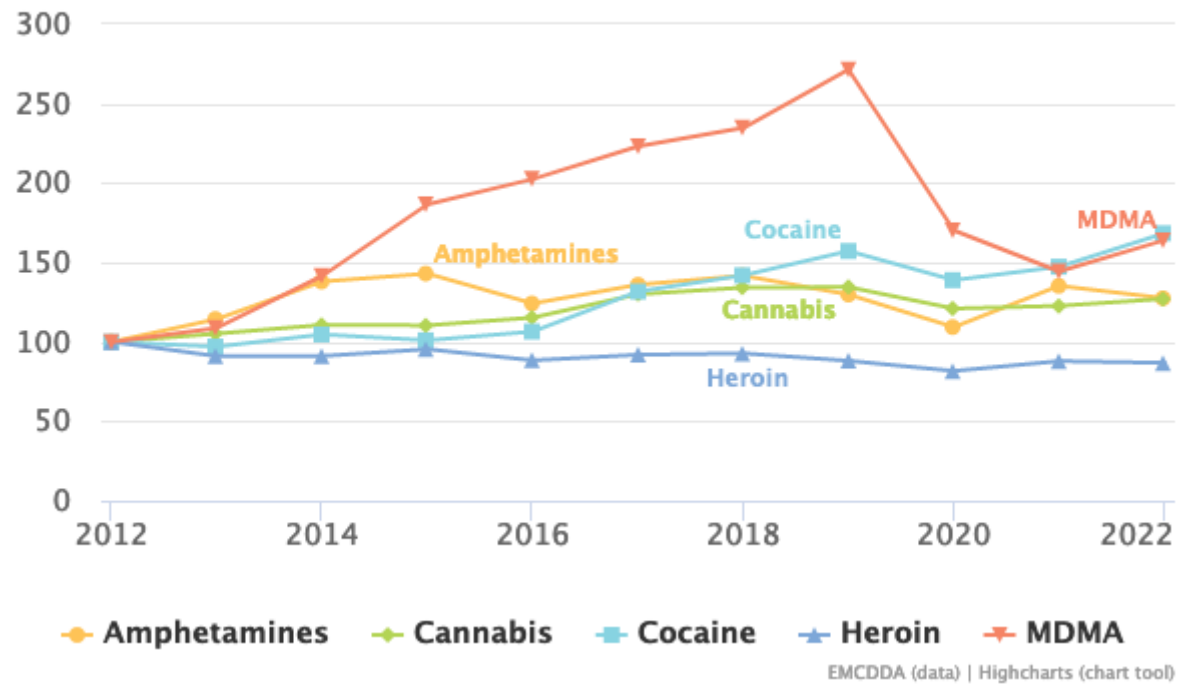
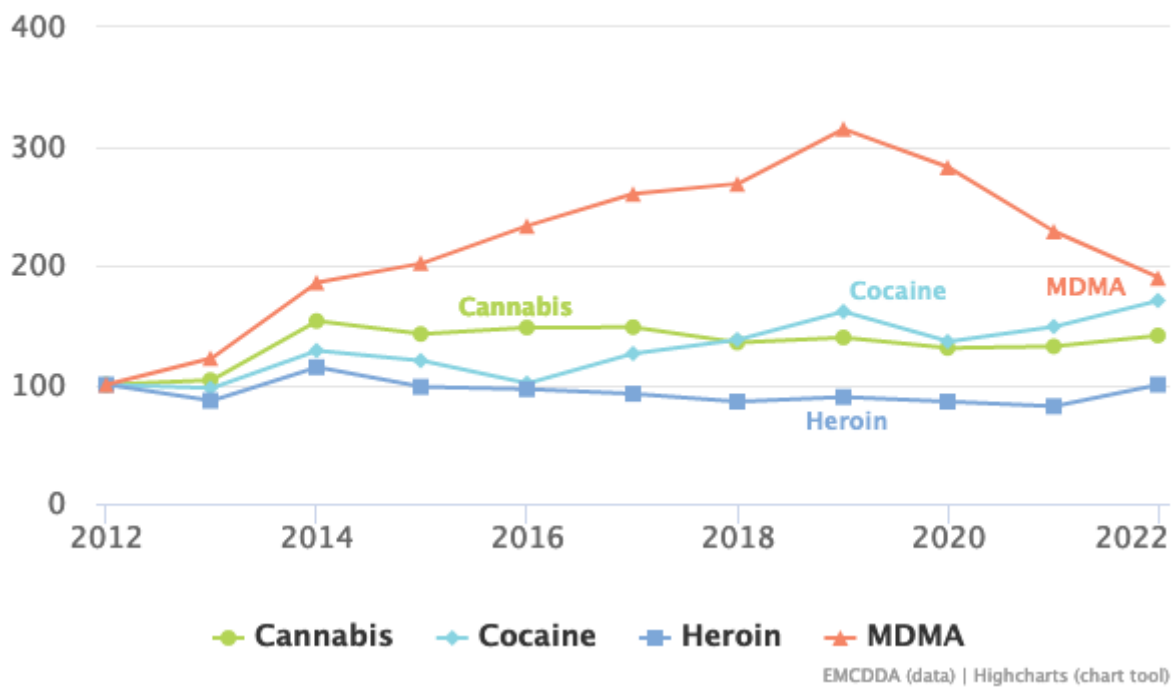


Figure 1.9. Drug law offences – supply offences, indexed trends (2012 = 100)



EU production and precursors data for 2022

- **Cannabis:** EU Member States reported 98 000 seizures of cannabis plants, amounting to 3.5 million individual plants and 6.5 tonnes in 2022 (4.3 million plants and 32.5 tonnes in 2021). In 2022, almost 5 700 illicit cannabis cultivation were dismantled in 14 EU Member States, according to data obtained from open sources and national partners.
- **Heroin:** Two heroin production sites were dismantled in the Netherlands in 2022 (3 in 2021). Only three seizures of the heroin precursor chemical acetic anhydride, amounting to 141 litres (5 730 litres in 2021), were reported by Germany, Spain and Poland. Worldwide, seizures of acetic anhydride have been declining substantially since 2019. This may indicate a decline in attempts at diverting and trafficking the substance, or a shift to alternative trafficking routes.
- **Cocaine:** In 2022, at least 39 sites related to cocaine production were dismantled in the European Union (34 in 2021). In spite of a decrease in the quantity of potassium permanganate seized in 2022 (173 kilograms) compared with 2021 (1 100 kilograms), it is likely that the large-scale processing of cocaine hydrochloride from imported intermediary products continues to take place in the European Union. For example, a cocaine processing laboratory dismantled in Spain in 2023 was reported to have a daily output capacity of 200 kilograms of the drug. In addition, some large seizures have been reported of unusual substances containing cocaine that must be extracted by chemical means, indicating that processing continues to be a significant problem in Europe. For example, in 2022, chemically concealed cocaine was detected in a shipment in 22 tonnes of sugar in France and in 100 kilograms of coal, part of a larger load of coal shipped to Croatia.

- **Amphetamine:** In 2022, 7 EU Member States reported dismantling 108 amphetamine laboratories (119 in 2021): the Netherlands (39), Belgium (35), Poland (22), Spain (5), Sweden (5), Croatia (1) and Romania (1).

- **Methamphetamine:** Nine EU Member States reported dismantling 242 methamphetamine laboratories in 2022 (224 in 2021): Czechia (202), the Netherlands (14), Bulgaria (12), Belgium (6), Poland (4), Greece (1), Spain (1), Slovenia (1) and Sweden (1). Seizures of the precursors needed to synthesise methamphetamine via the 'ephedrine method' (ephedrine and pseudoephedrine) amounting to 352 kilograms (both powders and tablets) were reported by 15 EU Member States in 2022 (723 kilograms by 15 EU Member States in 2021).

- Methamphetamine can also be produced using BMK as a starting material (BMK is also used to produce amphetamine). In 2022, 1 329 litres of BMK (close to 5 100 litres in 2021) and 26.6 tonnes of substances (10.5 tonnes in 2021) that can be used to produce BMK were seized in Europe. These seizures included 25.6 tonnes of glycidic derivatives of BMK (736 kilograms in 2021), 379 kilograms of MAPA (close to 9.7 tonnes in 2021) and over 500 kilograms of APAA and APAAN (50 kilograms of APAA in 2021). Two new alternative chemicals that can also be used to make BMK, DEPAPD and DEPAPD enolate, were reported in Europe (and worldwide) for the first time in 2022, seized in relatively small amounts. In addition, seizures of tartaric acid, a chemical that allows the retrieval of the most potent and sought-after form of methamphetamine (*d*-methamphetamine, used for 'crystal meth') from mixtures produced by BMK methods, reached 2.6 tonnes in 2022 (4.5 tonnes in 2021) and were reported by Belgium, Germany and the Netherlands. This suggests that large-scale production of *d*-methamphetamine continues to take place in Europe. The increased quantities of methamphetamine precursors and related chemicals seized in Europe reflects the globally significant capacity of synthetic drug producing groups in the European Union.

- **MDMA:** In 2022, six EU Member States reported dismantling 48 MDMA laboratories (25 in 2021). Belgium reported 27 MDMA laboratories in 2022 (8 in 2021), with the Netherlands reporting 13, Spain reporting 5 and France, Poland and Sweden reporting 1 each. Seizures of MDMA precursors increased to 20.5 tonnes in 2022 (7.1 tonnes in 2021). Seizures of the MDMA precursor PMK and its glycidic derivatives surpassed 19.9 tonnes in 2022 (2.6 tonnes in 2021). Other alternative chemicals were also reported: MAMDPA was seized in smaller amounts in 2022 (37 kilograms versus 4.5 tonnes in 2021). These reports of increased seizures of MDMA precursors, combined with information about MDMA exports, may reflect an increase in the production of the drug for global markets and a general rebound following a decline related to the COVID-19 pandemic.

- **Cathinones:** In 2022, 29 synthetic cathinone production sites, some of which were large-scale, were dismantled in the European Union (15 in 2021): 23 in Poland (12 in 2021) and 6 in the Netherlands (2 in 2021). Seizures of synthetic cathinone precursors amounted to 558 kilograms in 2022 (555 kilograms in 2021), mainly in Poland (355 kilograms). A shipment of 1 tonne of the 4-CMC precursor 1-(4-chlorophenyl)propan-1-one was stopped in France, originating from China and en route to Poland.

- **Synthetic opioids:** In 2023, Latvian police reported dismantling a site equipped to produce fentanyl and seizing nearly 2 kilograms of the drug, as well as 2.7 kilograms of fentanyl precursor NPP at the same premises. Also in 2023, Latvian police reported dismantling an illicit methadone laboratory.

- **Dumping sites:** In 2022, Belgium (41) and the Netherlands (153) accounted for the 194 dumping sites for drug production waste and equipment reported in the European Union (234 in 2021).

The EMCDDA and Europol's EU Drug Markets: In-depth analysis provides detailed information on the production and trafficking of illicit drugs.

Summary of seizures of EU scheduled precursors and non-scheduled chemicals used for selected drugs produced in the European Union, 2022

Precursors associated with MDMA production

Substance	Quantity seized
Glycidic derivatives of PMK (kilograms)	14182
Helional (litres)	5
MAMDPA (kilograms)	37
Nitro-PMK (kilograms)	< 1
Piperonal (kilograms)	< 1
PMK (litres)	3883
Safrole (litres)	436

Precursors associated with amphetamine and methamphetamine production

Substance	Quantity seized
AIBN (kilograms)	20
Ammonium formate (litres)	19
APAA (kilograms)	11
APAAN (kilograms)	500
Benzaldehyde (kilograms)	482
Benzylcyanide (kilograms)	3
BMK (litres)	1329
DEPAPD (litres)	13
DEPAPD enolate (kilograms)	100
Ephedrine (kilograms)	312
Formamide (kilograms)	9943
Formic acid (litres)	10432
Glycidic derivatives of BMK (kilograms)	25567
Iodine (kilograms)	75
MAPA (kilograms)	379
Nitroethane (litres)	1

Substance	Quantity seized
Phenyl-2-nitropropene (kilograms)	4
Phenethylamine (kilograms)	34
Phenylacetic acid (kilograms)	25
Pseudoephedrine (kilograms)	40
Red phosphorus (kilograms)	108
Tartaric acid (kilograms)	2574

Precursors associated with heroin production

Substance	Quantity seized
Acetic anhydride (litres)	141

Precursors associated with cathinones production

Substance	Quantity seized
2-Bromo-4-chloropropiophenone (kilograms)	234
2-Bromo-4-methylpropiophenone (kilograms)	324

Chemicals associated with cocaine processing

Substance	Quantity seized
Calcium chloride (kilograms)	2040
Potassium permanganate (kilograms)	173
Ethyl acetate (litres)	10491

Source data

The data used to generate infographics and charts on this page may be found below.

Cannabis – the current situation in Europe (European Drug Report 2024)

Cannabis remains by far the most commonly consumed illicit drug in Europe. On this page, you can find the latest analysis of the drug situation for cannabis in Europe, including prevalence of use, treatment demand, seizures, price and potency, harms and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: 11 June 2024

Understanding the policy and practice implications of changes in Europe's cannabis market remains a priority

Cannabis remains by far the most commonly consumed illicit drug in Europe. National surveys of cannabis use would suggest that, overall, an estimated 8 % of European adults (22.8 million aged 15 to 64) have used cannabis in the last year. However, both the level of use and trends in use reported in recent national data appear heterogeneous (see Prevalence and patterns of cannabis use, below). At the same time, there is an ongoing debate on how best to respond to the use of this drug, with some countries modifying their regulatory approach. We are also seeing significant developments in the cannabis market. Taken together, this all means that there remains a pressing need to understand better the potential harms associated with different patterns of cannabis consumption and the implications this raises for policy and practice.

There is a need to better understand what responses are effective

Around 1.3 % of adults in the European Union (3.7 million people) are estimated to be daily or almost daily users of cannabis, and this is the group most likely to experience problems associated with this drug. Cannabis use can cause or exacerbate a range of physical and mental health problems, including chronic respiratory symptoms, cannabis dependence and psychotic symptoms. In addition, studies have found that regular cannabis use can be associated with poorer educational achievement and an increased risk of involvement with the criminal justice system. Problems are most associated with early onset of use, high-potency products and more regular and long-term patterns of use.

There remains, however, a need to understand better the kinds of problems experienced by cannabis users, as well as what are appropriate referral pathways and effective treatment options for those with cannabis-related problems. Cannabis is reported to be responsible for more than one third of all drug treatment admissions in Europe. This finding is difficult to interpret, in part because of the wide variety of interventions provided to cannabis users, which may include brief interventions or directive referrals from the criminal justice system. Further work is needed to understand better the kind of services offered to those with cannabis problems. However, the information that does exist would suggest that psychosocial treatments, such as cognitive behavioural therapy, are commonly offered and that e-health (online) interventions appear to be increasingly available.

Evaluating the risk of harm in this area is complicated by the apparently increasing range of cannabis-based products potentially available to consumers, which can include edibles, high-potency products and various derivatives. This diversity can have implications for the risk of an individual experiencing problems with their cannabis use and is therefore an area that requires greater research and regulatory attention.

Overall, the number of people reported as entering treatment for cannabis problems for the first time remained relatively stable until 2019, before declining during the pandemic, and not returning to pre-pandemic levels in most EU Member States by 2022 (see Treatment entry for cannabis use, below). A caveat here is that data quality and coverage issues mean that this observation must be interpreted with caution.

Seizures indicate that trafficking routes may be diversifying

Seizures of cannabis products overall continued to be at historically high levels in 2022, indicating the high availability of this drug (see Cannabis market data, below). However, the total quantity of cannabis resin seized in the European Union dropped significantly, largely due to a decrease in seizures reported by Spain. It is possible that this may reflect an adaptation in supply routes by those involved in trafficking cannabis resin from North Africa to Europe as a response to anti-trafficking measures taken by Spanish authorities. In this context, it is also interesting to note that since 2019 the volume of herbal cannabis seized has increased significantly in Spain. In 2022, Spain accounted for 69 % of all resin seized, 47 % of all herbal cannabis seized, and 81 % of the total number of cannabis plants reported seized in the European Union, underlining the significant role played by Spain, both as a transit country for cannabis trafficking and as a production area. However, it is important to note that significant cannabis production also takes place elsewhere in the European Union. Recent large seizures highlight the role Spain continues to play as a transit country for resin intended for the European market. In 2023, for example, Spanish authorities seized 22 tonnes of cannabis resin concealed in fake tomato packaging suspected of being destined for trafficking to France (see Figure 2.1).

Figure 2.1. Operation 'Cabalgata/Califa-Trucks' – Spanish authorities seize 22 tonnes of cannabis resin concealed in fake tomato packaging

Credit: Guardia Civil and Policía Nacional.

Although new products and forms of this drug are available, herbal cannabis and cannabis resin remain the most commonly available forms. While the quantities of cannabis resin seized in the European Union are greater than those of herbal cannabis, this is thought to reflect the greater vulnerability of cannabis resin to interdiction measures in cross-border trafficking, rather than availability or use. The information available suggests that herbal cannabis is the more commonly available form of the drug in most countries. Herbal cannabis may be grown near to its intended consumer market, and this may reduce the risk of detection. The potency of seized cannabis resin continued to increase in 2022, with the average resin sample now containing just under 25 % THC. This is very high by historical standards, potentially creating elevated health risks, particularly when associated with early onset of use. In contrast, the average potency of seized herbal cannabis has hovered at around 10 % THC for some years.

Some worrying new developments in the detection of cannabis seizures entering Europe may indicate that trafficking routes are diversifying and creating a growing challenge for interdiction efforts. These include, for example, the seizure of 4 tonnes of cannabis resin originating from Pakistan in the port of Antwerp, Belgium. Moreover, this is evidence that Morocco is not the only source of resin for the European cannabis market. Some EU Member States reported the trafficking of cannabis through postal systems and, increasingly, through commercial air travel, sometimes linked to the United States and Canada. There are indications that larger quantities of herbal cannabis may be shipped from North America via maritime routes. This, alongside the appearance of new forms of the drug, raises concerns that developments in regulated cannabis markets outside Europe may increasingly have implications for the availability of this drug within the European Union in the future.

Changing cannabis markets create new challenges for drug policies

The diversity of cannabis products available in Europe is increasing. This is true for the illicit drug market. It is also true for the consumer market, where products are appearing that contain low levels of THC, or other substances that may be derived from the cannabis plant such as CBD, or both. On the illicit drug market, the availability of high-potency extracts and edibles is of particular concern and has been linked to acute drug-toxicity presentations in hospital emergency departments. In addition, there are concerns that some products sold on the illicit market as cannabis may be adulterated with potent synthetic cannabinoids. For more information on these synthetic cannabinoids, see New psychoactive substances – the current situation in Europe.

Some semi-synthetic cannabinoids have also appeared recently on the commercial market in parts of Europe. These are substances thought to be produced from cannabidiol extracted from low-THC cannabis (hemp), not controlled under the international drug conventions. Probably the most commonly encountered semi-synthetic cannabinoid is hexahydrocannabinol (HHC), but also more recently hexahydrocannabiphorol (HHC-P) and tetrahydrocannabiphorol (THCP) have become commercially available in some EU Member States. These substances have been sold as purportedly ‘legal’ alternatives to cannabis, adding to the regulatory challenges in this area. While knowledge of the effects of HHC in humans is limited, concerns have been raised as studies have emerged, including some reports of links to psychosis. Between June 2022 and February 2024, Czechia’s Toxicology Information Centre recorded over 170 consultations on HHC. Many of the cases involved young people, including children, who had consumed edibles, such as gummy bears. HHC has been listed as a controlled drug in at least 18 EU Member States as of April 2024.

The European policy approach to cannabis is also becoming more diverse, as some EU Member States are considering or changing their policy approach to recreational cannabis use, creating

various forms of access to cannabis resin and herb products. In December 2021, Malta legislated for home growing and cannabis use in private, alongside non-profit communal growing clubs. In July 2023, Luxembourg legislated to permit home growing and use in private, and in February 2024, Germany legislated to allow home growing and non-profit cannabis growing clubs. Czechia has also announced plans for a regulated and taxed distribution system. In addition, non-EU Switzerland has started to authorise pilot trials of sales or other distribution systems for specific residents in certain cities.

The Netherlands is also reviewing its approach in this area. The cultivation, sale and possession of cannabis remain criminal offences in the Netherlands. However, the sale of small quantities of cannabis, up to 5 grams, to people over the age of 18 in 'coffeeshops' that meet certain criteria has been tolerated for decades, with one of the policy objectives stated as separating cannabis consumers from the market for other substances. A concern with this approach is that cannabis is still necessarily supplied from the illegal market, and criminal groups therefore benefit from this trade. To address this issue, the Netherlands is piloting a model for a closed cannabis supply chain in 10 municipalities, with cannabis produced in regulated premises being made available for sale in cannabis coffeeshops.

More detailed information about national legislative approaches to cannabis can be found in the EMCDDA's 2023 Cannabis laws in Europe: questions and answers for policymaking.

Key data and trends

Prevalence and patterns of cannabis use

- Based on the most recent surveys (Figure 2.2), last year cannabis use among the EU population aged 15 to 34 is estimated at 15.0 % (15.1 million), with males being typically twice as likely to report use as females. Among 15- to 24-year-olds, an estimated 18.6 % (8.8 million) used cannabis in the last year, and 9.7 % (4.6 million) used the drug in the last month. It is estimated that around 1.3 % (3.7 million) of adults (aged 15 to 64) are daily or almost daily cannabis users (that is, using the drug on 20 days or more in the last month). Among 15- to 34-year-olds, an estimated 2.0 % (2.0 million) are daily or almost daily cannabis users. Around three quarters of adult users (aged 15 to 64) are male and the majority (54 %) are under 35.
- Trends in cannabis use at the national level appear mixed. Of the countries that have produced surveys since 2021 and reported confidence intervals, 3 reported higher estimates, 8 were stable and 2 reported a decrease compared with the previous comparable survey.
- The 2021 European Web Survey on Drugs found that herbal cannabis was used by 95 % of respondents who used cannabis in the last 12 months, compared with 32 % for resin, 25 % for edibles and 17 % for extracts. This data source also indicates that consumers may be commonly using more than one form of this drug.

Figure 2.2. Prevalence of cannabis use in Europe

This data explorer enables you to view our data on the prevalence of cannabis use by recall period and age range. You can access data by country by clicking on the map or selecting a country from the dropdown menu.

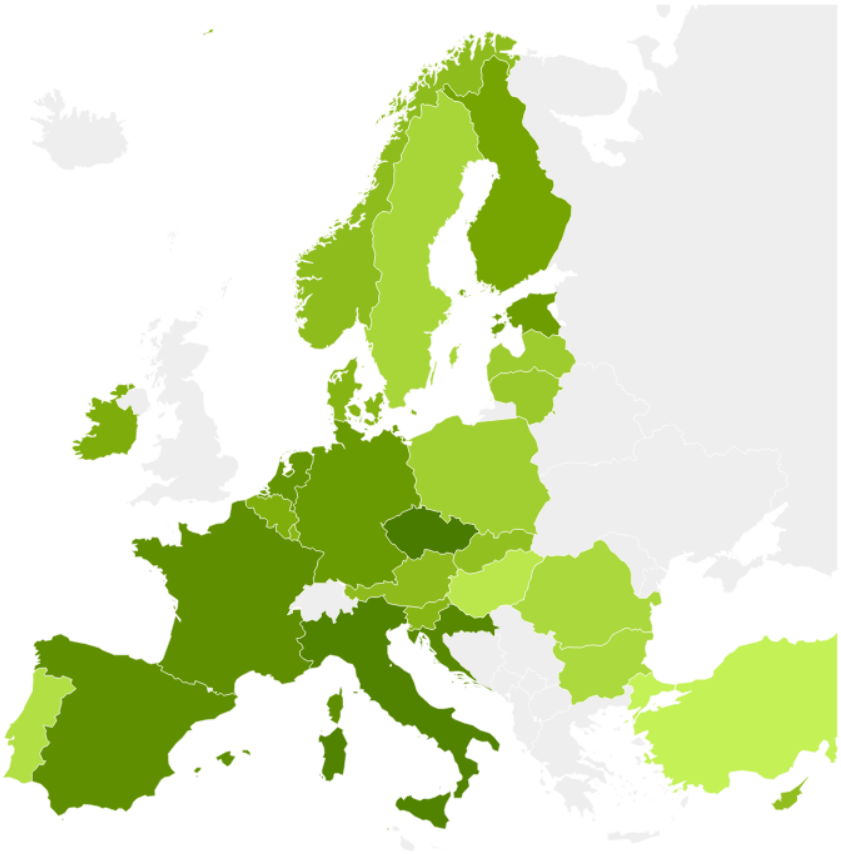
Recall period

Last month | Last year | Lifetime

Age

Young adults (15-34) | All adults (15-64)

Country



Notes

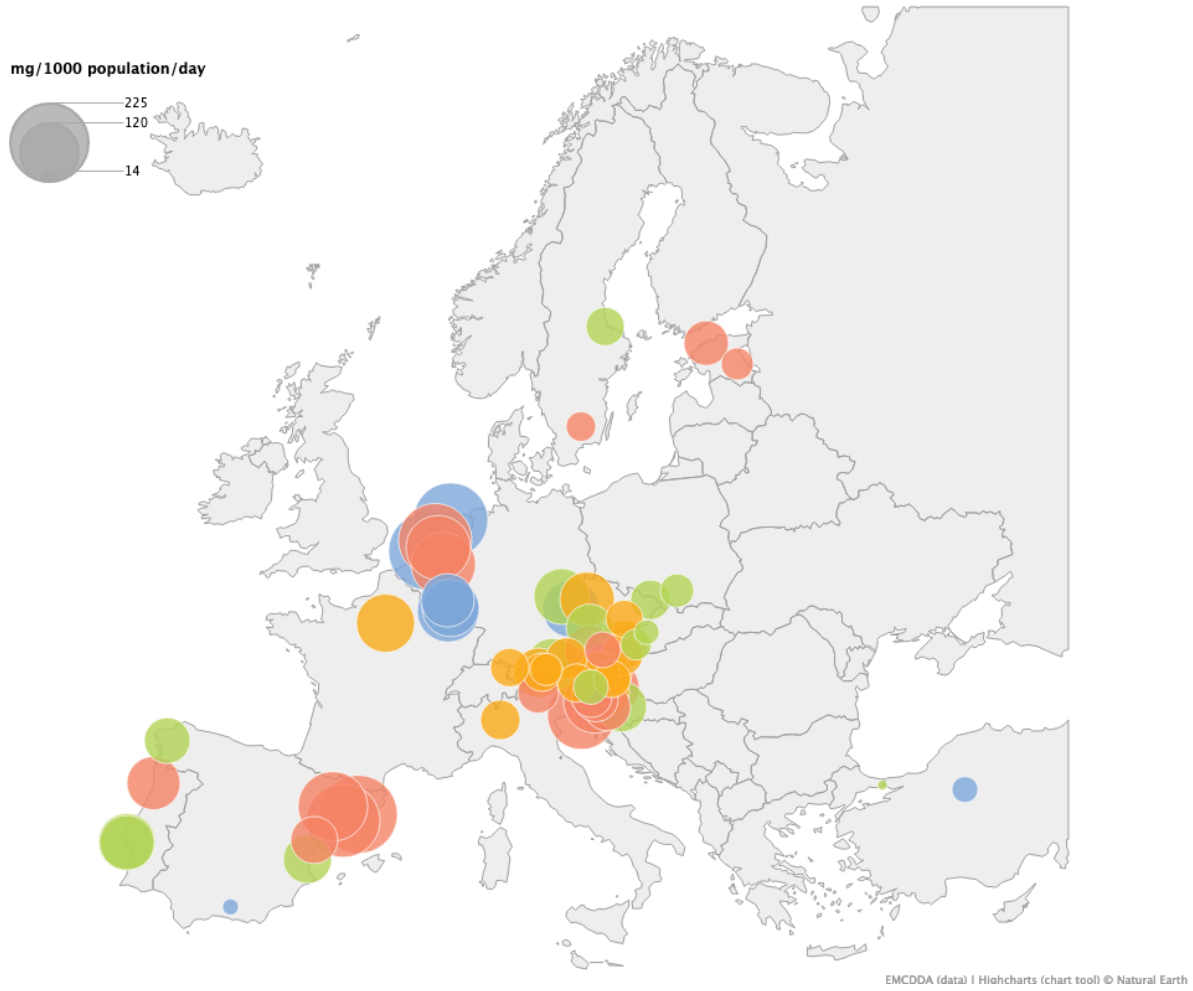
Prevalence data presented here are based on general population surveys submitted to the EMCDDA by national focal points. For the latest data and detailed methodological information please see the Statistical Bulletin 2024: Prevalence of drug use.

Graphics showing the most recent data for a country are based on studies carried out between 2013 and 2023.

Prevalence estimates for the general population: age ranges are 18-64 and 18-34 for Germany, Greece, France, Italy and Hungary; 16-64 and 16-34 for Denmark, Estonia and Norway; 18-65 for Malta; 17-34 for Sweden.

- In 2023, of the 51 cities with comparable data, 20 reported an annual increase in the cannabis metabolite THC-COOH in wastewater samples, while 15 reported a decrease (Figure 2.3).

Figure 2.3. Cannabis residues in wastewater in selected European cities: most recent data



Red = increase | Green = decrease | Yellow = stable, with respect to previous value | Blue = no previous data

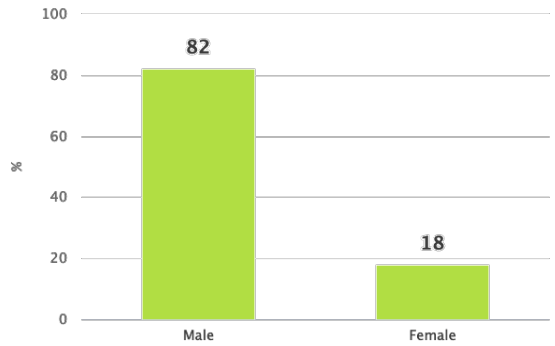
Mean daily amounts of THC-COOH in milligrams per 1000 population. In most cities, sampling was carried out over a week between March and May 2023. Taking into account statistical errors, values that differ less than 10 % from the previous value are considered stable in this figure. Source: Sewage Analysis Core Group Europe (SCORE) For the complete data set and analysis, see Wastewater analysis and drugs – a European multi-city study.

Treatment entry for cannabis use

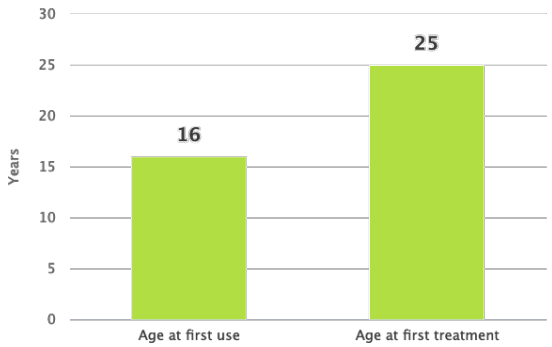
- In Europe an estimated 92 000 clients entered specialist drug treatment for problems related to cannabis use (36 % of all treatment demands) in 2022, with about 58 000 entering for the first time. Cannabis was the main problem drug most frequently cited by new treatment clients, accounting for 43 % of all first-time treatment entrants in Europe (Figure 2.4).

Figure 2.4. Users entering treatment for cannabis in Europe

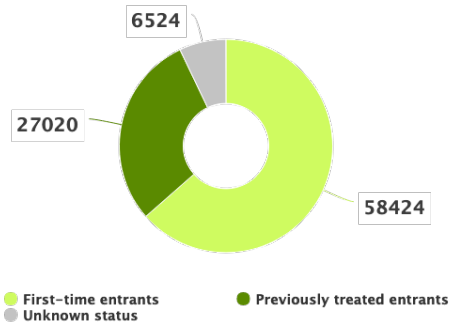
Gender breakdown: all treatment entrants



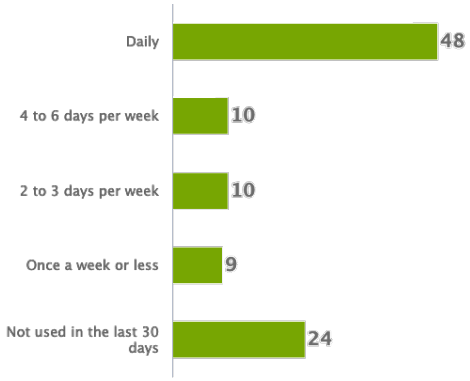
Mean age: all treatment entrants



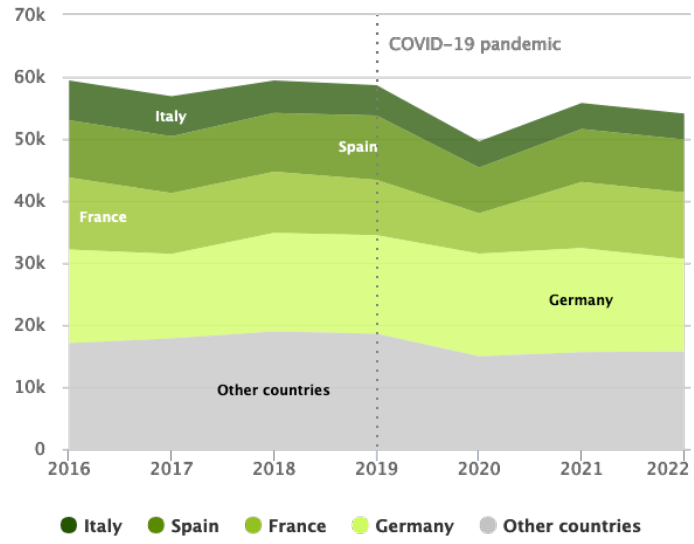
Client status – number of clients



Frequency of use in the last month (%): all treatment entrants
Mean use: 4.3 days per week



Trends in first-time entrants



Apart from the trends, data are for all treatment entrants with cannabis as the primary drug – 2022 or the most recent year available.

Trends in first-time entrants are based on 25 countries. Only countries with data for at least 5 of the 6 years are included in the trends analysis. Missing values are interpolated from adjacent years. Because of disruptions to services due to COVID-19, data for 2020, 2021 and 2022 should be interpreted with caution. Missing data were imputed with values from the previous year for Spain and France (2022) and Germany (2019).

Hospital presentations

- Where national data are available, cannabis is involved in a large proportion of drug-related emergency presentations to hospital services in some countries. In Spain in 2021, the drug was involved in 44 % of the cases (over 2 700 out of 6 200) reported in a regular study conducted over one week in 16 of the 19 autonomous communities. In Germany in 2021, cannabis was involved in 17 % of the cases (over 1 700 out of 10 200) of acute intoxication and poisoning presenting to hospitals.
- Cannabis was the most frequently reported substance by the Euro-DEN Plus hospital network in 2022. It was involved in 29 % of acute drug-toxicity presentations (25 % in 2021). Usually it was reported in the presence of other substances, reflecting the fact that many of those presenting with drug toxicity may have consumed multiple substances.

Cannabis market data

- In 2022, EU Member States reported 243 000 seizures of cannabis resin amounting to 468 tonnes (816 tonnes in 2021) and 234 000 seizures of herbal cannabis amounting to 265 tonnes (256 tonnes in 2021) (see Figure 2.5). Due to a decrease of 52 % reported by Spain (673 tonnes in 2021 to 325 tonnes in 2022), the overall quantity of cannabis resin seized in the European Union decreased by 43 %. In addition, Türkiye reported 15 700 seizures of cannabis resin, amounting to 29.3 tonnes, and 57 400 seizures of herbal cannabis, amounting to 42.5 tonnes.

- Approximately 609 000 cannabis use or possession offences were reported in the European Union in 2022 (566 000 in 2021), alongside 98 000 supply offences (100 000 in 2021).
- In 2022, the average THC content of cannabis resin in the European Union was 24.8 %, more than twice that of herbal cannabis, at 10.1 %. Indexed trends show that the average THC content of resin has doubled in the last 10 years, and continues to rise, whereas that of herbal cannabis has been generally stable for most of that time. It should be noted that samples of both forms of the drug can vary considerably.

Figure 2.5a. Cannabis resin market in Europe

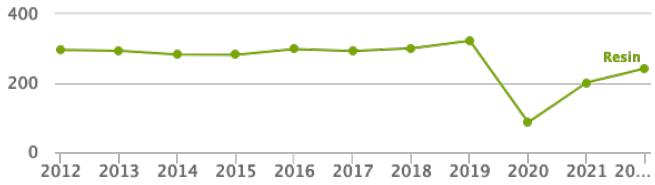
Geographical coverage (selected graphs)

EU EU+2

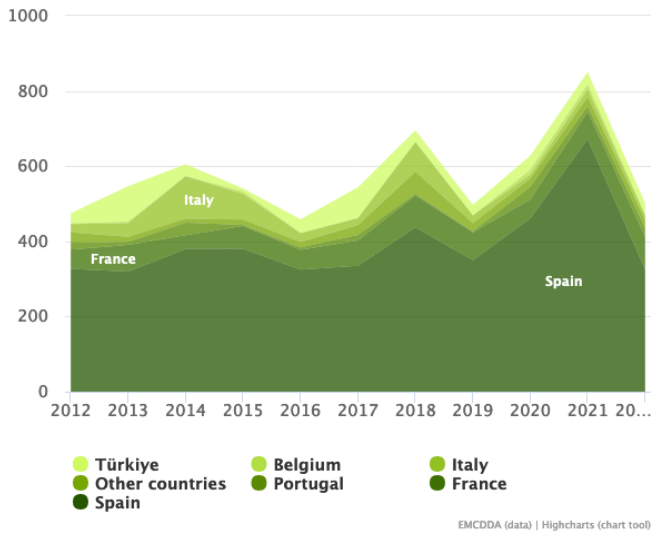
Resin: Number of seizures, EU

Resin: Quantity seized (tonnes), EU

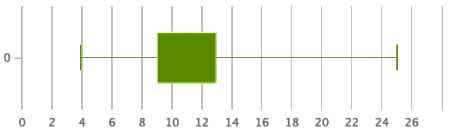
Resin: Trends in number of seizures (x 1000), EU



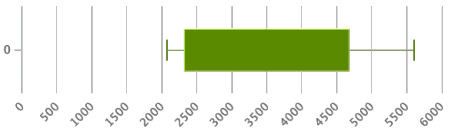
Resin: Trends in quantity seized (tonnes)



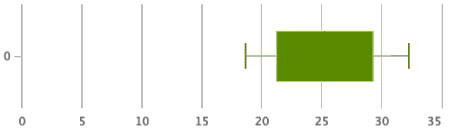
Resin: Price retail (EUR/g) (EU)



Resin: Price wholesale (EUR/kg) (EU)



Resin: Potency retail (% THC) (EU)



Resin: Indexed trends, retail (2011=100) (EU)

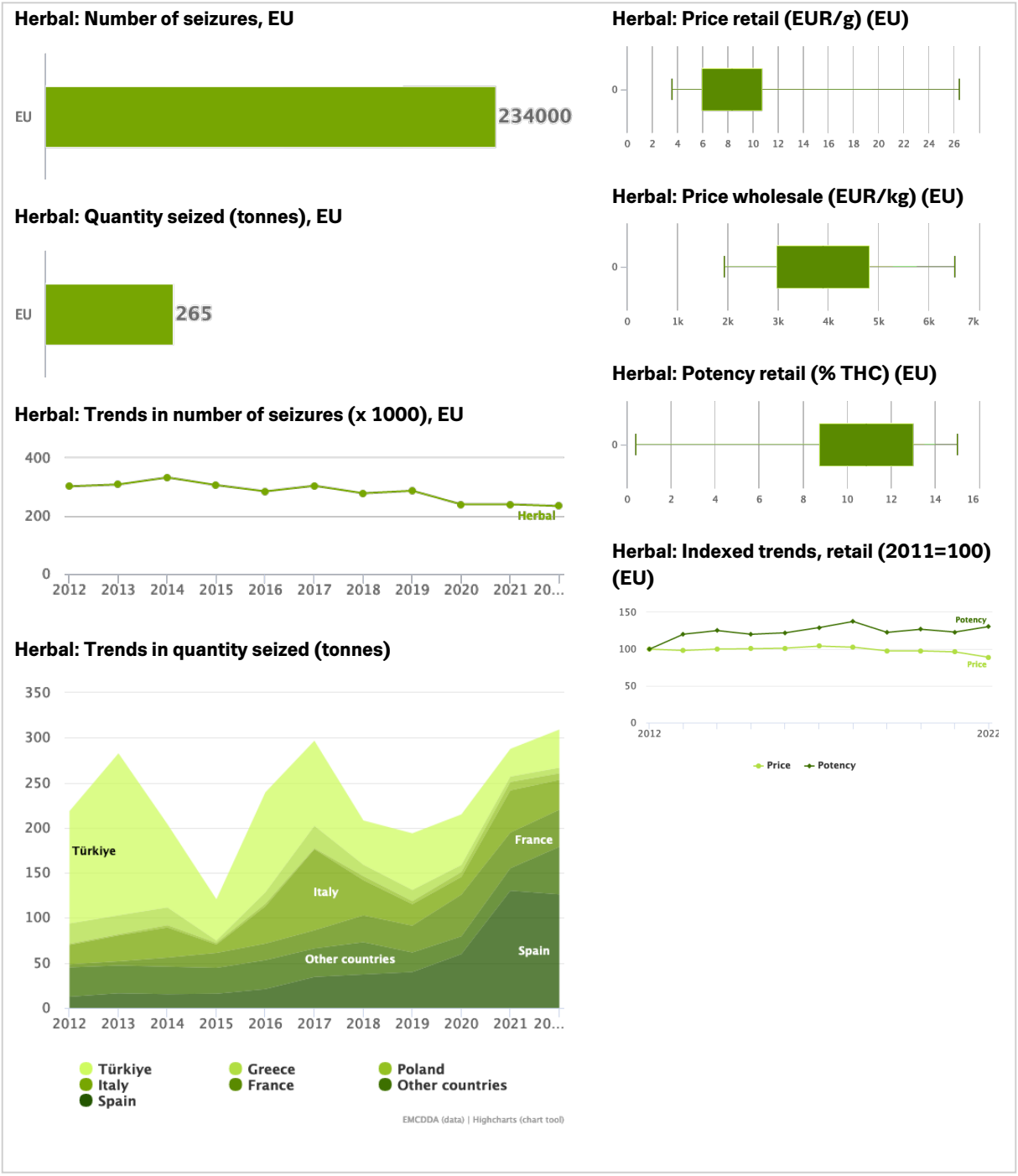
EU+2 refers to EU Member States, Norway and Türkiye.

Price and potency: mean national values – minimum, maximum and interquartile range. Countries vary by indicator.

Figure 2.5b. Herbal cannabis market in Europe

Geographical coverage (selected graphs)

EU | EU+2



EU+2 refers to EU Member States, Norway and Türkiye.

Price and potency: mean national values – minimum, maximum and interquartile range. Countries vary by indicator.

Additional detailed information on cannabis can be found in the joint EMCDDA-Europe EU Drug Market: Cannabis – In-depth analysis and the EMCDDA's Cannabis: health and social responses.

Source data

Cocaine – the current situation in Europe (European Drug Report 2024)

Cocaine is, after cannabis, the second most commonly used illicit drug in Europe, although prevalence levels and patterns of use differ considerably between countries. On this page, you can find the latest analysis of the drug situation for cocaine in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Growing evidence of the health and social costs of high cocaine availability

Cocaine is, after cannabis, the second most commonly used illicit drug in Europe. Although prevalence levels and patterns of use differ considerably between countries (see Prevalence and patterns of cocaine use), the availability of this drug has been increasing for a number of years. Equally, concern has been growing that the health and social costs associated with this drug are rising significantly. The use of cocaine can result in dependent and compulsive patterns of use and is associated with a number of adverse health consequences, which can include agitation, psychosis, tachycardia, hypertension, arrhythmia, chest pain due to acute coronary syndrome and stroke. Chronic cocaine use is associated with an increased risk of coronary artery disease, cardiomyopathy and stroke. Cocaine and synthetic stimulants can induce or precipitate psychotic states, such as stimulant-induced psychosis. Longer and heavier use of stimulants delays recovery and worsens the prognosis for recovery. Among those using the drug, the combined use of cocaine and alcohol is common. The presence of the two substances in the body creates cocaethylene in the liver, which is associated with greater health risks. The management of psychiatric comorbidity among people with drug use problems remains challenging, as integrated treatment and mental health service responses are often lacking. A recent review of mortality among people with regular or problematic cocaine use found that the risk of death by suicide, accidental injury, homicide and AIDS-related mortality were all elevated when compared with non-cocaine using peers.

Cocaine is usually available in two forms in Europe. The most common is cocaine powder (the salt form) and less commonly available is crack cocaine (a smokable freebase form). Cocaine is produced from the coca plant, grown in South America. It enters Europe through various routes, but the trafficking of large volumes of cocaine through Europe's seaports in intermodal commercial shipping containers appears a significant factor in the current high availability of this substance. In countries with large container ports known to be utilised for cocaine importation, rising levels of drug-related crime, including the corruption of staff along supply chains, intimidation and violence, have been observed. Elsewhere, there are concerns that competition within the cocaine market, both at the wholesale and retail levels, is now an important driver of drug-related crime, including gang-related violence and homicides in some countries. At the same time, cocaine use, and crack cocaine use in particular, appears to be becoming more common, especially among some marginalised communities. Taken together, this means that the growing availability and use of cocaine in Europe is resulting in greater costs, both in terms of its impact on public health and

because of the criminality and violence associated with the cocaine market.

Signs of increased cocaine trafficking and innovative approaches to avoid detection

In 2022, for the sixth year in a row, EU Member States reported a record amount of cocaine seized, amounting to 323 tonnes. Belgium, Spain and the Netherlands remain the countries reporting the highest volumes of seizures, reflecting their importance as entry points for cocaine trafficked to Europe. In 2023, the quantity of cocaine seized in Antwerp, Europe's second-largest seaport, rose to 116 tonnes from 110 tonnes in 2022. The volume of cocaine seized in Antwerp has increased annually since 2016. In 2023, Spain reported its largest ever seizure of cocaine (9.5 tonnes) in a single shipment, concealed in bananas originating from Ecuador (see Figure 3.1).

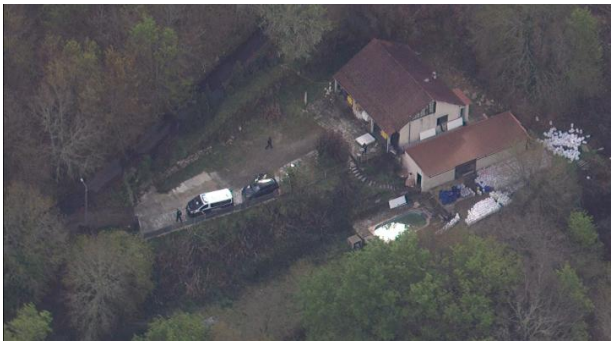
Figure 3.1. 'Operation Nano', 9.5 tonnes of cocaine seized in August 2023 at the Port of Algeciras (Cadiz), Spain

The trafficking of illicit drugs is highly dynamic and quick to adapt to geopolitical developments, regional conflicts and changes in commercial trade routes. In this context, developments in Colombia, Brazil and Ecuador are all thought to have contributed to the increase observed in cocaine trafficked to the European Union by organised crime groups (see the European Drug Market Report: Cocaine for an in-depth analysis). In addition to the use of commercial containers, a range of other methods are now used, often in combination, to evade detection (see Figure 3.2).

Figure 3.2. Example range of drug trafficking methods previously reported by law enforcement in Europe

As interdiction measures have been scaled up at major known entry points for the drug, it appears that cocaine traffickers are increasingly targeting smaller ports in other EU countries and countries bordering the European Union, which may be more vulnerable to drug trafficking activities. Some northern European countries, including Sweden and Norway, reported record cocaine seizures at seaports in 2023. Together, these developments may help explain the fact that despite the large seizures, reported cocaine purity at the retail level remains high by historical standards and its price is stable. It is now well-established that the illicit processing of cocaine products takes place in several EU Member States, with 39 cocaine laboratories reported to have been dismantled in 2022. Cocaine processing in Europe usually involves the secondary extraction of cocaine that has been incorporated into other materials (e.g. chemically concealed in plastics), creating challenges for its detection in commercial shipments. Some relatively large-scale facilities have been detected recently. For example, a cocaine processing laboratory dismantled in Spain in 2023 was reported to have a daily output capacity of 200 kilograms of the drug (see Figure 3.3).

Figure 3.3. Operation 'Mourente', a large-scale cocaine base paste processing laboratory dismantled by Spanish authorities in 2023



Impact of cocaine availability on public health increasingly visible

For a number of practical and methodological reasons cocaine-related health problems can be challenging to monitor, but there are increasing signals that the high availability of this drug is having a growing negative impact on public health in Europe. Cocaine is the second most frequently reported illicit drug, both by first-time treatment entrants and in the available data on acute drug-toxicity presentations to sentinel hospital emergency departments. European drug checking services, although not nationally representative, reported that cocaine was the most common substance they screened in 2022. The available data also suggest that the drug was involved in about a fifth of drug overdose deaths in 2022. As cocaine use can aggravate underlying cardiovascular problems, it is likely that the overall contribution this drug makes to mortality in Europe is not sufficiently recognised.

Cocaine residues in municipal wastewater also increased in two thirds of cities with data for 2023 and 2022. This, together with other information, suggests that as cocaine has become increasingly available, so too has its geographical and social distribution. Of particular concern is that cocaine use appears to be becoming more common in more marginalised groups in some countries. Both the smoking and injection of cocaine are associated with greater health problems, and it is therefore worrying that cocaine injection and the use of crack cocaine are reported in a growing number of countries. Stimulants such as cocaine are associated with a higher frequency of injection and have been involved in localised HIV outbreaks among people who inject drugs in 7 European cities over the last decade (see Injecting drug use in Europe – the current situation).

Treating people with problems associated with their cocaine use is challenging, whether they are clients that are more socially integrated and involved in casual or episodic use of powder cocaine, or more marginalised groups injecting the drug or smoking crack cocaine. Most of the chronic harms related to the use of stimulants such as cocaine are associated with intensive, high-dose or long-term consumption. Acute problems can also affect people who use stimulants experimentally, but they are likely to be less common when the stimulant use is infrequent and low-dose. Although our understanding of what constitutes effective treatment for stimulant problems is growing, it remains relatively limited. The current evidence available is indicative of the use of psychosocial interventions, including cognitive behavioural therapy and contingency management. Currently, there is insufficient evidence to strongly support any pharmacological treatment, although some potentially useful new pharmacotherapies are in development. Treating cocaine problems among more marginalised groups can be particularly challenging, as clients may also be experiencing problems with a range of other drugs, including opioids or alcohol. For injecting cocaine and smoking crack, existing harm reduction responses, to a large extent those originally developed for

opioid problems, are likely to be appropriate to reduce route-specific harms. However, further work is needed to develop more comprehensive interventions, and greater investment is needed to ensure services are appropriate to the growing needs observed in this area in some countries.

Key data and trends

Prevalence and patterns of cocaine use

- In the European Union, surveys indicate that almost 2.5 million 15- to 34-year-olds (2.5 % of this age group) used cocaine in the last year (see Figure 3.4). Of the 13 European countries that have conducted surveys since 2021 and provided confidence intervals, 5 reported higher estimates than their previous comparable survey and 8 reported a stable trend.

Figure 3.4. Prevalence of cocaine use in Europe

This data explorer enables you to view our data on the prevalence of cocaine use by recall period and age range. You can access data by country by clicking on the map or selecting a country from the dropdown menu.

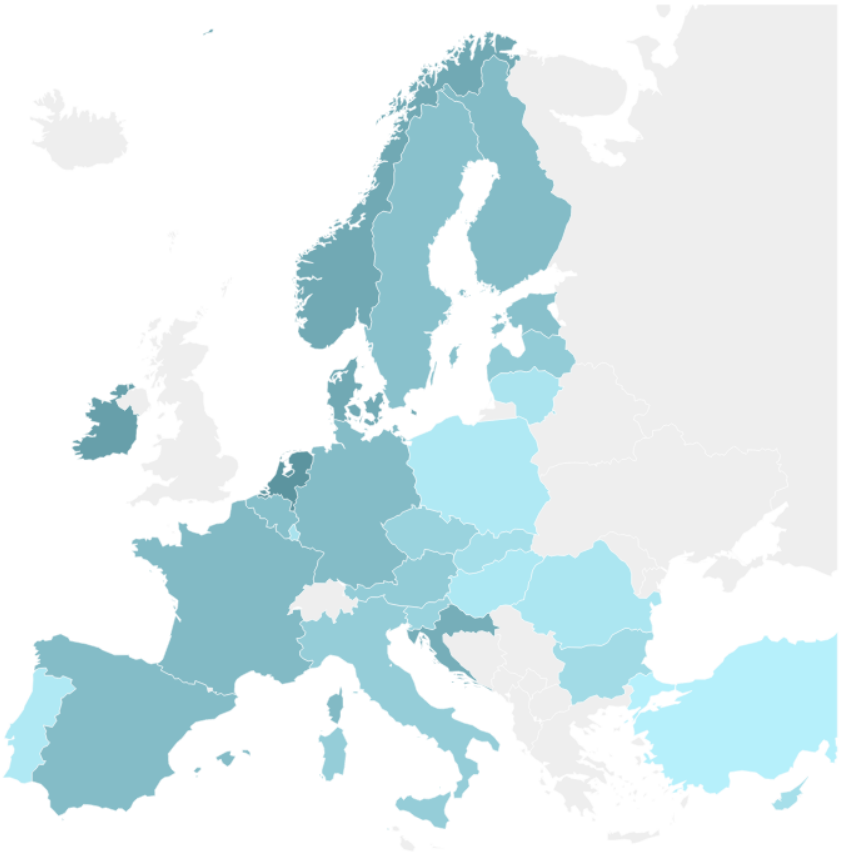
Recall period

Last month | Last year | Lifetime

Age

Young adults (15-34) | All adults (15-64)

Country



Notes

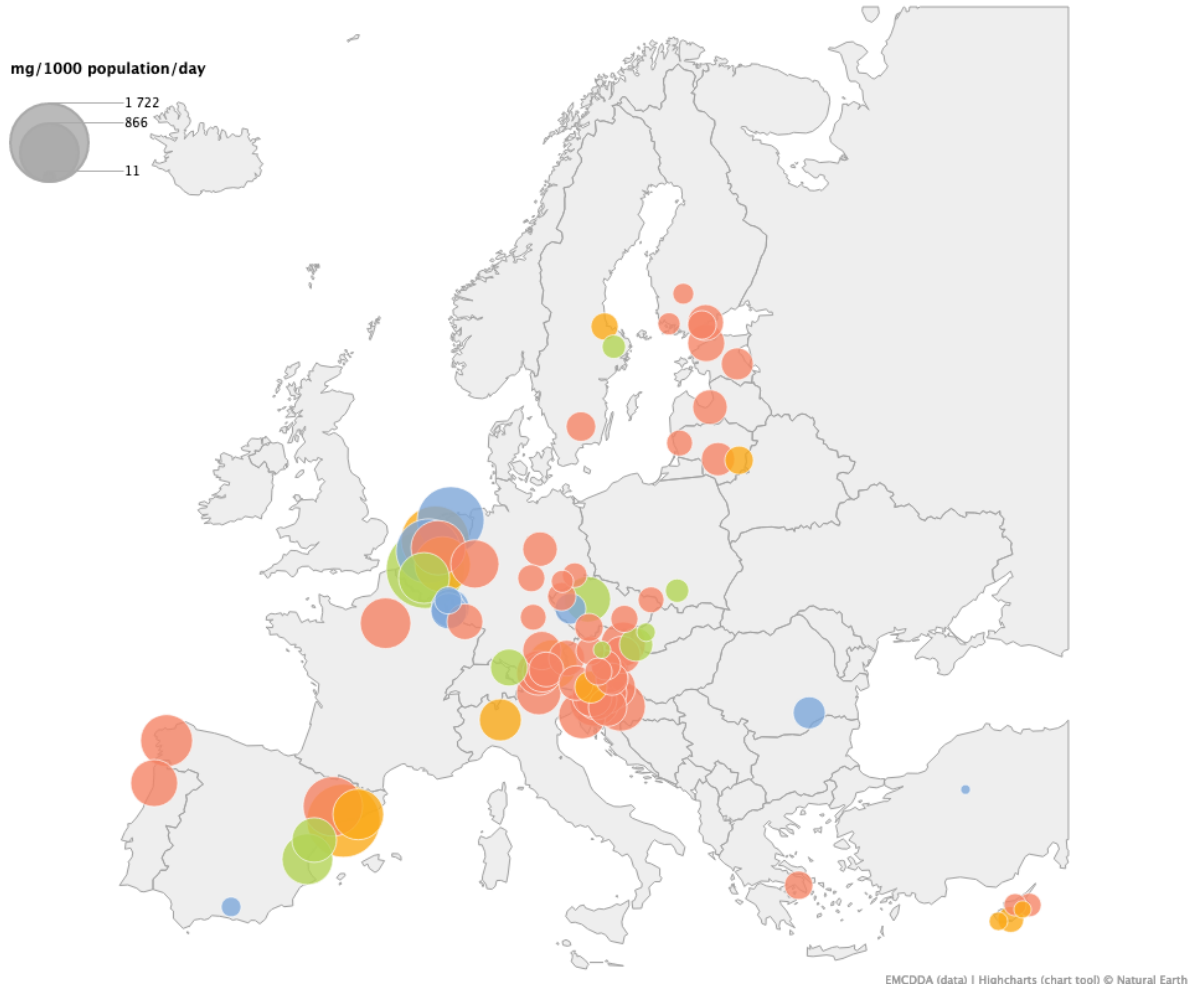
Prevalence data presented here are based on general population surveys submitted to the EMCDDA by national focal points. For the latest data and detailed methodological information please see the Statistical Bulletin 2024: Prevalence of drug use.

Graphics showing the most recent data for a country are based on studies carried out between 2013 and 2023.

Prevalence estimates for the general population: age ranges are 18-64 and 18-34 for Germany, Greece, France, Italy and Hungary; 16-64 and 16-34 for Denmark, Estonia and Norway; 18-65 for Malta; 17-34 for Sweden.

- Cocaine residues in municipal wastewater increased in 49 out of 72 cities with data for both 2023 and 2022, while 13 cities reported no change and 10 cities reported a decrease (see Figure 3.5).

Figure 3.5. Cocaine residues in wastewater in selected European cities, 2023



Red = increase | Green = decrease | Yellow = stable, with respect to previous value | Blue = no previous data

Mean daily amounts of benzoylecgonine in milligrams per 1000 population. Sampling was carried out over a week between March and May 2023. Taking into account statistical errors, values that differ less than 10 % from the previous value are considered stable in this figure. Source: Sewage Analysis Core Group Europe (SCORE) For the complete data set and analysis, see Wastewater analysis and drugs – a European multi-city study.

- Analysis of 1 849 used syringes by the ESCAPE network of 12 cities in 11 EU Member States between 2021 and 2022 found that, overall, a third of syringes contained residues of two or more drug categories, indicating frequent polydrug use or re-use of injecting paraphernalia. The most frequent combination was a mixture of a stimulant and an opioid. Cocaine was detected in over 50 % of syringes analysed in Athens, Cologne, Dublin and Thessaloniki, with a mixture of cocaine and heroin being the most frequent combination found.

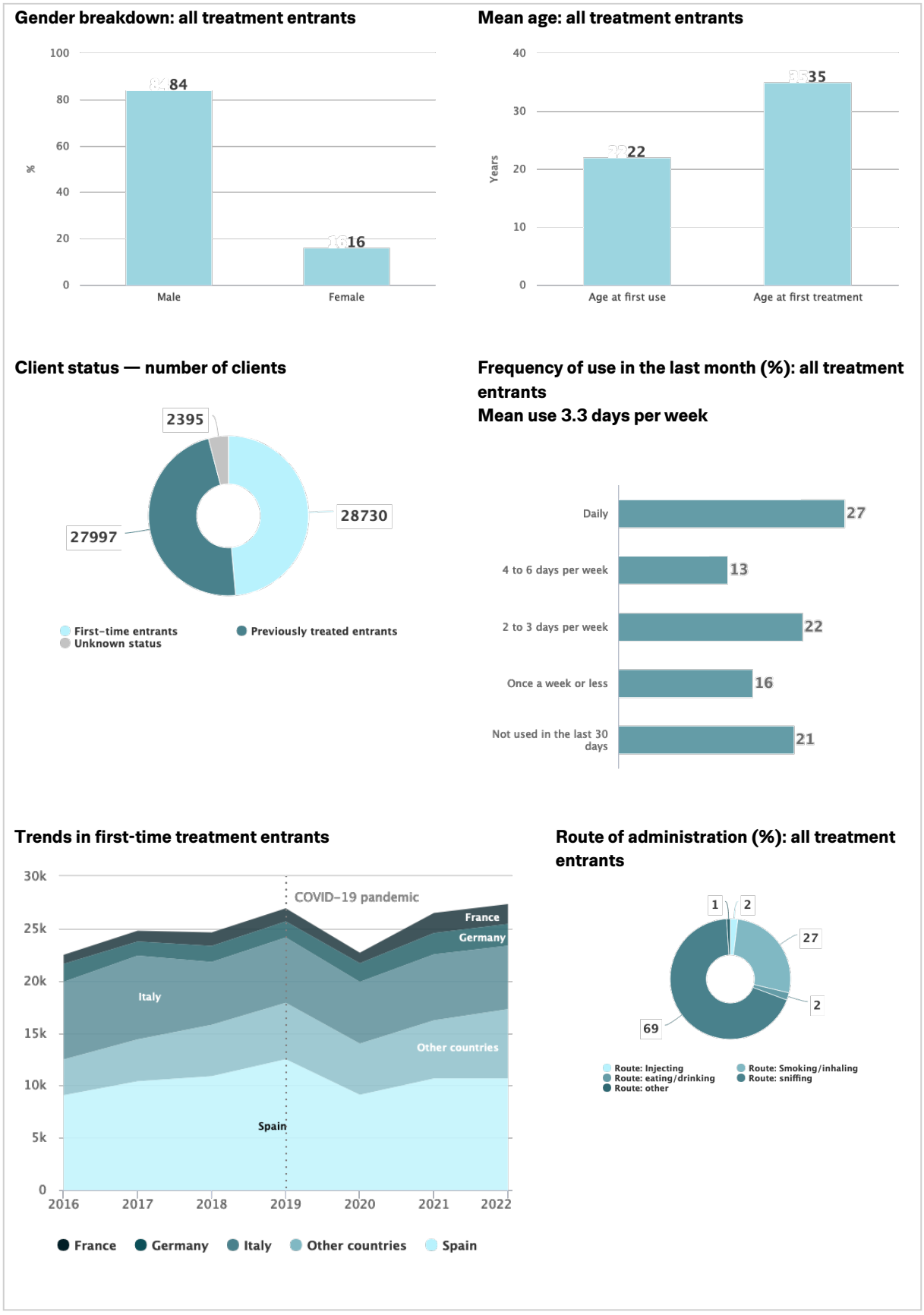
Treatment entry for cocaine use

- Cocaine was the second most common problem drug among people entering specialist drug treatment for the first time in their lives, cited by an estimated 29 000 clients or 21 % of all first-

time entrants (see Figure 3.6).

- The latest European data reveal a time lag of 13 years between first cocaine use, on average at the age of 22, and first treatment for cocaine-related problems, on average at the age of 35.

Figure 3.6. Cocaine users entering treatment



Apart from the trends, data are for all treatment entrants with cocaine as the primary drug – 2022 or the most recent year available.

Trends in first-time entrants are based on 25 countries. Only countries with data for at least 5 of the 6 years are included in the trends analysis. Missing values are interpolated from adjacent years. Because of disruptions to services due to COVID-19, data for 2020, 2021 and 2022 should be interpreted with caution. Missing data were imputed with values from the previous year for Spain and France (2022) and Germany (2019).

Harms related to cocaine use

- Cocaine was the second most common substance reported by Euro-DEN Plus sentinel hospitals in 2022, mentioned in 28 % (1 739) of acute drug-toxicity presentations. Where recorded, most presentations were associated with co-ingestion of alcohol.
- Among the 19 European countries providing data for both years, cocaine, mostly in the presence of opioids, was involved in 996 (23 %) drug-induced deaths in 2022 (807 or 20 % in 2021).
- In Spain, cocaine was involved in more than half (52 %) of the drug-induced deaths reported in 2021. In France, the forensic network reported that the number of drug-induced deaths involving cocaine doubled from 130 cases (22 % of all drug-induced deaths) in 2020 to 259 cases (39 %) in 2021.

Crack cocaine

- Just 6 EU countries accounted for 90 % of the estimated 8 100 crack-related treatment entries in 2022 (7 500 in 2021), of which 3 000 were first-time entrants. A caveat here is that the term ‘crack’ may not be used consistently by all countries.
- The number of first-time treatment entrants with crack cocaine as primary drug increased by about 42 %, from 1 900 clients in 2017 to 2 750 clients in 2022.
- Data from drug consumption rooms in Lisbon and Porto, Portugal, and in Paris, France, in 2022 indicate that crack cocaine, either alone or with heroin, accounted for a significant proportion of the drug consumption episodes facilitated. In both countries, half of all crack cocaine consumptions involved smoking and the other half involved injecting crack, alone or with heroin. No crack cocaine use was reported by drug consumption rooms in Barcelona, Athens or Bergen in 2022.
- A 2021 analysis of municipal wastewater in 13 European cities, by the EU-funded EUSEME project, found crack residues in all cities on all sampling days, with the highest loads reported in Amsterdam and Antwerp.

Cocaine market data

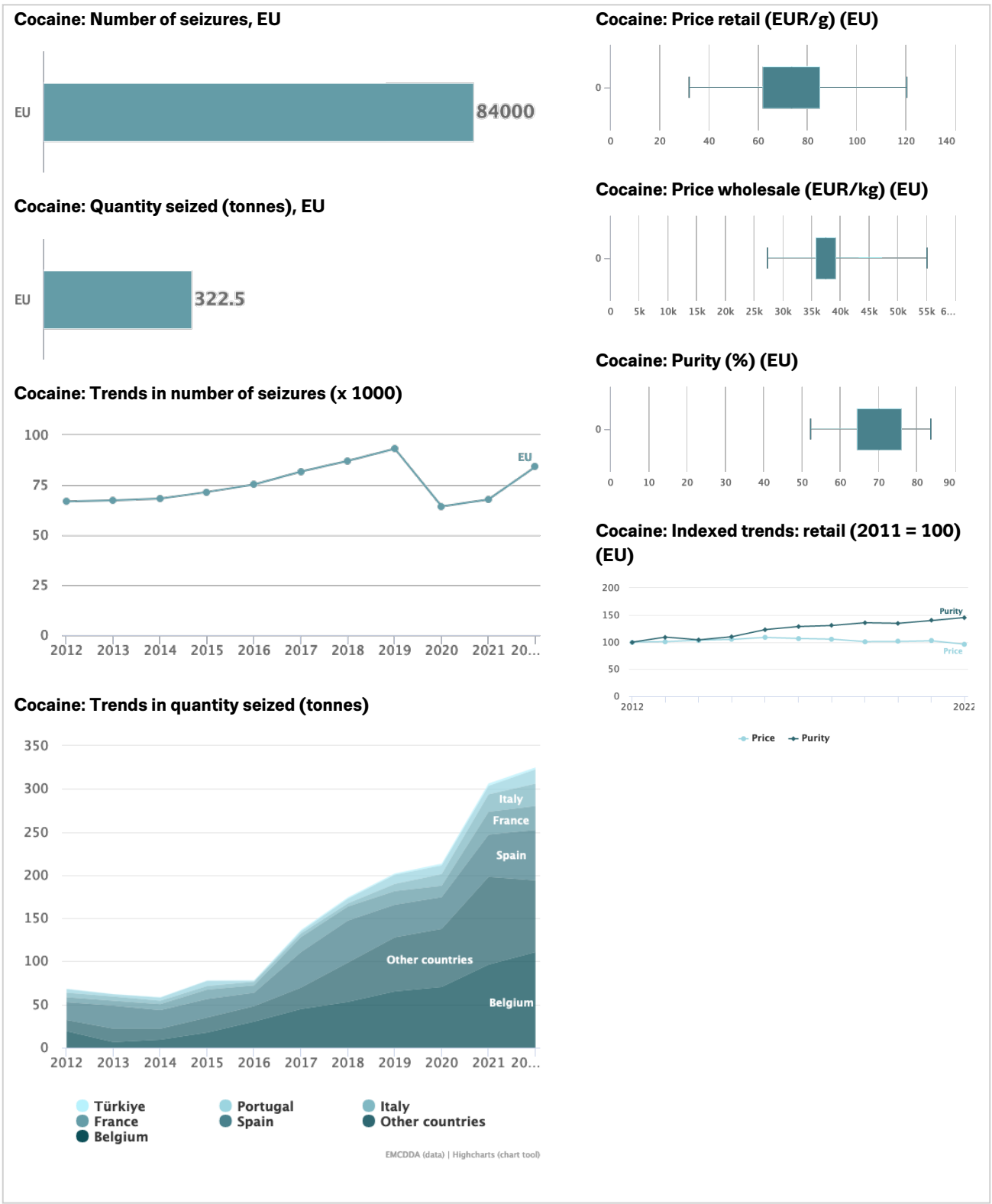
- In 2022, EU Member States reported 84 000 cocaine seizures, amounting to 323 tonnes (up from 303 tonnes in 2021); a record amount for the sixth year in a row. Belgium (111 tonnes), the Netherlands (51.5 tonnes) and Spain (58.3 tonnes) accounted for 68 % of the total quantity

seized (see Figure 3.7).

- The average purity of cocaine at the retail level ranged from 52 % to 83 % across Europe in 2022, with half of the countries reporting an average purity between 64 % and 76 %. While the price of cocaine at retail level has remained stable over the past decade, cocaine purity has been on an upward trend, and in 2022 reached a level 45 % higher than the index year of 2012 (Figure 3.7).
- In 2022, EU Member States reported dismantling 39 sites related to cocaine production (34 in 2021). In spite of a decrease in seizures of the essential chemical potassium permanganate in 2022 (173 kilograms) compared with 2021 (1 100 kilograms), it is likely that the large-scale processing of cocaine hydrochloride from imported intermediary products continues to take place in the European Union. For example, in 2023, a cocaine processing laboratory dismantled in Spain was reported to have an estimated daily output capacity of 200 kilograms. In addition, some large seizures of unusual substances containing cocaine that must be chemically extracted have been reported, suggesting that secondary extraction of cocaine occurs at significant levels in Europe. For example, in 2022, chemically concealed cocaine was detected in a shipment of 22 tonnes of sugar in France and in 100 kilograms of coal, part of a larger load of coal shipped to Croatia.
- In 2022, cocaine was cited in 85 800 use or possession offences, about 10 % of all such offences for which the drug is known, continuing the upward trend observed over the previous 6 years. After cannabis, cocaine was the second most frequently cited drug in offences related to use or possession.
- Among the 18 drug checking services across 8 EU countries that reported testing more than 10 samples, cocaine emerged as the substance most commonly detected by 5 services during the first half of 2022 and by 4 services during the first half of 2023. Over the same period, the purity of cocaine samples analysed by the 18 drug checking services remained high. In the first half of 2022, 50 % of the samples tested exhibited a purity ranging from 80 % to 100 %. By the first half of 2023, this equivalent share was 55 %.

Detailed information on cocaine can be found in the joint EMCDDA-Europol EU Drug Market: Cocaine and the EMCDDA's Stimulants: health and social responses.

Figure 3.7. Cocaine market in Europe



EU + 2 refers to EU Member States, Norway and Türkiye.

Price and purity: mean national values – minimum, maximum and interquartile range. Countries vary by indicator.

Source data

Synthetic stimulants – the current situation in Europe (European Drug Report 2024)

Amphetamine, methamphetamine and, more recently, synthetic cathinones are all synthetic central nervous system stimulants available on the drug market in Europe. On this page, you can find the latest analysis of the drug situation for synthetic stimulants in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more.

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Last update: *11 June 2024*

Diversity in the availability and use of stimulants

Amphetamine, methamphetamine and synthetic cathinones are all synthetic central nervous system stimulants available on Europe's illicit drug market. Historically, amphetamine use has always been the most common, with the availability and use of methamphetamine and synthetic cathinones being more limited in most countries. There are, however, signals that patterns of synthetic stimulant availability and use are diversifying. Part of the context for this is that trends in synthetic drug production can be extremely dynamic, and consumers may view different stimulants as functionally similar and be amenable to trying new products based on their availability in the market. There are therefore concerns about increased threats to health and social problems that may be associated with the more widespread availability and use of these substances. At the same time, current information tools are generally not sufficiently well-developed to track trends in use or related problems associated with changing patterns of synthetic stimulant use, meaning that we can be slow to detect important changes in this area. Improving our ability to monitor and respond more rapidly to developments in the use of synthetic drugs in general therefore remains a priority.

Understanding stimulant-related risks to health

Methamphetamine and synthetic cathinones are chemically similar to amphetamine, but are not necessarily equivalent in respect to the risk they pose to public health. The more widespread use of synthetic cathinones, for example, is a relatively new development, and we currently lack a robust evidence base to understand the potential health risks of this phenomenon or what might constitute appropriate interventions. Methamphetamine is available in high-purity forms that are smokable, and there are particular health concerns associated with the use of this drug by this mode of administration. All of these substances may also be available in similar-looking powders or pills, meaning consumers may be unaware of what particular stimulant or mixture of substances they may be consuming. Reports from drug checking services in several EU Member States between 2022 and 2023, and also to the EU Early Warning System, indicate that synthetic cathinones may also be found in MDMA products, reflecting mis-selling and adulteration. This means that forensic and toxicological analysis is particularly important for understanding both consumption trends and the scale and nature of any associated adverse health outcomes.

A more general concern is that all of the stimulants discussed here are also, to some extent, associated with behaviours that can represent health risks. These risks include overdoses, acute

and chronic mental health problems and infectious diseases. Problematic and intensive patterns of stimulant use, such as the combination of high-risk drug taking and risky sexual behaviours, known as 'chemsex', have also been documented in some populations. There are also particular concerns about the injecting of stimulants, which has been associated with a higher risk of HIV transmission. This could be explained by more frequent use, sharing of injecting material and risky sexual behaviours among people who inject stimulants.

In the last decade, 7 European cities, across 6 countries, have reported localised HIV outbreaks associated with stimulant injecting, mainly among marginalised people who inject drugs involved in open drug scenes (see Drug-related infectious diseases – the current situation in Europe). Syringe residue analysis conducted by the ESCAPE network between 2022 and 2023 confirms the presence of stimulants, such as amphetamine and synthetic cathinones, in many injecting drug scenes. Reports from the Euro-DEN Plus network of sentinel hospitals across Europe in 2022 highlight the continued presence of synthetic stimulants in acute drug-toxicity presentations to emergency departments.

Methamphetamine production and trafficking highlights potential for increased use in Europe

While methamphetamine is a less commonly used synthetic stimulant and is less visible in available data, signals continue to emerge that its production is increasing in Europe. Historically, the use of this drug has been most commonly observed in Czechia and Slovakia and, more recently, some neighbouring countries. Now, however, it is present in more countries, although the overall prevalence of use appears to remain low in most countries. While not representative of the general population, data from wastewater analysis indicate that 15 of the 67 European cities with data for 2022 and 2023 saw an increase in the methamphetamine residues detected.

Available data on the production and trafficking of these stimulants reveal the changing dynamics of the illicit stimulant trade. There were 108 dismantled amphetamine production laboratories reported in the European Union in 2022 (119 in 2021). Following a decline from a peak in 2020 (22.3 tonnes), the quantity of the drug seized in the European Union remained stable at about 7 tonnes between 2021 and 2022. It has been suggested that this fall in the quantities seized may be indicative of a decline in production, possibly resulting from producers switching to other stimulants, such as methamphetamine, which can be highly profitable when trafficked to non-EU markets. Recent data show the quantity of methamphetamine seized in the European Union has remained relatively stable between 2021 and 2022 at about 1.4 tonnes, following a decline from a peak in 2019 (2.3 tonnes) due to large importations from Mexico. The number of methamphetamine production sites reported as dismantled slightly declined in 2022, likely reflecting that, while large-capacity sites are found, most are small-scale, with the number of detections fluctuating annually. The quantity of seized glycidic derivatives of BMK, the precursor used for large-scale methamphetamine production, increased in 2022, while new alternative chemicals to make BMK were also seized (see Synthetic stimulants market data, below). The increased quantities of methamphetamine precursors and related chemicals seized in Europe reflect the globally significant capacity of synthetic drug producing groups in the region, with the drug still predominantly exported to non-EU markets. Data availability issues mean that caution is needed in interpreting the information available, and more work is needed to track production trends and analyse their implications for both public health and security. Türkiye has reported seizing a record quantity of methamphetamine in 2022 (almost 16 tonnes). Among the reasons for this is a potential increase in trafficking of methamphetamine from Afghanistan along established heroin trafficking routes

towards Europe. Challenges remain in better understanding methamphetamine trafficking flows and the changes taking place in Afghanistan; and this drug has also been the target of recent measures taken by the Taliban to reduce drug production in the country.

Synthetic cathinones pose a growing challenge

Reports indicate that synthetic cathinones are increasingly trafficked to Europe from India in large shipments. At the same time, they are also produced in Europe, notably in Poland, where 23 laboratories were reported as dismantled in 2022, and 355 kilograms of precursors were seized. Given the volumes of precursor chemicals seized and the interception of unregulated alternative chemicals, it appears likely that large-scale production for both the European and other markets may be taking place.

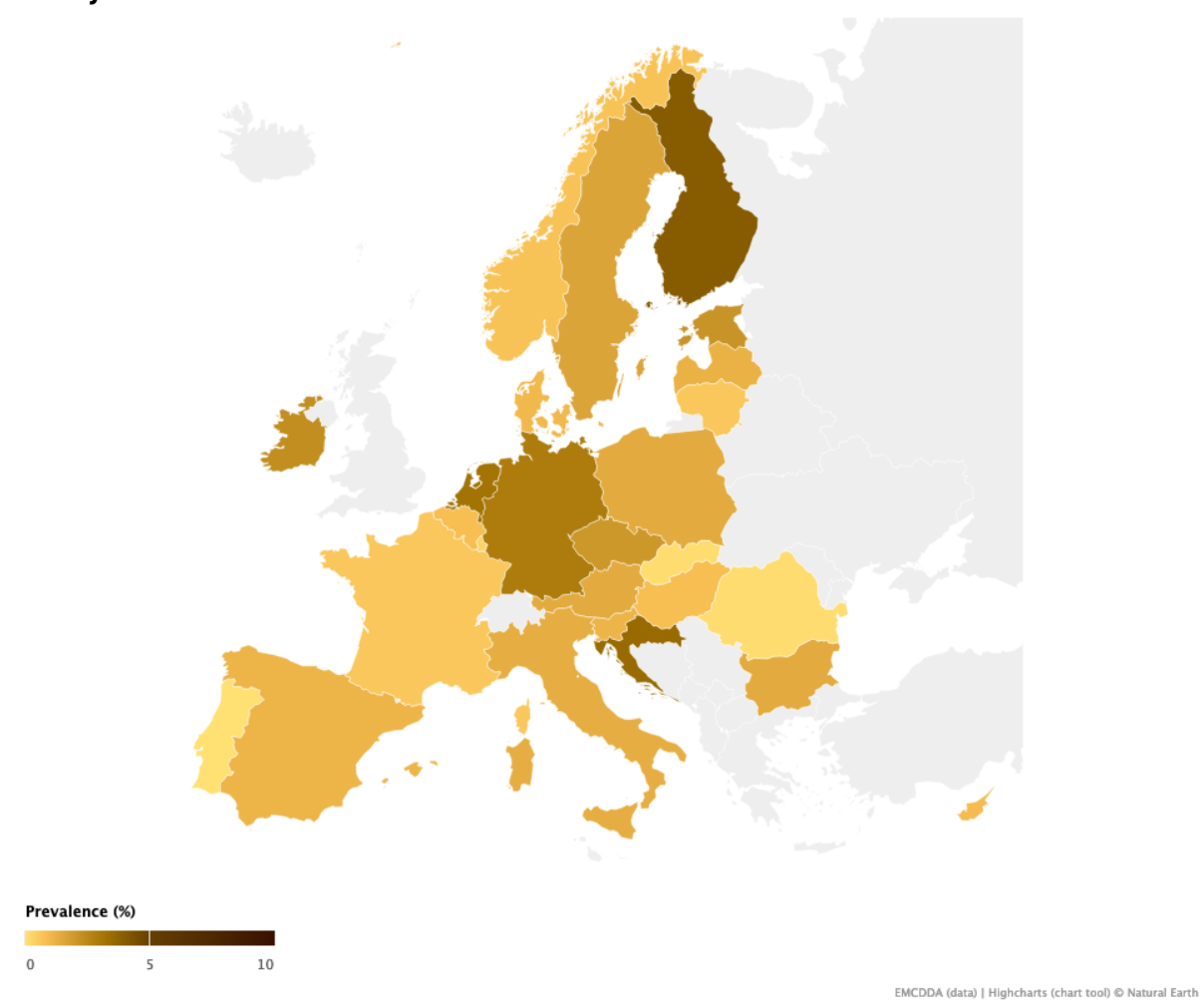
In summary, as the use of illicit stimulants can lead to a range of health problems, these substances continue to represent a challenge for monitoring efforts, policymakers and service providers in Europe. More frequent injecting associated with stimulant use and the potentially much more severe health complications from injecting and smoking methamphetamine mean that any increase in consumption, especially among vulnerable groups, could represent a growing challenge for harm reduction and emergency health services.

Key data and trends

Prevalence and patterns of synthetic stimulants use

- Surveys conducted by 24 EU countries between 2017 and 2023, which group amphetamine and methamphetamine together, suggest that 1.5 million young adults (15 to 34) used amphetamines during the last year (1.5 % of this age group). Of the 12 European countries that have conducted surveys since 2020 and provided confidence intervals, 2 reported higher estimates than their previous comparable survey and 10 reported a stable trend (see Figure 4.1 for most recent survey data).
- Estimates of high-risk methamphetamine use vary between countries, ranging from 0.37 per 1 000 population (corresponding to 225 high-risk users) in Cyprus to 5.22 per 1 000 (34 700 high-risk users) in Czechia, with 2.9 per 1 000 (10 624 high-risk users) in Slovakia.
- In the 2021 European Web Survey on Drugs, a non-representative survey of people who use drugs, 4 % of respondents reported having used synthetic cathinones in the last 12 months.

Figure 4.1. Prevalence of amphetamines use in Europe



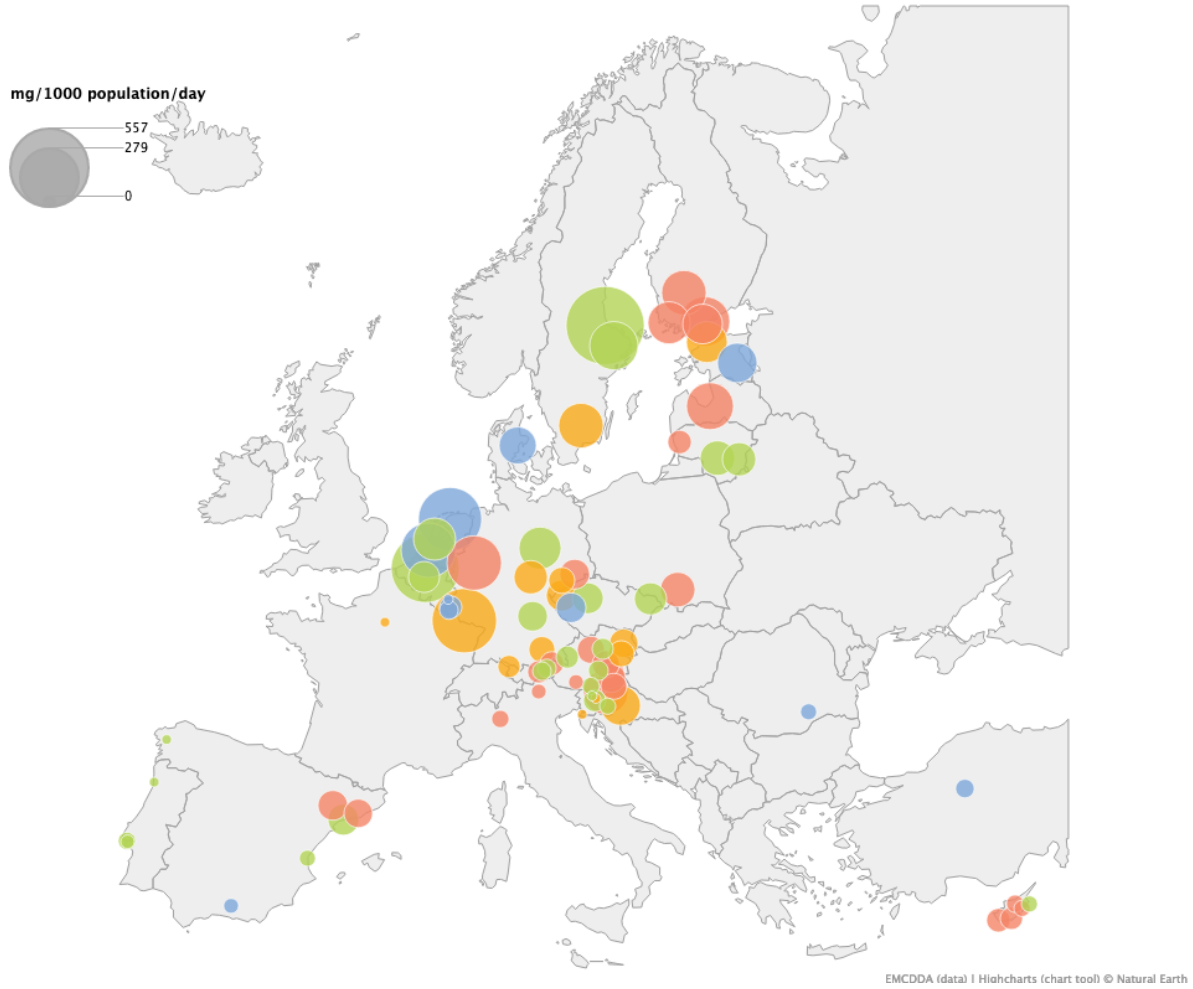
Prevalence data presented here are based on general population surveys submitted to the EMCDDA by national focal points. For the latest data and detailed methodological information please see the Statistical Bulletin 2024: Prevalence of drug use.

Graphics showing the most recent data for a country are based on studies carried out between 2013 and 2023.

Prevalence estimates for the general population: age ranges are 18-64 and 18-34 for Germany, Greece, France, Italy and Hungary; 16-64 and 16-34 for Denmark, Estonia and Norway; 18-65 for Malta; 17-34 for Sweden.

- Of the 65 cities with data on amphetamine residues in municipal wastewater for 2022 and 2023, 26 reported an increase, 13 a stable situation and 26 a decrease (Figure 4.2).

Figure 4.2. Amphetamine residues in wastewater in selected European cities: changes between 2022 and 2023

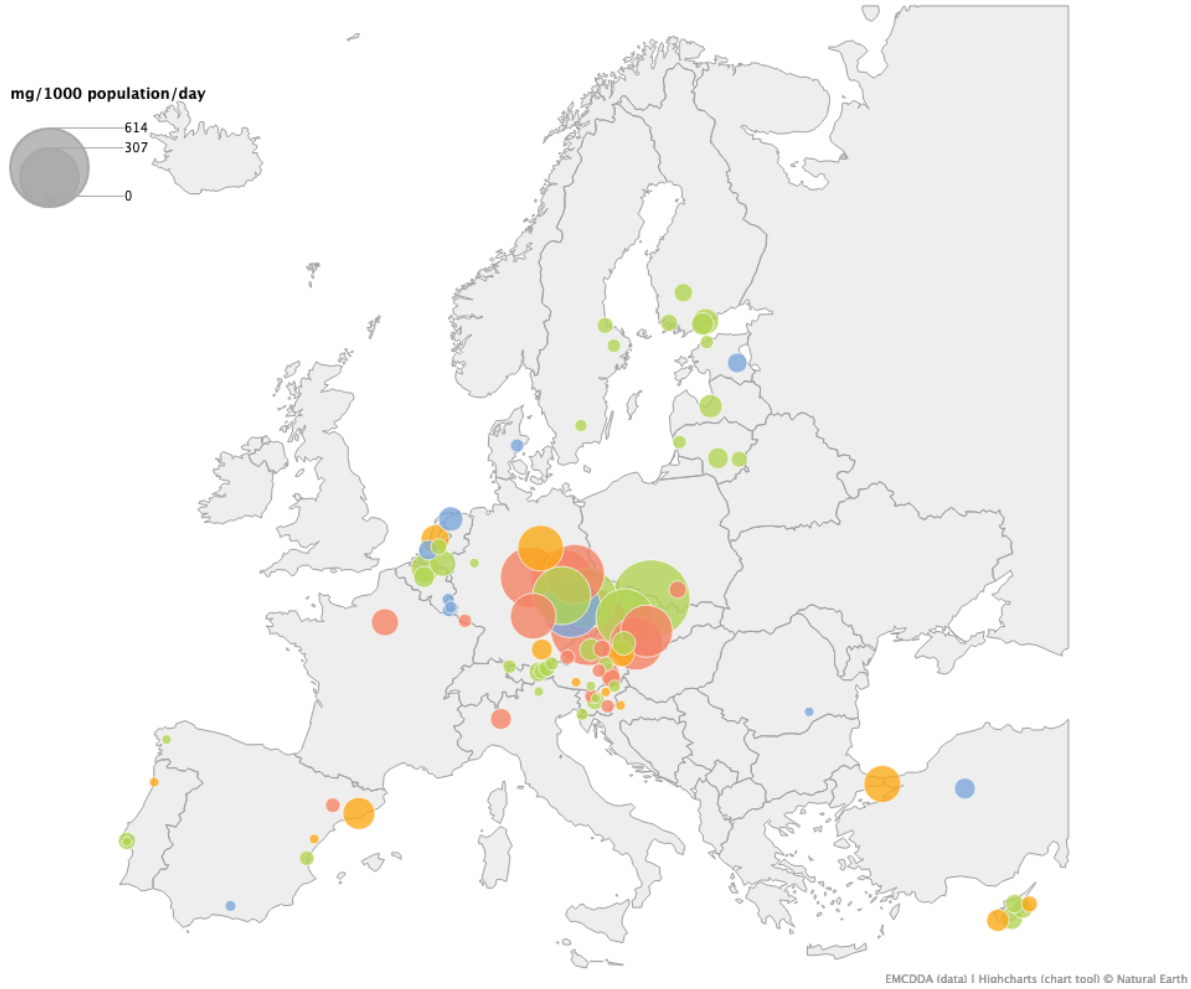


Red = increase | Green = decrease | Yellow = stable, with respect to previous value | Blue = no previous data

Mean daily amounts of amphetamine in milligrams per 1000 population. Sampling was carried out over a week between March and May 2023. Taking into account statistical errors, values that differ less than 10 % from the previous value are considered stable in this figure. Source: Sewage Analysis Core Group Europe (SCORE). For the complete data set and analysis, see Wastewater analysis and drugs – a European multi-city study.

- Of the 67 cities that have data on methamphetamine residues in municipal wastewater for 2022 and 2023, 15 reported an increase, 13 a stable situation and 39 a decrease (Figure 4.3).

Figure 4.3. Methamphetamine residues in wastewater in selected European cities: changes between 2022 and 2023



Red = increase | Green = decrease | Yellow = stable, with respect to previous value | Blue = no previous data

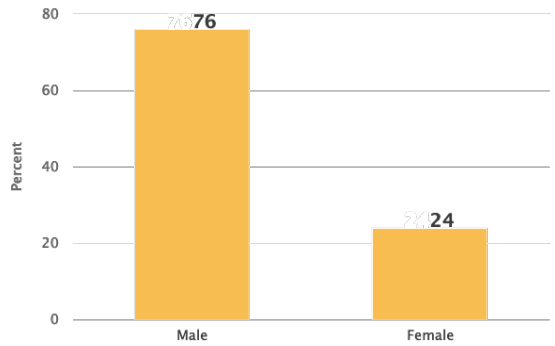
Mean daily amounts of methamphetamine in milligrams per 1000 population. Sampling was carried out over a week between March and April 2023. Taking into account statistical errors, values that differ less than 10 % from the previous value are considered stable in this figure. Source: Sewage Analysis Core Group Europe (SCORE). For the complete data set and analysis, see Wastewater analysis and drugs – a European multi-city study.

Treatment entry for use of synthetic stimulants

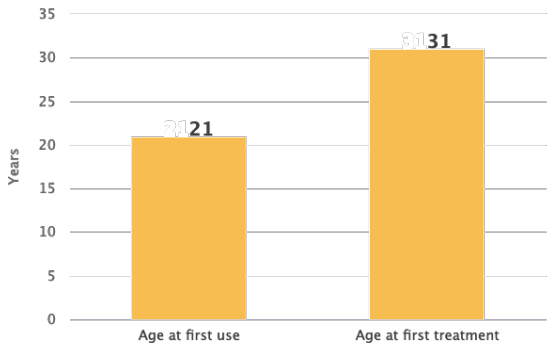
- Almost 10 000 clients are estimated to have entered specialised drug treatment in Europe in 2022 reporting amphetamine as their primary drug, approximately half of them (4 800) being first-time clients (Figure 4.4).
- In 2022 or the most recent year available, amphetamine or methamphetamine clients accounted for at least 15 % of first-time treatment entrants in Bulgaria, Czechia, Estonia, Latvia, Poland, Slovakia, Finland and Türkiye.

Figure 4.4. Amphetamine users entering treatment in Europe

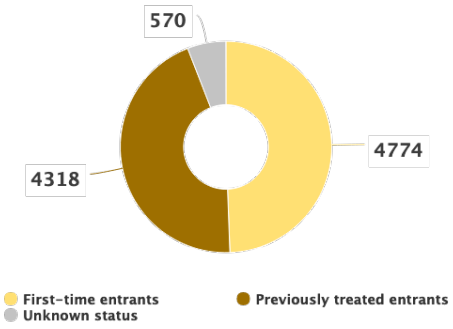
Gender breakdown: all treatment entrants



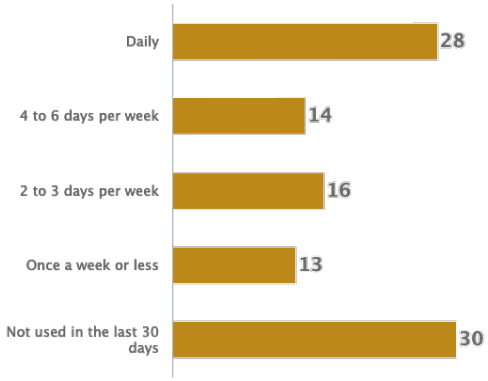
Mean age: all treatment entrants



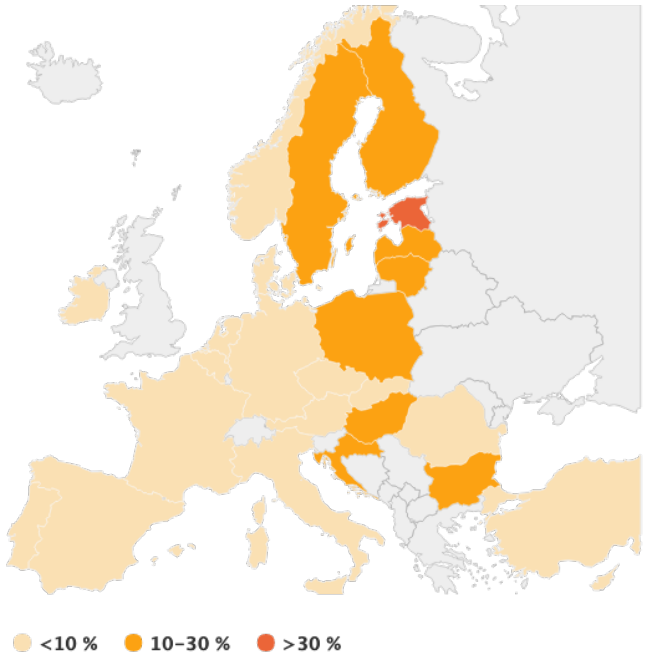
Client status – number of clients



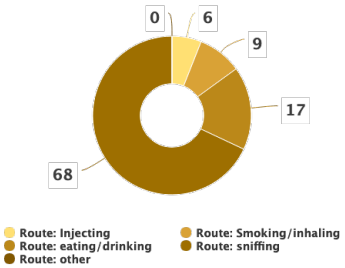
Frequency of use in the last month (%): all treatment entrants
Mean use 3.3 days per week



Amphetamine. Entrants for this substance as a share of all first-time treatment entrants



Route of administration: all treatment entrants (%)

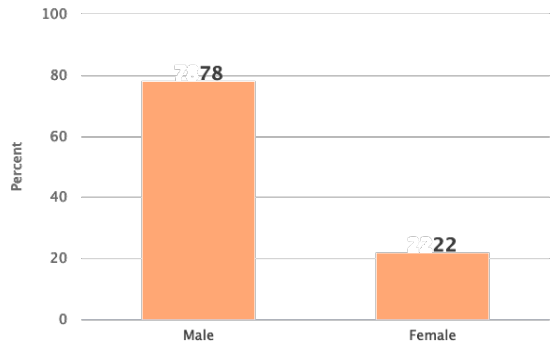


Data are for all treatment entrants with amphetamine as the primary drug – 2022 or the most recent year available. Data for first-time entrants are for 2022 or the most recent year available: Czechia, 2020, Spain, France, Finland, Romania, 2021; Netherlands, 2015. Data for Sweden and Norway relate to clients citing stimulants other than cocaine as primary drug.

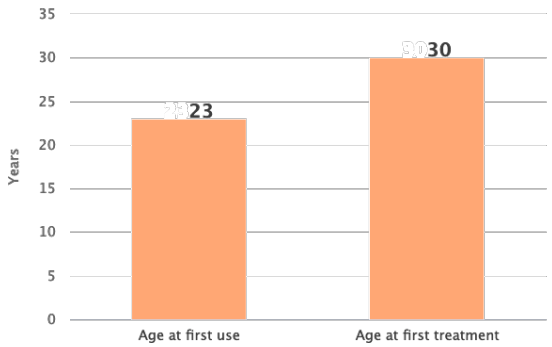
- Treatment entrants citing methamphetamine as their main problem drug are concentrated in Czechia, Germany, Slovakia and Türkiye, which together accounted for 92 % of the estimated 12 000 methamphetamine clients entering treatment in 2022, 6 400 of whom were first-time clients (Figure 4.5). In addition, drug consumption facilities in Athens and Barcelona observed an increase in the number of clients reporting methamphetamine smoking in the second half of 2022.

Figure 4.5. Metamphetamine users entering treatment in Europe

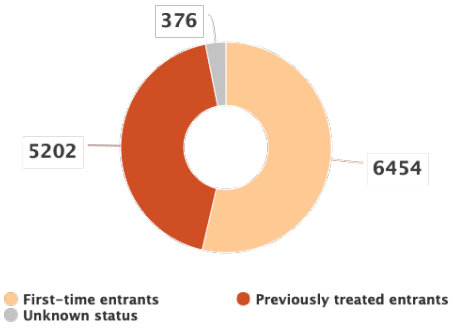
Gender breakdown: all treatment entrants



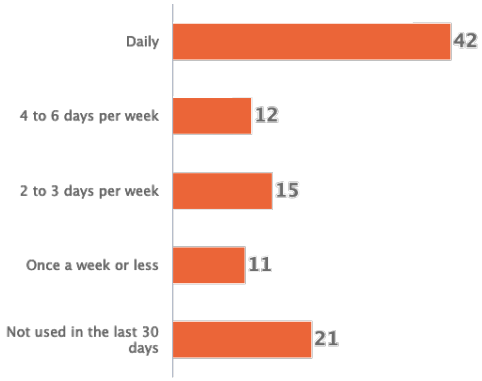
Mean age: all treatment entrants



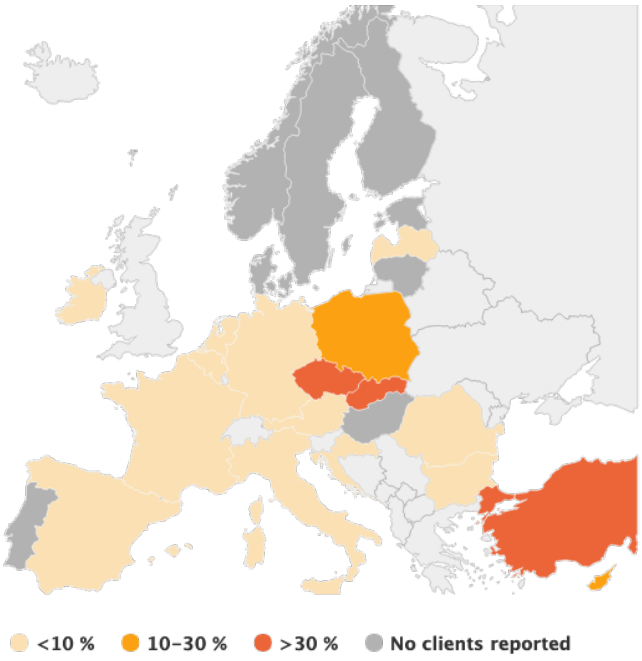
Client status – number of clients



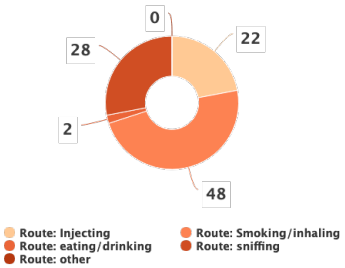
Frequency of use in the last month (%): all treatment entrants
Mean use 3.3 days per week



Methamphetamine. Entrants for this substance as a share of all first-time treatment entrants



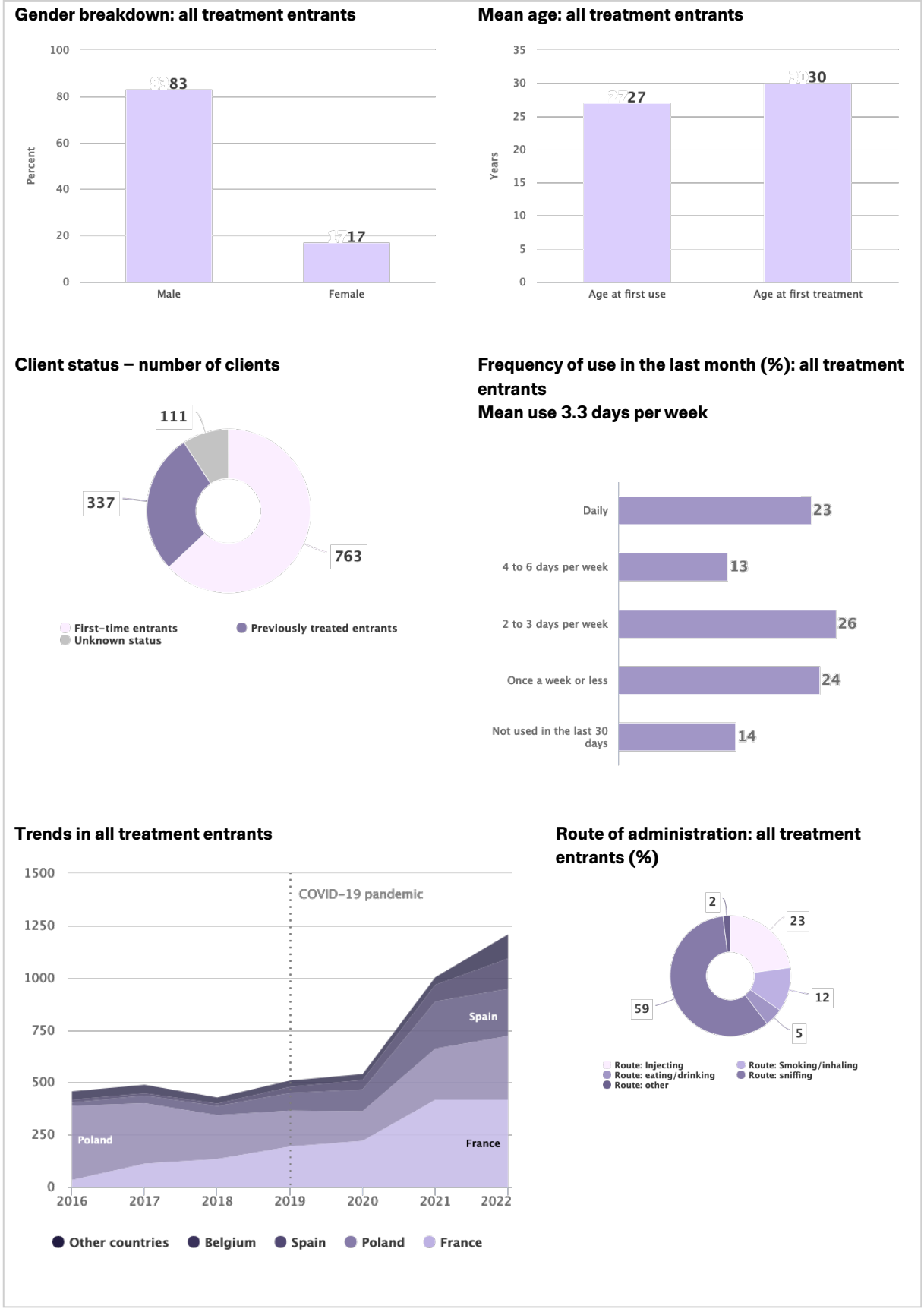
Route of administration: all treatment entrants (%)



Data for client characteristics are for all treatment entrants with methamphetamine as the primary drug – 2022 or the most recent year available. Data for first-time entrants are for 2022 or the most recent year available: Czechia 2020, Spain, France, Finland, Romania 2021; Netherlands, 2015.

- Available data from countries that report treatment entrants for synthetic cathinones show an increase from 457 clients in 2016 to 1 207 clients in 2022, 90 % of whom are accounted for by France (416 clients, 2021 data), Poland (306 clients), Spain (225 clients, 2021 data) and Belgium (145 clients) (Figure 4.6). The share of synthetic cathinones entrants among all treatment entrants with stimulants other than cocaine as their primary drug increased to 8 % in 2022, from 4 % in 2016.

Figure 4.6. Synthetic cathinone users entering treatment in Europe



Data on entrants into treatment are for 2022 or the most recent year available. Trends in treatment entrants are based on 22 countries. Only countries with data for at least 5 of the 6 years are included in the trends graph. Missing data were imputed with values from the previous year for Spain and France (2022) and Germany (2019). Because of disruptions to services due to COVID-19, data for 2020, 2021 and 2022 should be interpreted with caution

Injecting use of synthetic stimulants

- Injecting is reported as a common route of administration by those entering treatment with amphetamine as their primary drug in a number of countries, including Finland (78 %), Estonia (71 %) Sweden (65 %) and Latvia (42 %).
- About 6 % of amphetamine clients entering drug treatment in Europe in 2022, or the most recent year available, reported injecting as the main route of administration, while 68 % reported sniffing, 9 % reported smoking and 17 % reported oral consumption of the drug. Four countries, Belgium, Germany, Poland and Spain, accounted for 65 % of the treatment entrants.
- Analysis of 1 849 used syringes by the ESCAPE network of 12 cities in 11 EU Member States between 2021 and 2022 found that overall, a third of syringes contained residues of two or more drug categories. The most frequent combination was a stimulant and an opioid. Synthetic cathinones were found in used syringes collected in Paris (89 %), Budapest (34 %), Helsinki (23 %) and Tallinn (19 %). The synthetic cathinones 3-MMC and 3-CMC were detected in Paris, Dublin (3-MMC only) and Prague (3-CMC only).

Harms related to use of synthetic stimulants

- In 2022, amphetamine was the fifth most common substance reported by 20 Euro-DEN Plus hospitals located in 15 EU countries and Norway. It was present in 9 % (566) of acute drug-toxicity presentations.
- Methamphetamine was the twelfth most common substance reported by 18 Euro-DEN Plus hospitals in 2022, present in 2.1 % (135) of acute drug-toxicity presentations (2.6 % in 2021).
- In 2022, the synthetic cathinone 3-MMC was involved in 38 acute drug-toxicity presentations in 6 Euro-DEN Plus hospitals (68 in 2021 in 5 hospitals).
- Of the 20 countries with post-mortem data available for 2022, 18 reported 1 030 drug-induced deaths where amphetamines were involved (1 073 in 2021 in 23 countries) – post-mortem findings group amphetamine and methamphetamine together.
- In the 6 EU countries reporting drug-induced deaths involving synthetic cathinones for both years, the number of cases increased from 18 in 2021 to 27 in 2022.

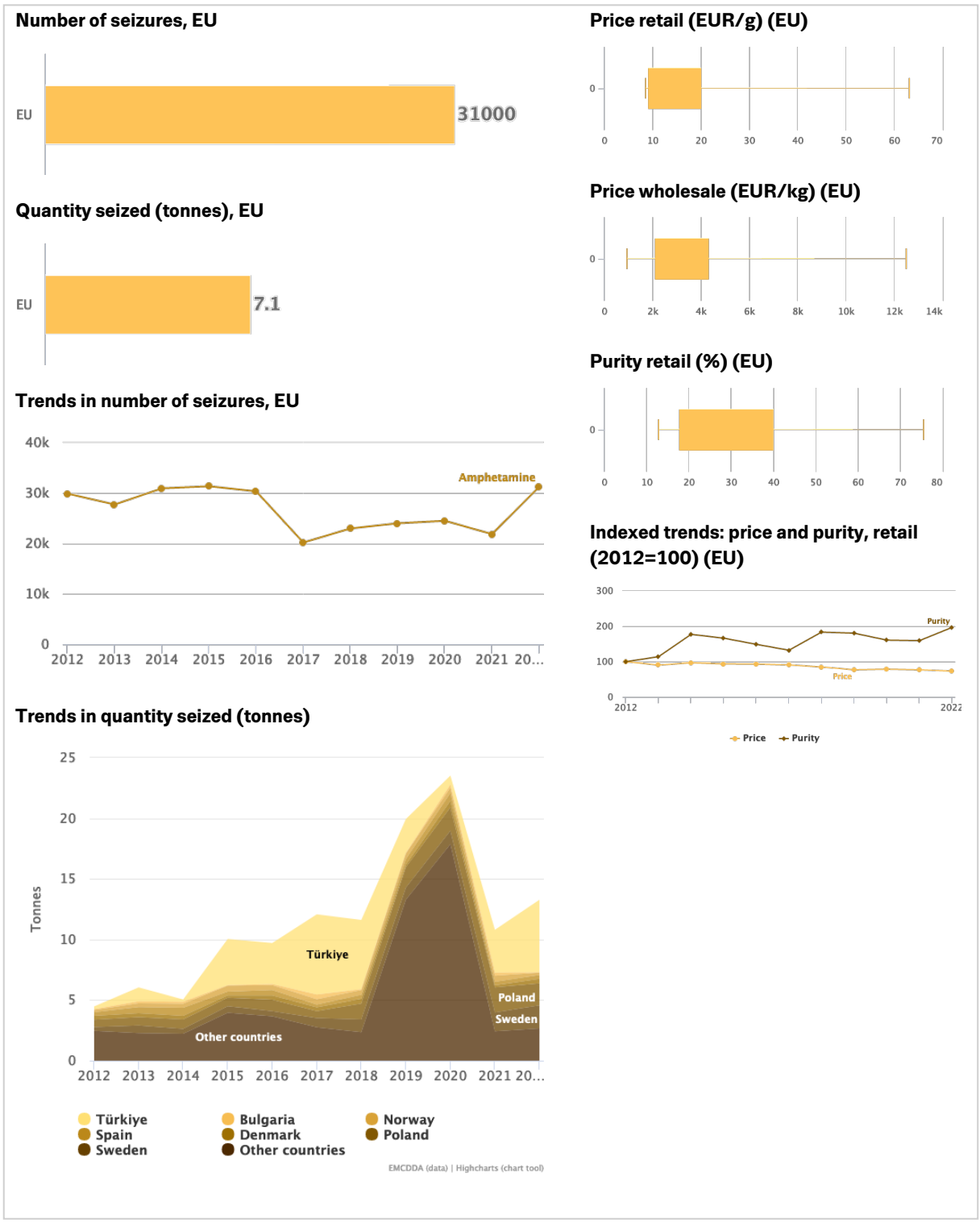
Synthetic stimulants market data

- In 2022, EU Member States reported 31 000 seizures of amphetamine, amounting to 7.1 tonnes (7 tonnes in 2021) (Figure 4.7). Türkiye seized almost 6 tonnes (3.5 tonnes in 2021), including almost 24 million tablets described as ‘captagon’ (13.8 million in 2021). The average purity of amphetamine at retail level has increased markedly over the past decade (+97 %), while the average price has decreased (–27 %).

Figure 4.7. Amphetamine market in Europe

Geographical coverage (selected graphs)

EU | EU+2



EU+2 refers to EU Member States, Norway and Türkiye.

Price and purity: mean national values – minimum, maximum and interquartile range. Countries vary by indicator.

- EU Member States reported 9 900 seizures of methamphetamine amounting to 1.4 tonnes in 2022 (1.2 tonnes in 2021) (Figure 4.8). Türkiye reported 77 700 seizures of methamphetamine in 2022, amounting to 15.8 tonnes and 383 litres (5.5 tonnes in 2021). The large increase in the quantities seized by Türkiye may indicate increased methamphetamine trafficking along established heroin trafficking routes to Europe from Afghanistan via Türkiye. Over the past decade, the average purity of methamphetamine has risen slightly, while the price has remained relatively stable, although declining in recent years.

Figure 4.8. Methamphetamine market in Europe

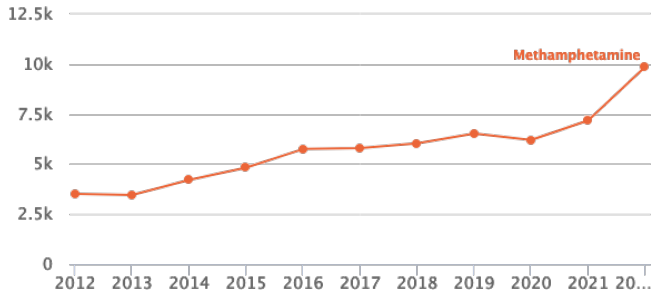
Geographical coverage (selected graphs)

EU EU+2

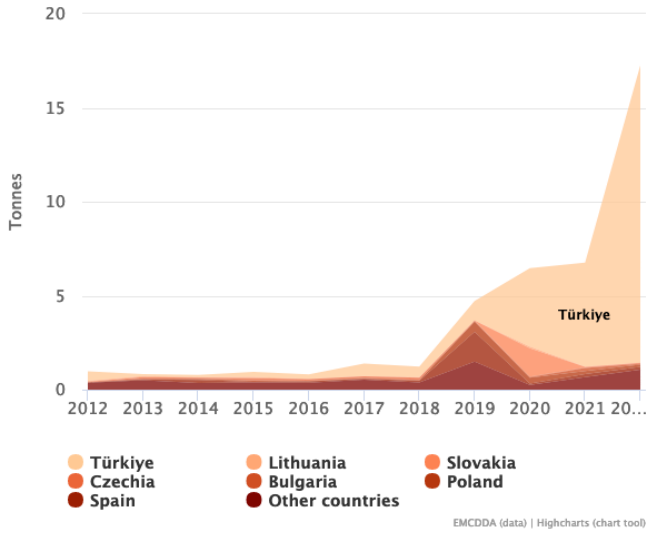
Number of seizures, EU

Quantity seized (tonnes), EU

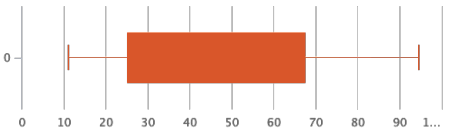
Trends in number of seizures, EU



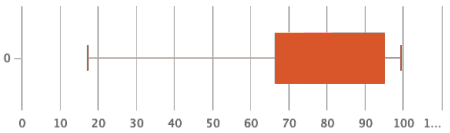
Trends in quantity seized (tonnes)



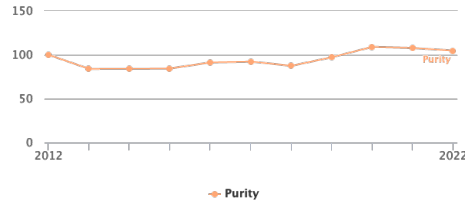
Price retail (EUR/g) (EU)



Purity retail (%) (EU)



Indexed trends: purity, retail (2012=100) (EU)



EU+2 refers to EU Member States, Norway and Türkiye.

Price and purity: mean national values – minimum, maximum and interquartile range. Countries vary by indicator.

- About 87 % of the total quantity of new psychoactive substances reported as seized by EU Member States in 2022 in all forms, or 26.5 tonnes (4.5 tonnes in 2021), were synthetic cathinones. The main substances were 3-CMC (63 %), 3-MMC (9 %), 2-MMC (5 %) and N-ethylnorpentedrone (3 %). The very large quantities of cathinones found in some individual seizures, mostly trafficked from India, suggest that these substances have the potential to play a bigger role in Europe's stimulant market.

- In 2022, 7 EU Member States reported dismantling 108 amphetamine laboratories (119 in 2021): the Netherlands (39), Belgium (35), Poland (22), Spain (5), Sweden (5), Croatia (1) and Romania (1).

- Nine EU Member States reported dismantling 242 methamphetamine laboratories in 2022 (224 in 2021): Czechia (202), the Netherlands (14), Bulgaria (12), Belgium (6), Poland (4), Greece (1), Spain (1), Slovenia (1) and Sweden (1).

- Seizures of the precursors required to synthesise methamphetamine via the 'ephedrine method' (ephedrine and pseudoephedrine) amounting to 352 kilograms (both powders and tablets) were reported by 15 EU Member States in 2022 (723 kilograms by 15 EU Member States in 2021). Methamphetamine can also be produced using BMK as a starting material, which may also be used to produce amphetamine. In 2022, 1 329 litres of BMK (close to 5 100 litres in 2021) and 26.6 tonnes of substances that can be used to produce BMK were seized in Europe. These seizures included 25.6 tonnes of glycidic derivatives of BMK (736 kilograms in 2021), 379 kilograms of MAPA (close to 9.7 tonnes in 2021) and over 500 kilograms of APAA and APAAN (50 kilograms of APAA in 2021). Two new alternative chemicals that can also be used to make BMK, DEPAPD and DEPAPD enolate, were reported in Europe (and worldwide) for the first time in 2022 and seized in relatively small amounts. In addition, seizures of tartaric acid, a chemical that allows the retrieval of the most potent and sought-after form of methamphetamine (*d*-methamphetamine, used for 'crystal meth') from mixtures produced by BMK methods, were reported by Belgium, Germany and the Netherlands, amounting to 2.6 tonnes in 2022 (4.5 tonnes in 2021). This suggests that large-scale production of *d*-methamphetamine continues to take place in Europe.

- In 2022, 29 synthetic cathinone production sites, some of which were large-scale, were dismantled in the European Union (16 in 2021): 23 in Poland (12 in 2021) and 6 in the Netherlands (2 in 2021).

- Seizures of synthetic cathinone precursors amounted to 558 kilograms in 2022 (555 in 2021), most of which were seized in Poland (355 kilograms, 311 kilograms in 2021). One shipment of 1 tonne of the 4-CMC precursor 4-chloropropiophenone was stopped in France, originating from China and headed for Poland.

- While not representative of national drug markets, over 66 % of amphetamine samples screened by European drug checking services in the first half of 2023 contained a psychoactive adulterant. Caffeine was the psychoactive adulterant most commonly found in amphetamine samples analysed by drug checking services. Other stimulants and hallucinogens were also commonly found as adulterants.

- In 2022 and 2023, reports to the EU Early Warning System suggested the possibility of synthetic cathinones increasingly being mis-sold as MDMA or used to adulterate MDMA. Although the extent of this problem is unknown, drug checking services in 11 EU Member States have detected synthetic cathinones in MDMA products, albeit infrequently. The affected products included ecstasy tablets, crystals and powders, typically containing 4-CMC (clephedrone), 3-MMC, 3-CMC, 4-MMC (mephedrone) and dipentylone.

Detailed information on synthetic stimulants can be found in the joint EMCDDA-Europol EU Drug Markets: In-depth analysis and the EMCDDA's Stimulants: health and social responses.

Source data

MDMA – the current situation in Europe (European Drug Report 2024)

MDMA is a synthetic drug chemically related to the amphetamines, but with somewhat different effects. In Europe, MDMA use has generally been associated with episodic patterns of consumption in the context of nightlife and entertainment settings. On this page, you can find the latest analysis of the drug situation for MDMA in Europe, including prevalence of use, seizures, price and purity and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: 11 June 2024

Signs of increasing MDMA production in Europe; strong products still creating health risks

MDMA is a synthetic drug chemically related to the amphetamines, but with somewhat different effects. In Europe, MDMA use has generally been associated with episodic patterns of consumption in the context of nightlife and entertainment settings. Survey data indicate that MDMA is the second most commonly used illicit stimulant in Europe, after cocaine. The use of the drug appeared to decline temporarily during the early phases of the COVID-19 pandemic but bounced back when social distancing measures were lifted. The most recently available data would suggest that the current situation is relatively stable in terms of annual consumption, although the national situation is relatively heterogeneous and there are some possible signs of a slight increase in use in some countries. Almost two thirds of the European cities reporting wastewater analysis found an increase in MDMA residues between 2022 and 2023.

European production for a global MDMA market

MDMA production is known to take place within Europe, both for domestic consumption and for export to non-EU markets. Europe is recognised as an important global supply source for this substance, with most MDMA production thought to be concentrated in or around the Netherlands. Monitoring trends in illicit drug production is always challenging but there are now some possible indications to suggest increasing levels of MDMA production within Europe, following a recent period in which production volumes are thought to have declined. The number of MDMA laboratories dismantled in the European Union rose to 48 in 2022 (25 in 2021), while seizures of the internationally controlled precursor chemical PMK (piperonyl methyl ketone) and its glycidic derivatives for manufacturing MDMA increased markedly in 2022, to 19.9 tonnes (2.6 tonnes in 2021). Alternative chemicals were also seized in notable quantities in 2022. These reports of increased seizures of MDMA precursors and alternative chemicals, combined with information about MDMA exports, may reflect an increase in the production of the drug for global markets and a general rebound following a decline related to the COVID-19 pandemic. However, not all recent data suggest this. In 2022, the quantity of MDMA tablets seized in the European Union declined by nearly a third, while the quantity of MDMA powder seized declined slightly. The MDMA content of tablets

and the purity of powders continued to decline in 2022 from a pre-pandemic peak in 2019, with declines in the MDMA content of ecstasy tablets observed in recent years in some important source countries, most notably the Netherlands.

MDMA product strength remains a concern

Despite indications that the MDMA content of ecstasy tablets is decreasing, with a typical MDMA content of 140 to 157 milligrams, the overall strength of tablets available on the retail market remains high by historical standards. The availability of higher-strength products potentially increases the risk of adverse health outcomes associated with the consumption of this substance.

MDMA tablets are typically available in many designs, often colourful replications of brand logos. Alongside powders and tablets, more-novel MDMA products, such as edibles (candies, gelatines and lollipops), have been reported to have become available in recent years in some countries, for example, Belgium and Czechia. As with cannabis edibles, these products pose difficulties in regulating intended dosage and increase the risk of inadvertent consumption, especially a concern if they are consumed by minors.

The use of MDMA is rarely cited as a reason for entering drug treatment in Europe, but acute poisonings and deaths are sometimes associated with the consumption of this substance. Some countries, including Germany, reported small numbers of drug-induced deaths involving MDMA in 2022, while Türkiye remains the only country reporting larger numbers. The reasons for this are not clear. The use of MDMA therefore continues to represent an important issue for prevention and harm reduction messaging and interventions. Measures typically undertaken in this area include risk communications about high-strength products and safer use guidelines, as well as providing drop-in services and, in some countries, pill testing services, where consumers can have the composition of their substances analysed.

While it is difficult to generalise due to limitations in national and European coverage, the available information from drug checking services suggests that MDMA products are generally less subject to adulteration than other illicit drugs they screened in 2022. This does occur, however, as illustrated by the occasional detection of synthetic cathinones in MDMA tablets. Such drug mixtures, which have been reported to the EU Early Warning System as being mis-sold as MDMA to consumers, may also increase the risk to consumers of experiencing unexpected adverse effects and potential harm.

Additional detailed information about MDMA can be found in the joint EMCDDA-Europol EU Drug Markets: In-depth analysis and the EMCDDA's Stimulants: health and social responses.

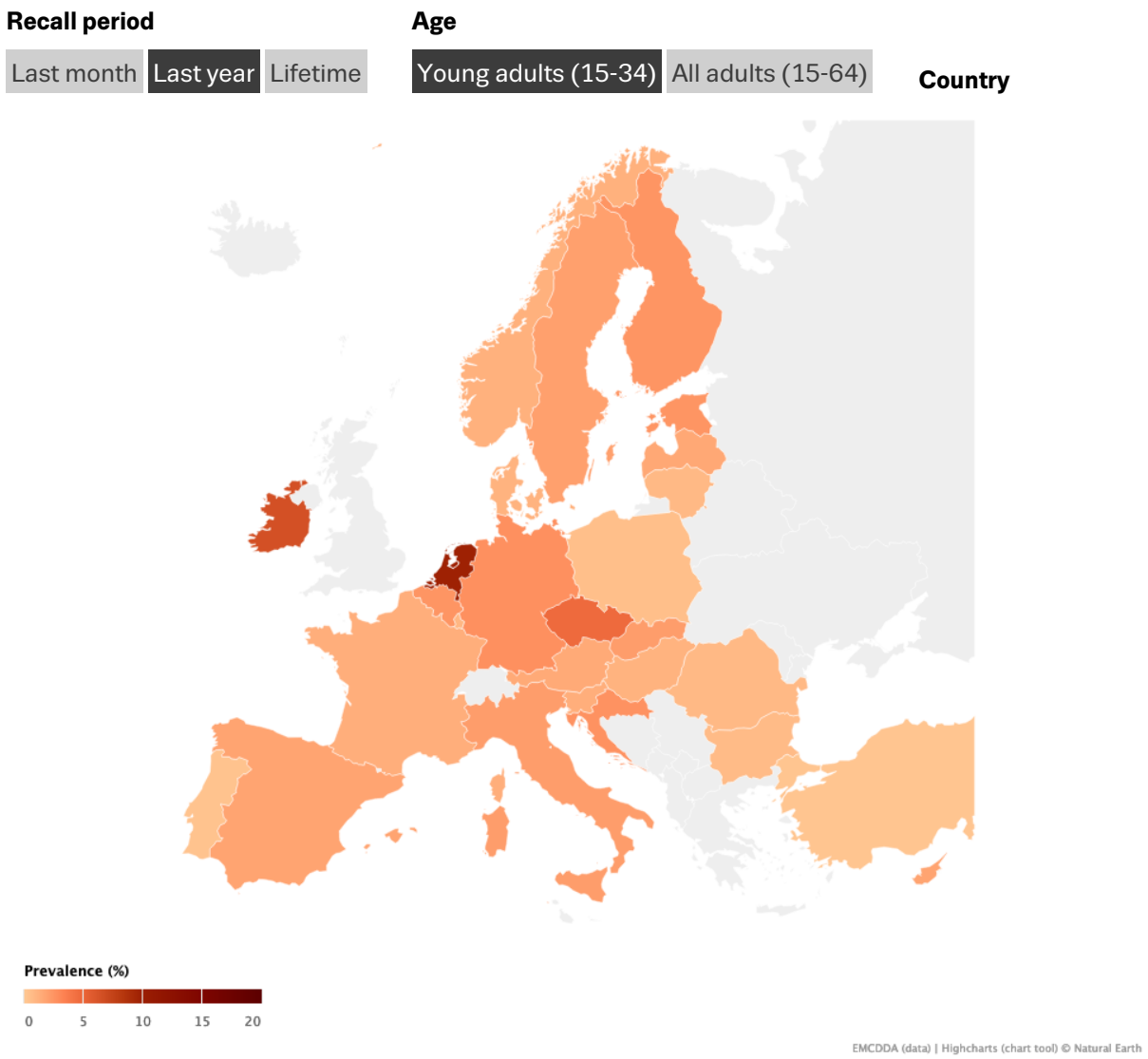
Key data and trends

Prevalence of MDMA use

- Surveys conducted by 26 EU countries between 2015 and 2023 suggest that 2.2 million young adults (aged 15 to 34) used MDMA in the last year (2.2 % of this age group), with 2.3 % (1.1 million) of those aged 15 to 24 years estimated to have used MDMA in the last year (for survey data, see Figure 5.1).
- Of the 13 European countries that undertook surveys since 2021 and provided confidence intervals, 4 reported higher estimates than their previous comparable survey and 9 reported stable estimates.

Figure 5.1. Prevalence of MDMA ('ecstasy') use in Europe

This data explorer enables you to view our data on the prevalence of MDMA use by recall period and age range. You can access data by country by clicking on the map or selecting a country from the dropdown menu.



Notes

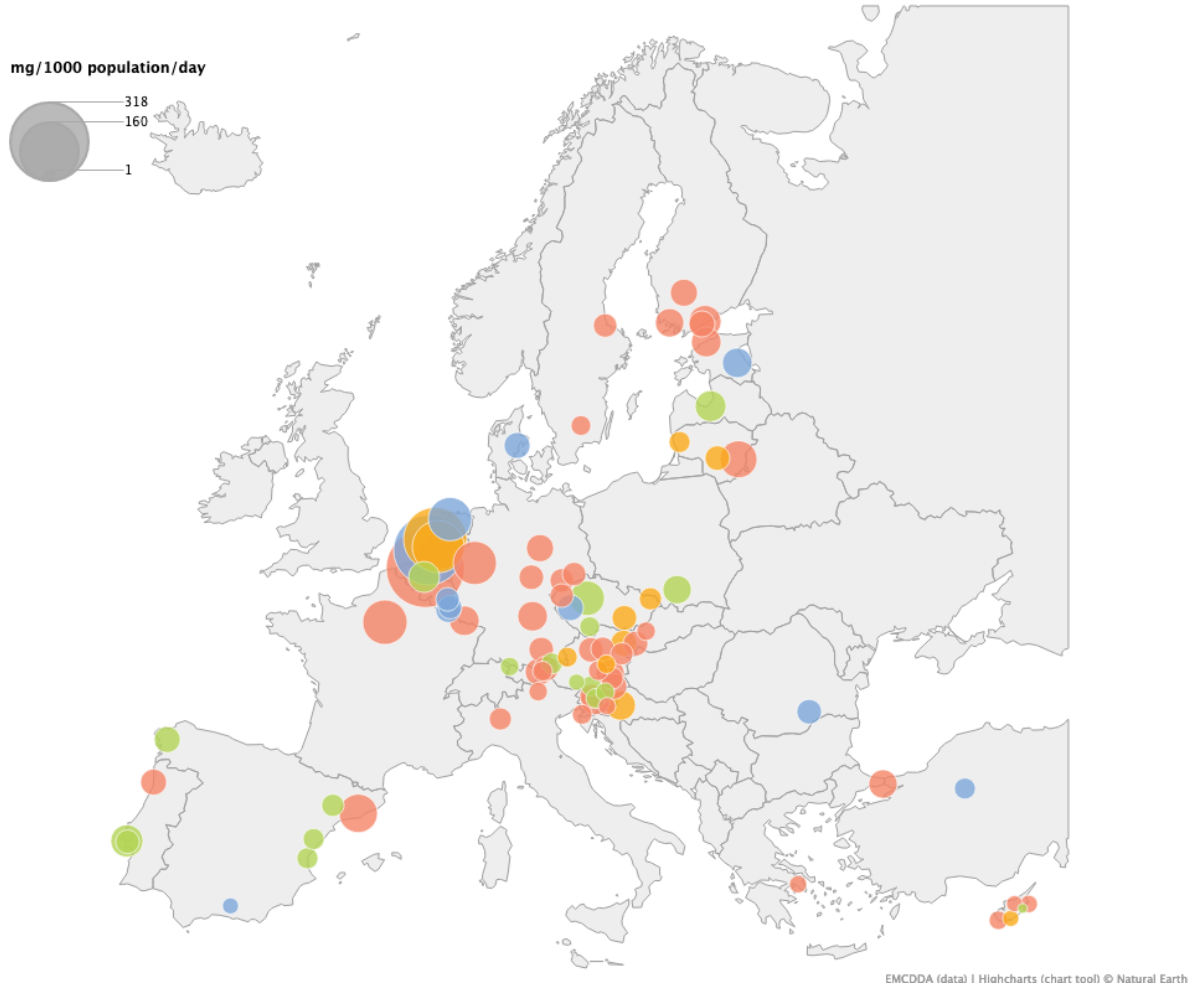
Prevalence data presented here are based on general population surveys submitted to the EMCDDA by national focal points. For the latest data and detailed methodological information please see the Statistical Bulletin 2024: Prevalence of drug use.

Graphics showing the most recent data for a country are based on studies carried out between 2013 and 2023.

Prevalence estimates for the general population: age ranges are 18-64 and 18-34 for Germany, Greece, France, Italy and Hungary; 16-64 and 16-34 for Denmark, Estonia and Norway; 18-65 for Malta; 17-34 for Sweden.

- Of the 69 cities that have data on MDMA residues in municipal wastewater for 2022 and 2023, 42 reported an increase, 11 a stable situation and 16 a decrease (Figure 5.2). All of the 10 cities with data for both years had higher MDMA mass loads in 2023 than in 2011.

Figure 5.2. MDMA residues detected in wastewater in selected European cities: most recent data



Red = increase | Green = decrease | Yellow = stable, with respect to previous value | Blue = no previous data

Mean daily amounts of MDMA in milligrams per 1000 population. Sampling was carried out over a week in March and May 2023. Taking into account statistical errors, values that differ less than 10 % from the previous value are considered stable in this figure. Source: Sewage Analysis Core Group Europe (SCORE) For the complete data set and analysis, see Wastewater analysis and drugs – a European multi-city study.

Deaths and hospital presentations related to MDMA

- MDMA is reported in small numbers of drug-induced deaths, and in most countries less than 1 in 20 cases involve the drug. For example, in Germany, MDMA was mentioned in 1 in 25 fatal overdoses in 2022, with most of the cases involving multiple drugs. Türkiye is an outlier, with MDMA identified in almost 1 in 5 drug-induced deaths (46 out of 246 in 2022). The majority of drug-induced deaths in Türkiye are among younger people, predominantly males, and are more likely to involve stimulant drugs rather than opioids, compared with the European Union and Norway.

- MDMA was the sixth most frequently reported drug by Euro-DEN Plus hospitals in 2022. The drug was reported by 19 sentinel centres in 2022 and was involved in an estimated 4.7 % of presentations (median) across the 23 centres that reported data for that year. Alcohol was co-used in most reported cases. The drugs most commonly found in association with MDMA were cocaine and cannabis, and in some centres also GHB/GBL, amphetamine and synthetic cathinones.
- In 2022, the share of acute drug-toxicity presentations involving MDMA increased as compared to other substances and the previous year (or MDMA was reported for the first time) in 10 of the Euro-DEN hospitals. In 5 hospitals, this share decreased and in 4 it remained stable.
- Only in the sentinel hospitals in Belgium, France and the Netherlands, was MDMA involved in more than 1 in 10 presentations.
- In half of the Euro-DEN hospitals in 2022, at least 3 out of 4 presentations with MDMA were among males, at least 4 in 10 were among young people aged less than 25 years, and MDMA was the sole drug reported for less than 3 % of the MDMA-related presentations. Alcohol was co-ingested in at least 2 out of 3 cases, and cocaine and amphetamine were the drugs most commonly reported in presentations with MDMA involved.

MDMA market data

- In 2022, EU Member States reported 14 500 seizures of MDMA (10 000 in 2021), amounting to 1.2 tonnes of MDMA powder (1.6 tonnes in 2021) and 2.5 million MDMA tablets (3.5 million in 2021). Türkiye seized 5 million MDMA tablets in 2022 (7.6 million in 2021) (Figure 5.3).
- In 2022, 6 EU Member States reported dismantling 48 MDMA laboratories (25 in 2021). Belgium reported 27 MDMA laboratories in 2022 (8 in 2021), with the Netherlands reporting 13, Spain reporting 5 and France, Poland and Sweden reporting 1 each.
- Seizures of MDMA precursors increased to 20.5 tonnes in 2022 (7.1 tonnes in 2021). Seizures of the MDMA precursor PMK and its glycidic derivatives of 19.9 tonnes were reported in 2022 (2.6 tonnes in 2021). Seizures of alternative chemicals for the production of MDMA were also reported: MAMDPA was seized in smaller amounts in 2022 (37 kilograms, compared with 4.5 tonnes in 2021).
- While high by historical standards, the average MDMA content in tablets continued to decline in 2022 from a peak in 2019; the purity of powders was stable compared with 2021. MDMA tablets seized in Europe contained on average between 140 and 157 milligrams of MDMA (161-173 milligrams in 2021), and the average purity of seized MDMA powders ranged from 46 % to 100 % (42-100 % in 2021), with half the countries reporting values in the range 66-87 % (69-85 % in 2021). The Netherlands, however, reported a lower average MDMA content of ecstasy tablets (130 milligrams per tablet).

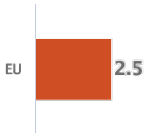
Figure 5.3. MDMA market in Europe

Geographical coverage (selected graphs)

EU EU+2

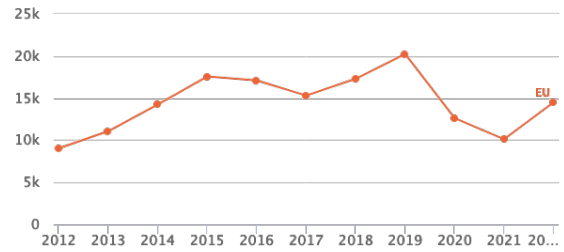
Number of seizures, EU

Quantity seized (million tablets), EU

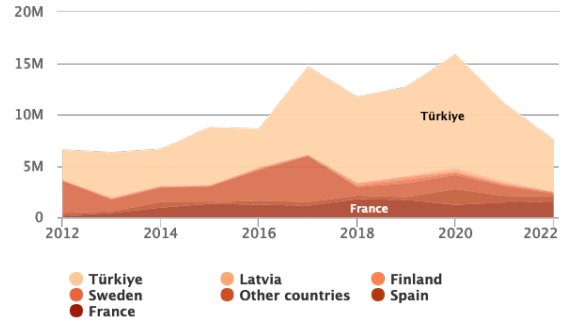


Quantity seized (tonnes), EU

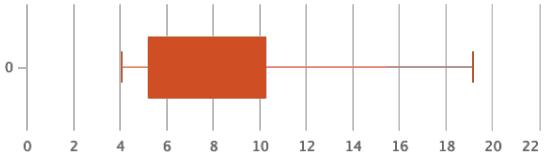
Trends in the number of MDMA seizures (all forms), EU



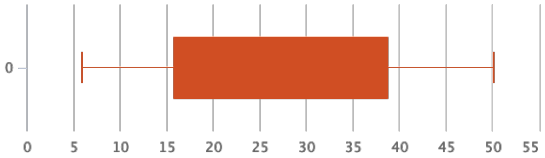
Trends in the quantity of MDMA seized Tablets



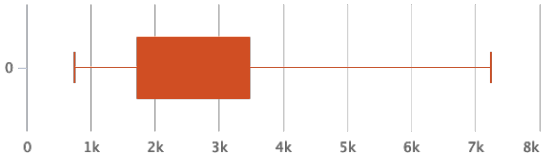
Price retail (EUR/tablet) (EU)



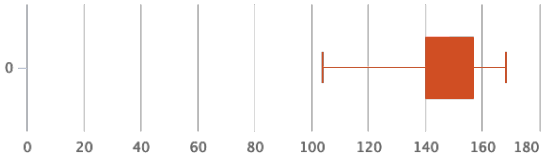
Price retail (EUR/g powder) (EU)



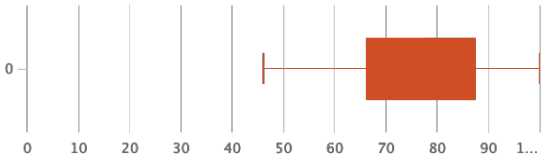
Price wholesale (EUR/1000 tablets) (EU)



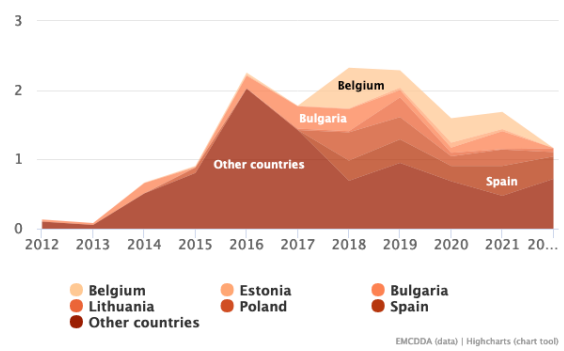
MDMA content retail (mg/tablet) (EU)



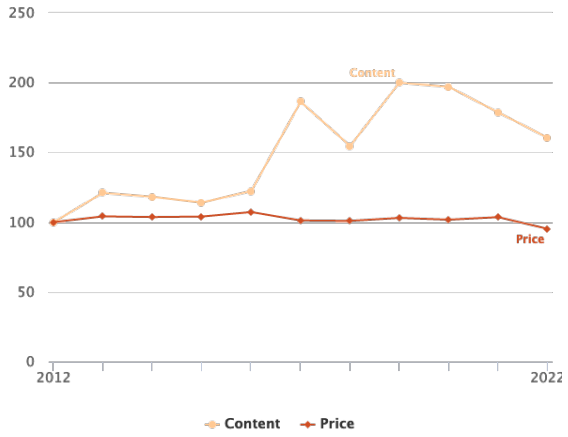
Purity powder retail (% MDMA) (EU)



Trends in the quantity of MDMA seized
Powder/crystal (tonnes)



Indexed trends: price and MDMA content, retail (2011=100)



EU+2 refers to EU Member States, Norway and Türkiye.

Price and purity: mean national values – minimum, maximum and interquartile range. Countries vary by indicator.

- In the first half of 2023, the average MDMA tablet tested by drug checking services in 18 cities in 10 EU Member States contained 134 milligrams of the drug (139 milligrams in the same period of 2022). The average purity of MDMA powder reported was 80 % (78 % in first half of 2022) (Figure 5.4).
- In 2023, a total of 1 541 samples sold as MDMA were tested for psychoactive adulterants by 12 drug checking services in 9 EU Member States. MDMA was the sole psychoactive substance in 1 325 samples, while the remaining 216 samples contained at least one other psychoactive substance. Synthetic cathinones were the most frequently detected of these, representing 44 % of all detected psychoactive adulterants in samples sold as MDMA (Figure 5.5). Synthetic cathinones were reported by services in 9 Member States (compared with 4 in 2022), with all 12 services reporting the detection of these substances in at least one MDMA sample. The synthetic cathinones most frequently detected in MDMA products in 2023 were 3-CMC, 4-CMC, 3-FEA, 3-MMC and dipentylone.

Figure 5.4a. Purity of MDMA powder samples submitted to drug checking services in 2022 and 2023 (percent)

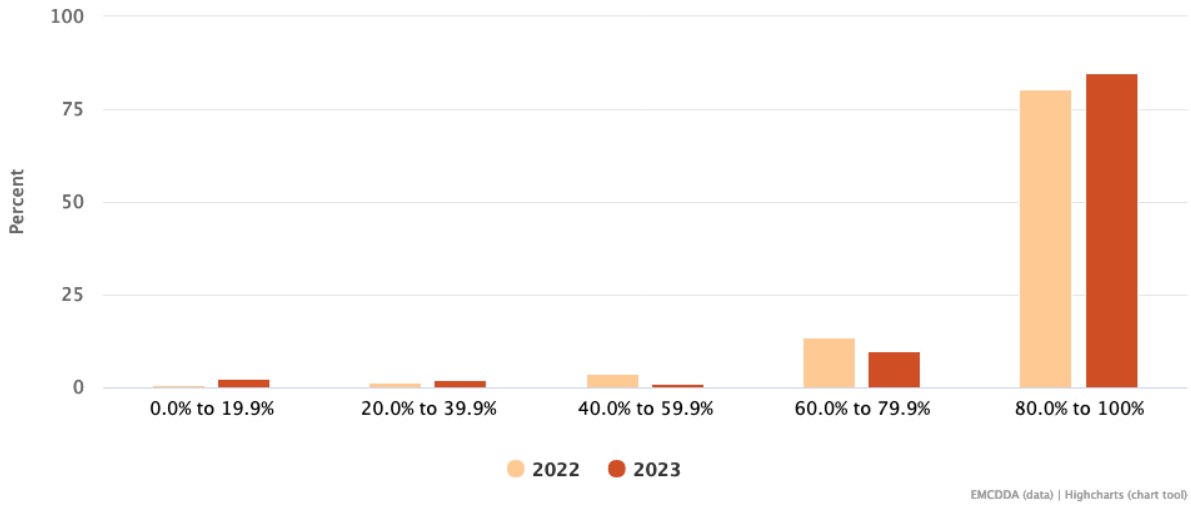
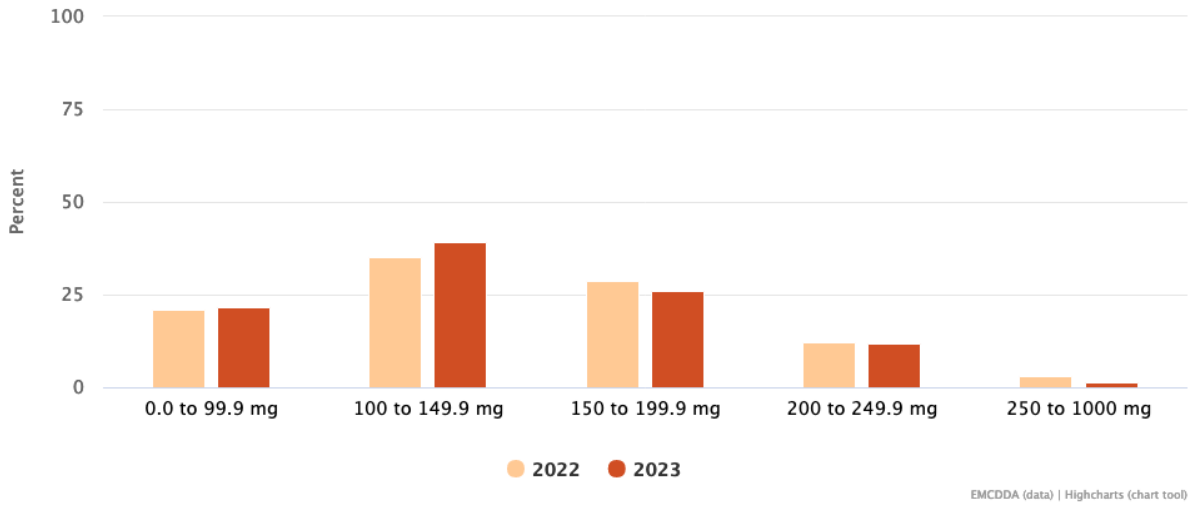
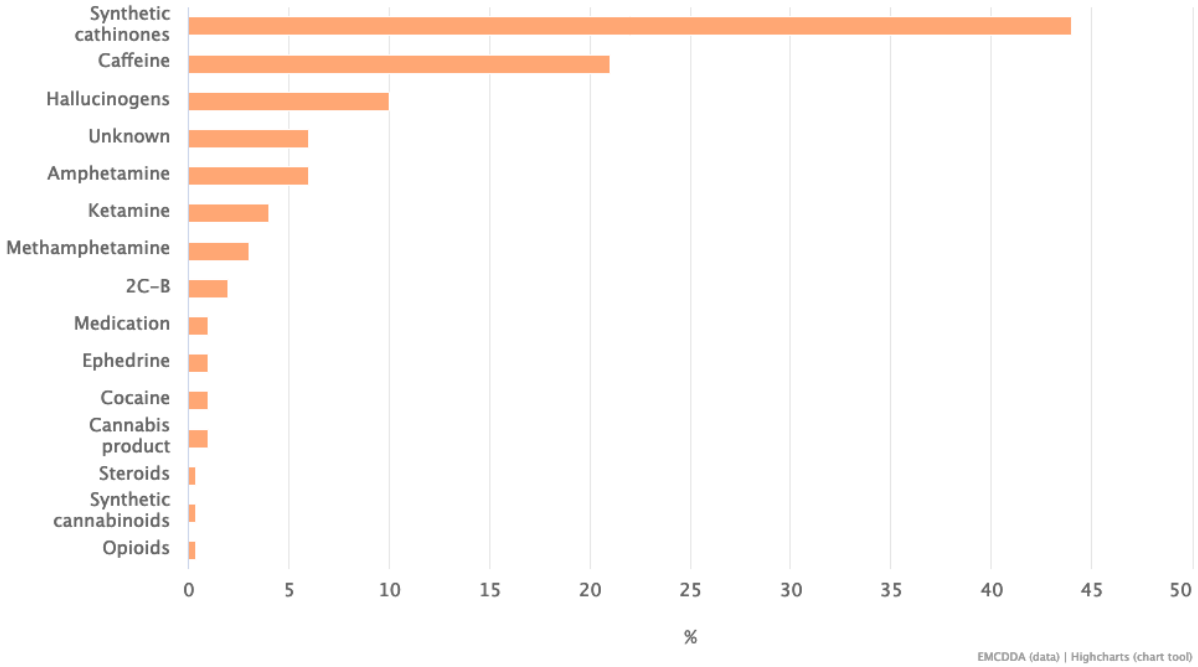


Figure 5.4b. Content of MDMA tablet samples submitted to drug checking services in 2022 and 2023 (percent)



Source: Trans-European Drug Information (TEDI). Data from drug checking services in 18 cities (10 EU countries), collected between January and June of 2022 and 2023. Only cities that submitted 10 or more samples were included.

Figure 5.5. Psychoactive adulterants detected in samples sold as MDMA to users and tested in 12 European drug checking services in 2023



Total number of detected adulterants was 226.

Source data

Heroin and other opioids – the current situation in Europe (European Drug Report 2024)

Heroin remains Europe's most commonly used illicit opioid and is responsible for a large share of the health burden attributed to illicit drug consumption. Europe's opioid problem, however, continues to evolve in ways that are likely to have important implications for how we address issues in this area. On this page, you can find the latest analysis of the drug situation for heroin and other opioids in Europe, including prevalence of use, treatment demand, seizures, price and purity, harms and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

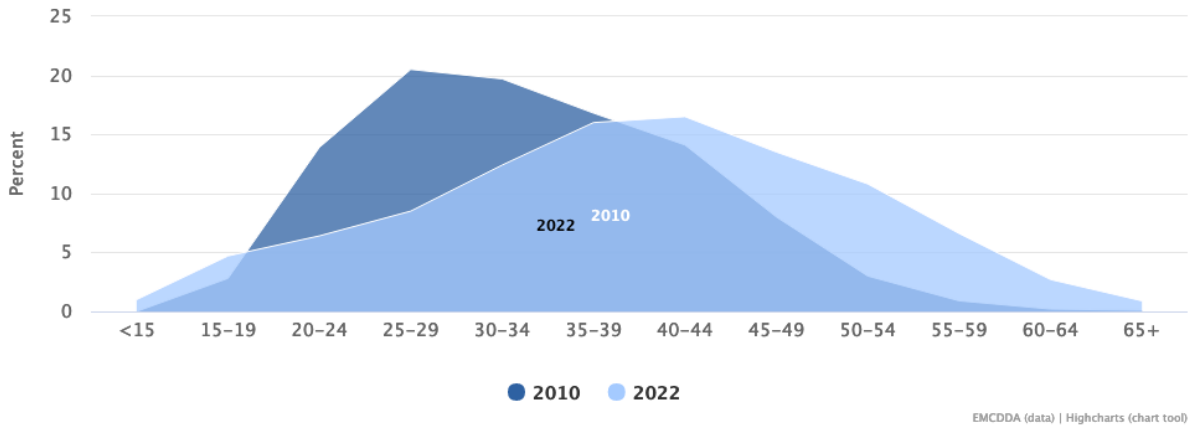
Last update: *11 June 2024*

Being prepared for possible changes in opioid availability and use

Heroin remains Europe's most commonly used illicit opioid and is responsible for a large share of the health burden attributed to illicit drug consumption. Europe's opioid problem, however, continues to evolve in ways that are likely to have important implications for how we address issues in this area.

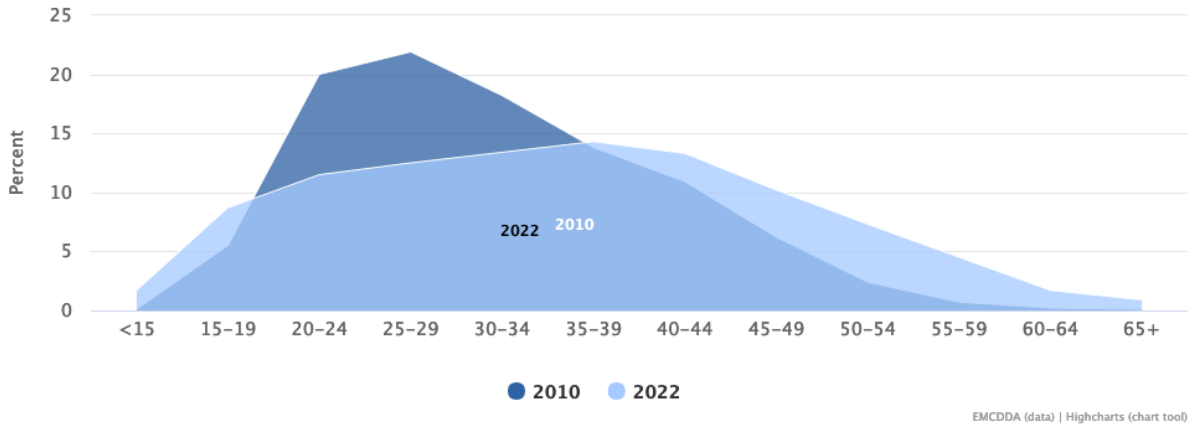
Data on entry to drug treatment and other indicators show that Europe's cohort of heroin users is ageing, with little current evidence to suggest significant new recruitment into this behaviour. Between 2010 and 2022, the mean age of all clients entering specialist drug treatment for heroin use and for those doing so for the first time increased, as did the proportion of older clients (see Figure 6.1 and Figure 6.2). Changes in the characteristics of those seeking help increasingly mean that services must respond to the needs of clients presenting with an increasingly complex range of health and social support needs. As well as directly responding to drug-related problems, these include the need to provide care and support to prevent or treat age-related illness and a corresponding requirement to establish effective multi-agency partnerships and referral pathways with general health and social support services.

Figure 6.1. Age distribution of all clients entering treatment with heroin as their primary drug, 2010 and 2022



Based on data from 19 EU countries and Türkiye.

Figure 6.2. Age distribution of never previously treated clients entering treatment with heroin as their primary drug, 2010 and 2022



Based on data from 20 EU countries and Türkiye.

While heroin continues to be involved in many opioid-related deaths (see Drug-induced deaths – the current situation in Europe), the number of countries in which this is the case has decreased; at the same time, other opioids have become more prominent. In addition, although heroin remained the most commonly reported opioid in acute drug toxicity presentations at Euro-DEN sentinel hospitals in 2022, in some cities other opioids – often those used for opioid agonist treatment, but also in some locations, medicines containing opioids used for pain relief or potent new synthetic opioids – have now overtaken heroin as a driver of presentations. While this data set is not nationally representative, it provides a window on how opioid problems may be changing at the local level. This data also needs to be interpreted with care, as some changes in this area appear to reflect the positive impact of long-term policies to reduce the demand for heroin, discourage new initiation and provide adequate and effective treatment responses. Nonetheless, greater attention may now be

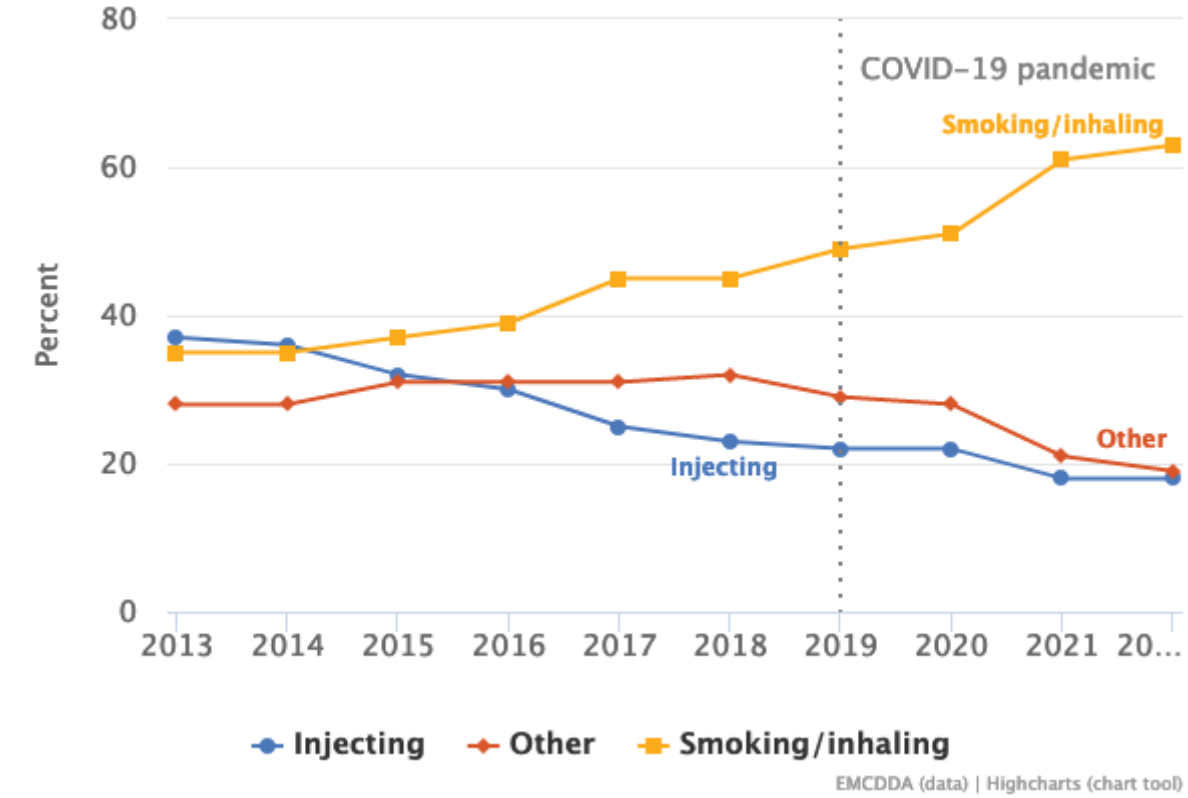
merited on measures to reduce the risk that opioids intended for therapeutic use may be diverted onto the illicit market. An important caveat here is that the pursuit of this objective should not create additional barriers to the provision of effective treatment for those with opioid problems. Moreover, it must be recognised that access to opioid agonist treatment remains inadequate in many countries.

Changes in the route of administration of heroin have also been observed. Among presentations to treatment services, injecting among both first-time and previously treated heroin clients has decreased over the last decade (see Figure 6.3 and Injecting drug use in Europe – the current situation). This change could reflect the influence of various factors, including the impact of harm reduction and prevention efforts and changes in drug availability that may affect patterns of use. Only 18 % of new clients entering treatment for heroin-related problems now report injection as their main route of administration. This development is important, as injecting drug use is particularly associated with a range of negative health outcomes. Less positively, as discussed elsewhere in this report, overall, people who inject drugs appear to be injecting a wider range of substances, with stimulants in particular being more commonly reported.

Figure 6.3. Trends in the main route of administration of clients entering treatment with heroin as primary drug, by treatment status

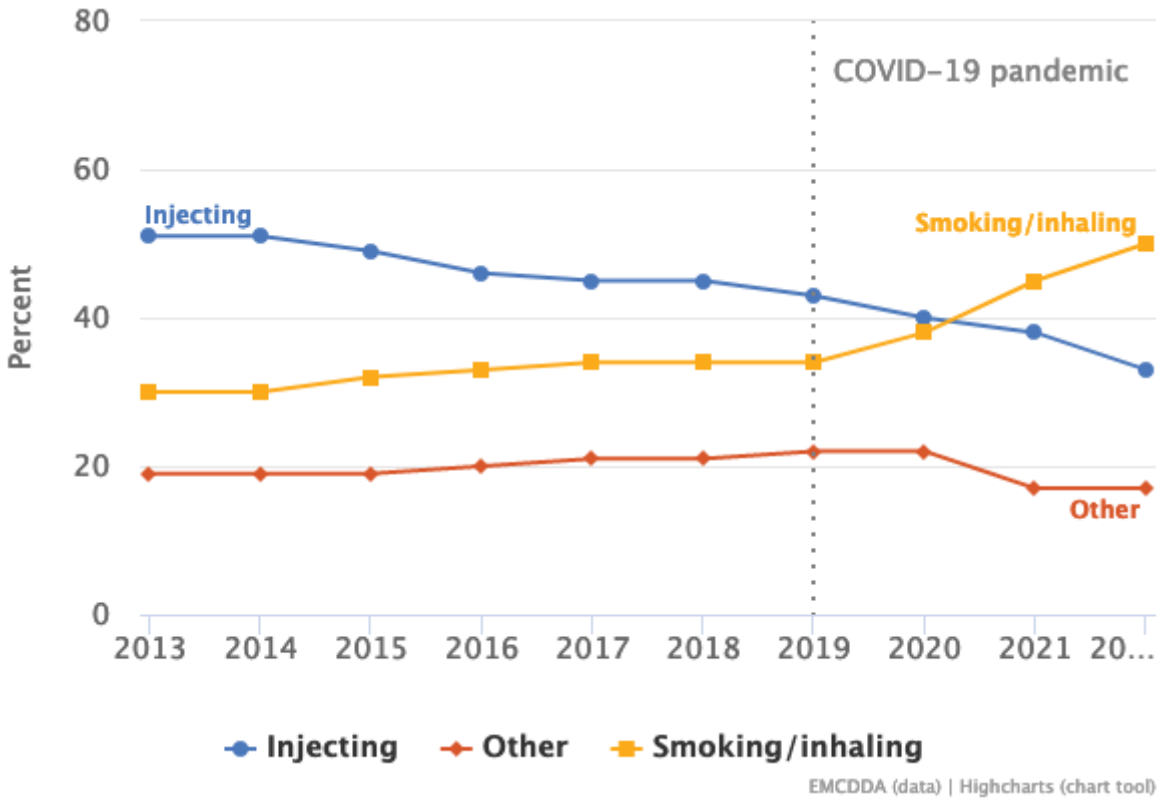
Treatment status

First-time



Treatment status

Previously treated



'Other routes' includes eat/drink, sniff and unspecified main routes of administration. Due to COVID-19 restrictions within specialist drug treatment services, data for 2020, 2021 and 2022 should be interpreted with caution. Trends are based on the 19 EU Member States providing data over the period; only those with data for at least 9 of the 10 years are included. Missing values are interpolated from adjacent years. Dashed lines refer to the COVID-19 pandemic period.

Possible signs of change in Europe's heroin market

The United Nations Office on Drugs and Crime has estimated a 95 % drop in opium cultivation in 2023 in Afghanistan following the Taliban's opium ban. While it is too early to determine the full impact of this development on European drug markets, if sustained, it is likely to affect the availability of heroin in Europe in the coming years. The most recent aggregate data presented here are from 2022 and predate this development. These show a slight decrease in the overall quantity of heroin seized in the European Union. In addition, substantial decreases in heroin seizures were noted in Bulgaria and Türkiye, key countries on the heroin trafficking routes (see Heroin and other opioids market data below). Also in 2022, a slight decline can be observed in indexed trends in retail-level prices, with purity estimates slightly rising. At the same time, conflicts in Ukraine and the Middle East may affect the routes used by criminals to traffic illicit drugs to Europe. The EMCDDA's current assessment of the most recent data would be to cautiously conclude that, as yet, there are no strong signals of an impact on flows of heroin trafficked towards European markets, although increases in opium prices in Afghanistan may have possibly had an impact in some areas on price and purity. More generally, it is thought that stocks of opium existing within Afghanistan and the relatively high value of the European market would make supplies to Europe somewhat resilient in the short to medium term. Nonetheless, should the ban be sustained and rigorously enforced, we would expect to see an impact on the availability of heroin in the future. It is also possible that we might also see in the future some more limited supply of this drug to Europe from other producing regions in South-East Asia. It is therefore prudent to consider now what might be the implications of

any changes in this area for drug polices and responses in order to be better prepared to mitigate any possible adverse consequences. One important implication would be the need to ensure the adequate availability of drug treatment provision for those seeking help, as disruptions to the illicit opioid market could increase demands in this area. A second implication would be the need to monitor and respond appropriately to reduce any possible additional harms that might result if other substances are used as substitutes for heroin. Experience suggests that these may include not only other opioids but also other drug classes, including stimulants such as cocaine or synthetic cathinones.

Could we see greater availability and use of new synthetic opioids or other drug classes?

Currently, synthetic opioids play a relatively small role in the drug market in Europe overall, but they are a significant problem in some countries, and there are signals that they could have the potential to play a larger role in Europe's drug problems in the future.

In 2023, new synthetic opioids were detected by the EU Early Warning System on new psychoactive substances in at least 16 EU Member States, Norway and Türkiye (see New psychoactive substances – the current situation in Europe). In the same year, outbreaks of poisonings and overdoses involving nitazene opioids were reported in 5 countries. There were also reports of nitazene opioids being mis-sold as heroin in Ireland and France.

An increase in the availability of synthetic opioids and of associated harms, including drug-related deaths was reported in 2022 by some northern and Baltic countries, with preliminary 2023 data from some countries confirming this trend. Historically, concerns in this area have been focused on fentanyl derivatives, such as the highly potent carfentanil, which continues to be seized in some EU countries. However, in the last few years, the nitazenes, highly potent opioids derived from 2-benzyl benzimidazole, have be detected in Europe. The most commonly identified nitazenes include protonitazene, metonitazene and isotonitazene. In 2022, 14 countries reported seizures of nitazenes to the Early Warning System, amounting to 3 kilograms. These substances are discussed in more detail in New psychoactive substances – the current situation in Europe.

There has also been speculation that if the availability of heroin in Europe is reduced as a result of the Taliban's ban on opium production in Afghanistan, this could create the conditions for greater availability and use of synthetic opioids. Given the potential negative consequences of this, Europe needs to improve its preparedness for the harm reduction and other challenges that such a market shift could bring.

Concerns in this area include the adulteration of heroin with new synthetic opioids, the mis-selling of new synthetic opioids and, in an extreme scenario, the replacement of heroin by new synthetic opioids. Such developments could increase the risk of overdose and drug-related death among opioid consumers. It is of note in this context that North America has seen a dramatic increase in opioid-related mortality in recent years, driven by potent synthetic opioids, principally fentanyl derivatives. However, based on previous examples of shocks to the heroin market, it is also possible that stimulants such as cocaine and synthetic cathinones may also have the potential to be used as replacement substances for heroin. It is therefore of concern that, as noted elsewhere in this report, the use of cocaine, and crack cocaine in particular, appears to be increasing among more marginalised groups and spreading to more countries.

While increased polydrug use and substance-switching are likely outcomes of any reduction in heroin availability, a key means to pre-empt this scenario would be to expand rapid access to opioid agonist treatment and related supports, as well as needle and syringe programmes. It also remains

important to develop sufficient access to naloxone to prevent overdoses and drug-related deaths.

Most supplies of new synthetic opioids, such as nitazenes, are believed to originate in China and to be trafficked to Europe. However, some limited synthetic opioid production is known to have occurred within Europe, and it is not impossible to imagine that existing illicit synthetic drug production capacity could potentially be used for the production of synthetic opioids, should market conditions become favourable.

For a more detailed insight into the dynamics of heroin supply in the European Union, see the 2024 EMCDDA-Europol EU Drug Market: Heroin and other opioids – In-depth analysis.

Key data and trends

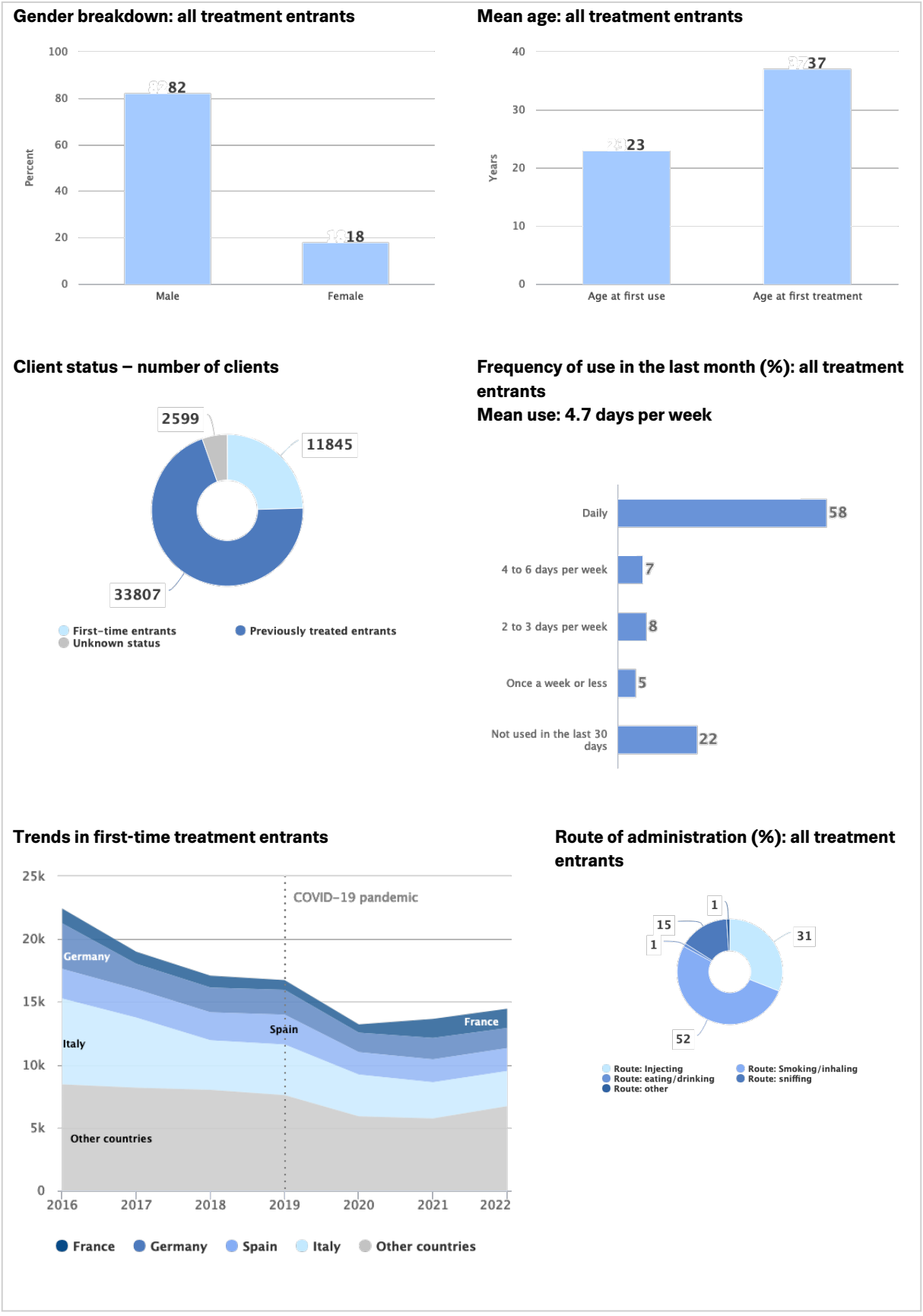
Prevalence of opioid use

- It is estimated that 0.3 % of the EU adult population, or around 860 000 people, used opioids in 2022 (950 000 in 2021). This apparent decrease, compared to previous years, is mainly due to a change in the indirect statistical method used to estimate the population of people who use heroin in Italy.

Treatment entry for use of heroin and other opioids

- Opioid use was reported as the main reason for entering specialist drug treatment by 63 000 clients in 2022, representing 25 % of all those entering drug treatment in Europe. Heroin was the primary drug for 12 000 (64 %) of the 19 000 first-time entrants who reported a specific opioid as their main problem drug (see Figure 6.4). Another 2 400 first-time opioid clients did not specify their primary drug.
- Due to service disruptions during the COVID-19 pandemic, treatment entry data for 2020-2022 should be interpreted with caution. Nevertheless, the data suggest that the long-term downward trend in the number of people entering treatment for heroin use has continued (Figure 6.4).
- The latest European data reveal a time lag of 14 years between first heroin use, on average at the age of 23, and first treatment for heroin-related problems, on average at the age of 37.
- National data from 26 EU Member States show that an estimated 508 000 clients received opioid agonist treatment in 2022 (506 000 in 2021).

Figure 6.4. Users entering treatment for heroin in Europe



Apart from trends, data are for all treatment entrants with heroin as the primary drug – 2022 or the most recent year available.

Trends in first-time entrants are based on 25 countries. Data for Germany are for entrants with 'opioids' as primary drug. Only countries with data for at least 5 of the 6 years are included in the trends analysis. Missing values are interpolated from adjacent years. Because of disruptions to services due to COVID-19, data for 2020, 2021 and 2022 should be interpreted with caution. Missing data were imputed with values from the previous year for Spain and France (2022) and Germany (2019).

Harms related to opioid use

- In 2022, heroin remained the third most frequently reported drug in acute drug toxicity presentations in Euro-DEN Plus hospitals, accounting for 16 % of all reported cases. A small number of centres accounted for many of the reports received by the sentinel network. Heroin was found in 19 of the 23 European hospitals participating in 2022 (see Figure 6.5). Half of the participating hospitals reported that 4.3 % or more of their presentations involved heroin in 2022. Heroin was reported in more than a fifth of the drug-related presentations at centres in Drogheda and Dublin (Ireland), Ljubljana (Slovenia) and one of the two centres in Oslo (Norway). Most presentations with heroin involved were among men aged 25 to 45 years: in 6 of the 19 centres in 2022, no cases were aged less than 25 years. In half of the centres, women represented 19 % or less of the presentations with heroin involved. Depending on the centre, the other drugs most commonly reported in these presentations were benzodiazepines, cocaine and amphetamine.
- Opioids were found in an estimated 74 % of fatal overdoses reported in the European Union. This finding is based on toxicological data submitted between 2015 and 2022, in which opioids were identified in 3 305 out of a total of 4 439 deaths. It should be noted that multiple drugs are commonly found in toxicology reports from suspected drug-induced deaths.

Figure 6.5a. Proportion of acute drug toxicity presentations with heroin involved in 2022, Euro-DEN Plus

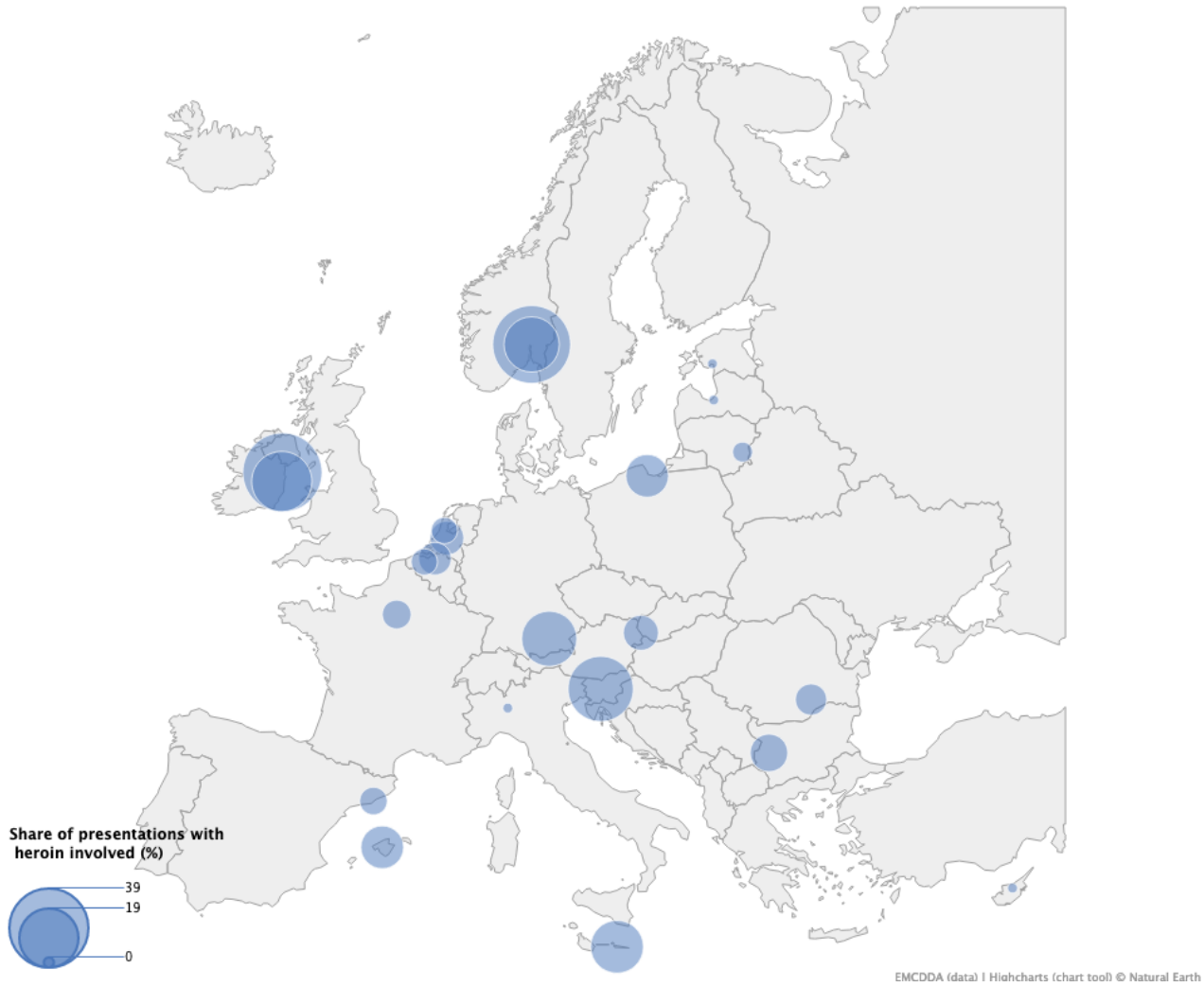
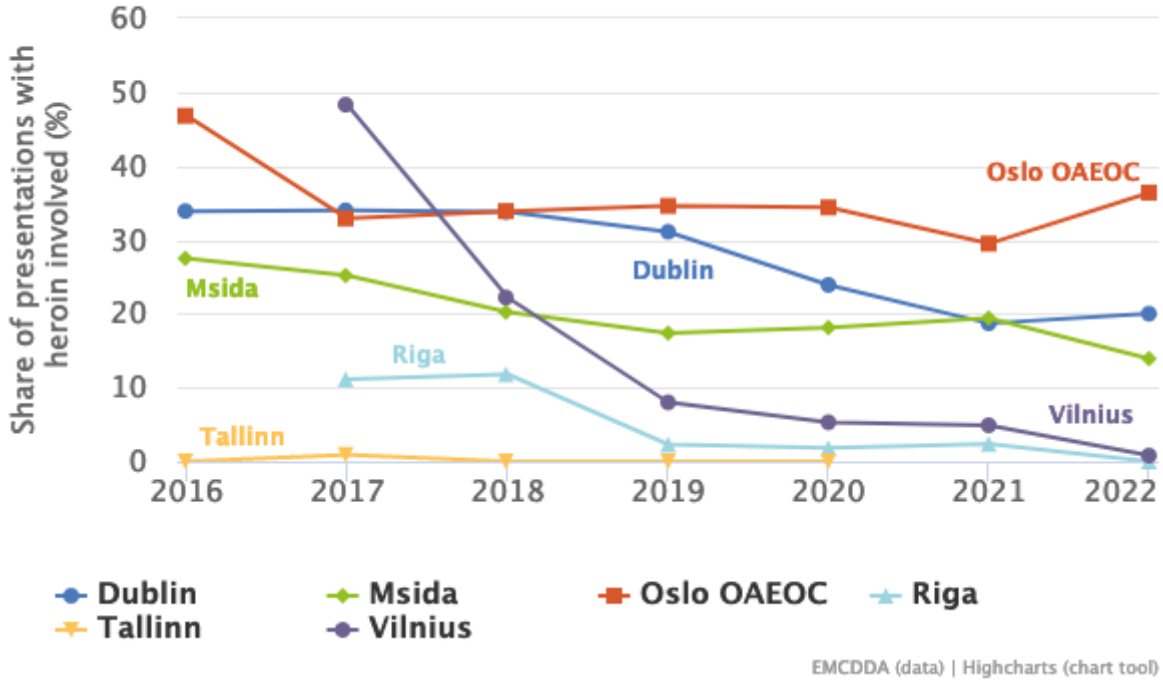


Figure 6.5b. Trends in the proportion of presentations with heroin involved, selected hospitals



Data source: Euro-DEN. For the complete data set and analysis, see European Drug Emergencies Network (Euro-DEN Plus): data and analysis.

Heroin and other opioids market data

- EU Member States reported 19 000 heroin seizures amounting to 8.0 tonnes in 2022 (9.5 tonnes in 2021). The Netherlands (2.6 tonnes), France (1.4 tonnes), Belgium (1.3 tonnes), Italy (0.6 tonnes) and Bulgaria (0.3 tonnes) reported large quantities. Türkiye seized 8 tonnes of heroin in 2022 (22.2 tonnes in 2021).
- Following an increase in heroin seizures in 2021 (to 9.5 tonnes), the quantity seized by EU Member States fell by 16 % to 8.0 tonnes in 2022. Türkiye reported a more marked decrease in the quantity seized in 2022 (to 8.0 tonnes, or –64 %, compared with 22.2 tonnes in 2021) (Figure 6.6). Bulgaria reported a 71 % reduction in the quantity seized in 2022 (to 0.3 tonnes) compared with 2021 (1.2 tonnes).
- The average purity of brown heroin at the retail level ranged from 5.4 % to 41.7 % in 2022, with half of the countries reporting an average purity between 14.4 % and 25.0 %. Indexed trends indicate the average purity of brown heroin rose by 44 % between 2012 and 2022, while its price dropped by 24 %. A slight decline in heroin's average price and a slight rise in its purity are observable in the most recent data (Figure 6.6).
- Available data show that almost 13 600 seizures of opioids other than heroin were reported in 2022, amounting to almost 1.2 tonnes, 216 litres and over 2 million tablets (including tramadol, buprenorphine, oxycodone, morphine, methadone, codeine and nitazene opioids) (Table 6.1). A total of 3.5 kilograms of nitazene analogues was reported as seized in 2022 by Estonia, Latvia, Poland and Sweden. In the same year, reports of seized quantities of fentanyl and carfentanil in the European Union amounted to 9.2 kilograms (2.7 kilograms of fentanyl seized by two countries and 6.5 kilograms of carfentanil seized by 14 countries), 168 litres of fentanyl (in one seizure in

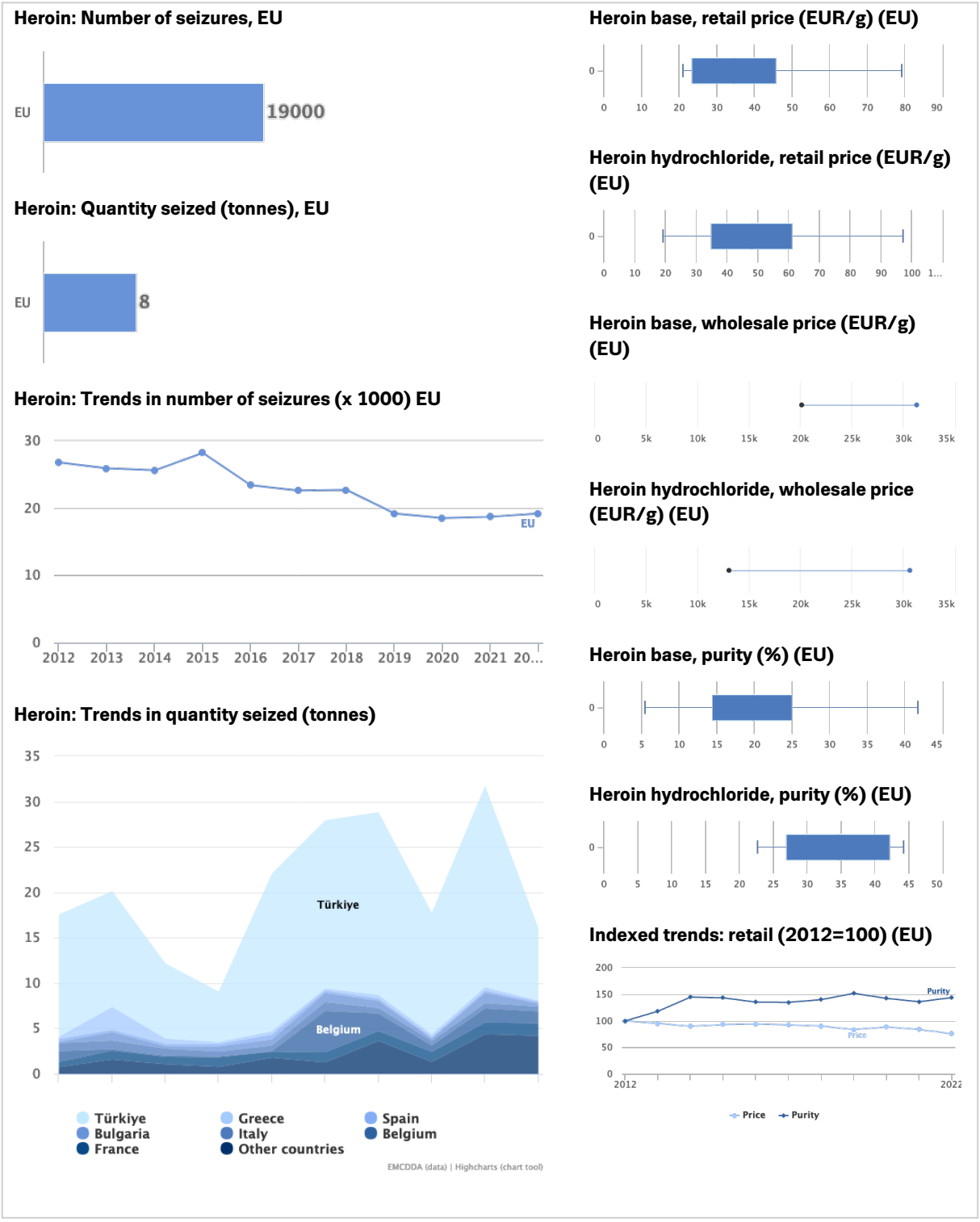
Bulgaria) and 8 435 tablets (fentanyl).

- An increase in fake medicines containing nitazenes was reported to the EU Early Warning System, with 430 tablets or capsules reported in 2022 (189 in 2021). In 2023, Portugal seized 5 752 fake oxycodone tablets containing N-desethyl isotonitazene, while Sweden seized 3 100 fake Oxycontin (oxycodone) tablets containing metonitazene. In 2024, Finnish police reported a seizure of 1 000 fake Subutex (buprenorphine) tablets containing metonitazene.
- Approximately 22 400 offences for heroin use or possession were reported in 2022.

Figure 6.6. Heroin market in Europe

Geographical coverage (selected graphs)

EU EU+2



EU+2 refers to EU Member States, Norway and Türkiye.

Indexed trends show the price and purity of brown heroin base: national mean values – minimum, maximum and interquartile range. Countries covered vary by indicator.

Table 6.1. Other opioids: number of seizures and quantities seized, 2022

Substance	Countries	Number of seizures	Weight (kilograms)	Tablets	Litres	Patches
Tramadol	13	4185	0.1	958094	1.7	
Buprenorphine	17	4578	3.4	918819	0.001	21
Methadone	19	1136	17.3	76447	43.8	
Morphine	16	761	2.8	11259	1.3	
Oxycodone	15	894	1.3	76342	0.5	
Opium	17	826	1116.4	298	0.02	
Codeine/dihydrocodeine	14	390	26.4	13384	0.4	
Fentanyl	14	177	2.7	8435	168.2	1521
Carfentanil	2	273	6.5		0.17	
Nitazenes	4	350	3.5	108	0.44	

Source data

The data used to generate infographics and charts on this page may be found below.

Other drugs – the current situation in Europe (European Drug Report 2024)

Alongside the more well-known substances available on illicit drug markets, a number of other substances with hallucinogenic, anaesthetic, dissociative or depressant properties are used in Europe: these include LSD (lysergic acid diethylamide), hallucinogenic mushrooms, ketamine, GHB (gamma-hydroxybutyrate) and nitrous oxide. On this page, you can find the latest analysis of the situation regarding these substances in Europe, including seizures, prevalence and patterns of use, treatment entry, harms and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.
Last update: *11 June 2024*

Need for greater investment in monitoring the use of less well-known substances

Alongside the more well-known substances available on illicit drug markets, a number of other substances with hallucinogenic, anaesthetic, dissociative or depressant properties are used in Europe: these include LSD (lysergic acid diethylamide), hallucinogenic mushrooms, ketamine, GHB (gamma-hydroxybutyrate) and nitrous oxide. Some of these substances appear to have become well-established in some countries, cities or specific populations, although overall their relative prevalence may remain low in comparison to some other better-known drug classes. However, for a variety of methodological and historical reasons, our current monitoring approaches often perform poorly in identifying patterns and trends in the use of less well-known substances. This makes it difficult to comment with confidence on the prevalence of use or recent trends, or on the extent to which these drugs are associated with health or social problems. The information available suggests, however, that in some countries, subgroups or settings, the use of these sorts of substances has become more common. As patterns of drug use can change rapidly and many of the drug-related problems we face are increasingly influenced by the co-consumption of multiple substances, there is a strong argument for increasing investment in the surveillance of substances with hallucinogenic, anaesthetic, dissociative or depressant properties.

Signs that ketamine is increasingly available and more prominent in Europe's drug problems

Ketamine accounted for 9 % of the quantity of new psychoactive substances seized in the European Union in 2022. The quantity of ketamine seized and reported to the EU Early Warning System on new psychoactive substances has varied over time, but has remained at relatively high levels in recent years, tripling from just under a tonne in 2021 to 2.8 tonnes in 2022. Seizures were reported by 17 countries in both years, with both Denmark and the Netherlands reporting large seizures, and these two countries together accounted for two thirds of the overall quantity of ketamine seized in 2022. Most of the ketamine seized in Europe is thought to originate from India, but there is some evidence that the drug may also be sourced from Pakistan and China. Available information

suggests that production of the drug in Europe remains limited.

Overall, there is evidence to suggest that ketamine is likely to be consistently available in some national drug markets and may have become an established drug of choice in some settings. It is also reported to be used in combination with other substances, such as stimulants. In Ireland, for example, the intentional mixing of cocaine and ketamine has been identified at music festivals, as have ketamine-related medical incidents during 2022 and 2023. In 2022, Euro-DEN sentinel hospital emergency departments in Europe reported that cocaine was the substance most often reported in combination with ketamine in acute toxicity presentations. Ketamine is commonly snorted, but can also be injected, and has been linked to various dose-dependent acute and chronic harms, including neurological and cardiovascular toxicity, mental health problems, such as depression, and urological complications, such as bladder damage from intensive use or the presence of adulterants.

Ketamine may also be added to other drug mixtures, including MDMA powders and tablets, potentially making inadvertent consumption an issue. Ketamine has also been found in mixtures sold as 'pink cocaine' or 'tucibi', which are more likely to contain ketamine and other synthetic drugs, such as amphetamines or MDMA. In contrast to some other parts of the world, mixtures sold as pink cocaine are less likely to contain the synthetic drug 2C-B, which has historically been associated with this product. At least 10 countries reported the detection of pink cocaine to the EU Early Warning System's database on new drugs, with most of the cases reported by Spain. It is also interesting to note that while the overall figure remains low, both the quantity of 2C-B seized and the number of countries reporting seizures increased in 2022, with 14 countries reporting seizures amounting to just under 6 kilograms of this drug.

The number of clients reported to receive treatment for problems related to ketamine use remains low. However, it has risen from around 240 cases reported in 2018 to 600 in 2022. Moreover, this data set is not likely to capture all those having health problems with this drug. For example, those who have developed urological problems may be poorly represented.

More EU countries control access to nitrous oxide

Nitrous oxide, commonly known as laughing gas, has been linked to various health problems, including poisonings, burns and lung injuries and, in some cases of prolonged exposure, neurotoxicity from vitamin B12 deficiency. There is, however, a debate on the extent to which this substance is associated with negative health risks, especially among episodic users, although given its apparent growing popularity among young people, this is clearly an important area for further research and monitoring. In some European cities, discarded nitrous oxide gas canisters have become a relatively common sight, and the disposal of the smaller stainless steel canisters has been identified as a drug-litter issue in some countries. A 2022 EMCDDA review identified a number of EU Member States, including Denmark, Ireland, France, Lithuania, the Netherlands and Portugal, that observed signs of an increase in the availability and recreational or episodic use of nitrous oxide. The drug has become more accessible and cheaper, available online and with the increased availability of larger gas canisters aimed at recreational use. However, high-volume cylinders may also increase the risk of lung damage, due to the higher pressure of their contents and, in general, inhaling directly from gas bottles is reported to be associated with a greater risk of harm. Nitrous oxide has various commercial uses, for example, it is used by the catering industry. Regulatory approaches to the sale and use of this substance vary between countries, with the gas legally available for sale in some countries. Several EU countries, including Denmark, France, Lithuania, the Netherlands and Portugal have restricted the availability of nitrous oxide in recent years. There is

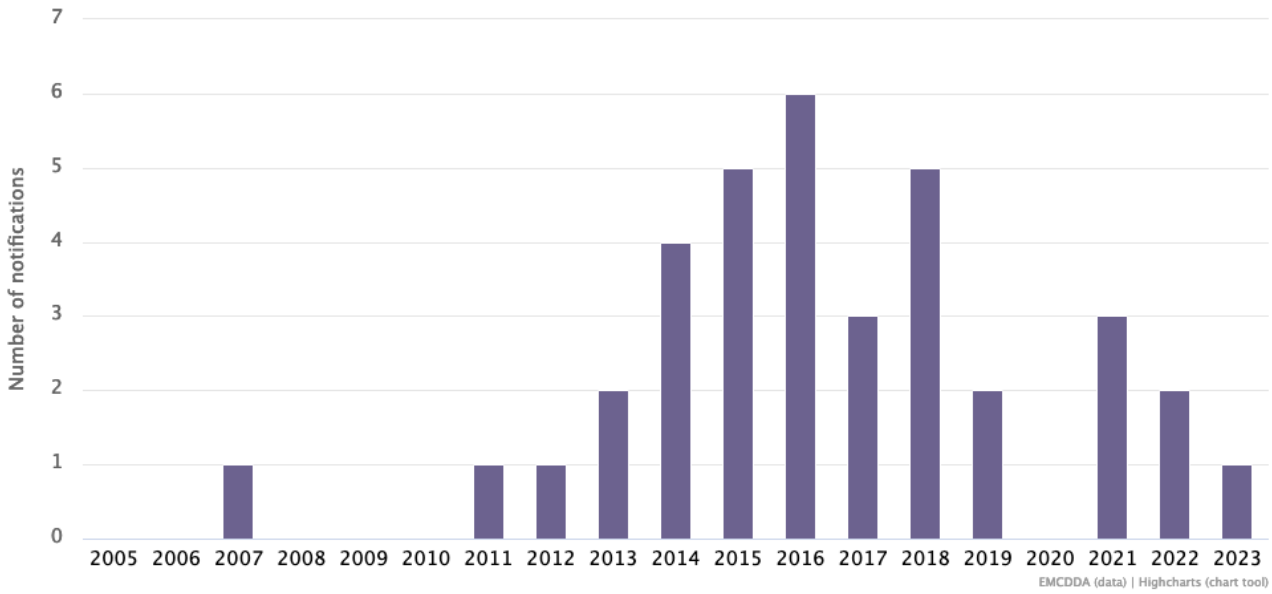
limited evaluative information about the effectiveness of legislative or other approaches to restricting access to nitrous oxide.

New benzodiazepines continue to appear on Europe's illicit drug market

Non-controlled and new benzodiazepines also continued to be available in some European countries but, again, current monitoring approaches make it difficult to comment on the scale of their use, although signals exist that these substances may have important consequences for health, especially when consumed in combination with other drugs. They are often very cheap and may be used by young people in combination with alcohol, sometimes resulting in potentially serious health reactions or aberrant behaviour. These substances have also been linked to overdose deaths among people who use opioids. A lack of toxicological information means the role that benzodiazepines play in opioid-related deaths is not sufficiently understood. A total of 36 new benzodiazepines were notified to the EU Early Warning System between 2007 and 2023 (Figure 8.1), with 23 of these appearing on the drug market in 2022 in 19 EU countries and Norway.

Mixtures containing new benzodiazepines and opioids, known as 'benzo-dope', have been linked to increases in overdose deaths in Canada and the United States. So far, seizures of benzo-dope have been reported by Estonia and Latvia. In both countries, the same mixtures have also been identified in residues analysed from used syringes.

Figure 8.1. Number of formal notifications of benzodiazepines reported to the EU Early Warning System, 2005-2023



Potential therapeutic uses of psychedelics: an increasing focus of medical research

Both clinical and public interest has been growing in the therapeutic use of some novel substances, particularly psychedelic substances, but also dissociative drugs such as ketamine. At the same time, a growing number of clinical studies, both internationally and in Europe, are exploring the potential

of a range of psychedelic substances to treat different mental health conditions.

The evidence base in this area is growing rapidly, and some studies have produced evidence to support the view that some substances may have value in the treatment of specific neuropsychiatric disorders, such as post-traumatic stress disorder or treatment-resistant depression and major depressive disorder. However, the interpretation of the results is complicated by a range of methodological issues, and generalisation remains difficult as much of the research in this area remains at an early stage.

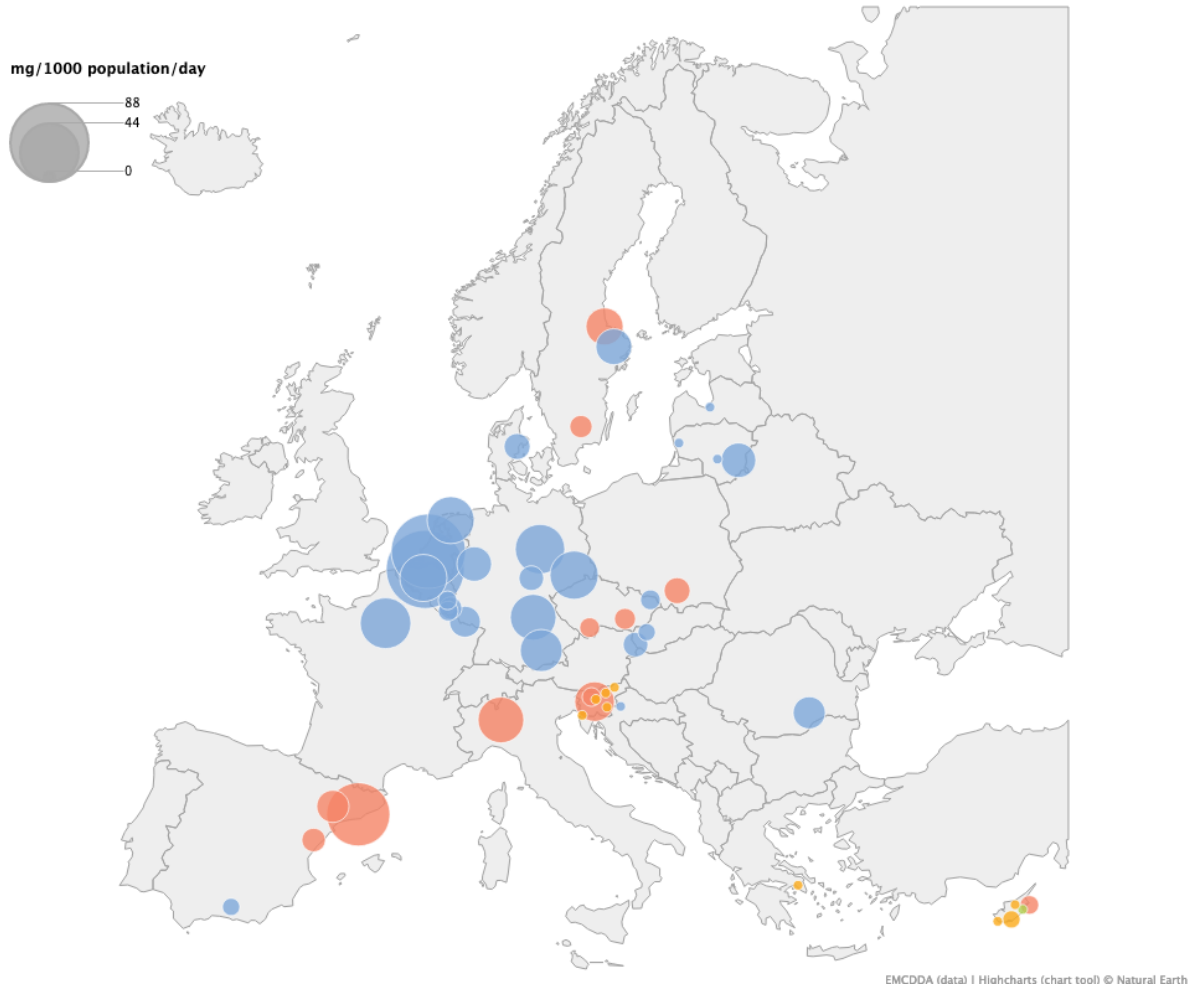
Nonetheless, these developments have received considerable media attention, raising concerns that this may encourage greater experimental use of a range of potent psychoactive substances without appropriate medical support, potentially putting vulnerable individuals at risk of suffering adverse consequences. At the same time, there are signs of unregulated programmes being operated in the European Union and elsewhere, in which the use of psychedelic substances is included as part of a wellness, therapeutic or spiritually oriented intervention. Strengthening monitoring in this area will be important, as a growth of unlicensed therapeutic uses of psychedelics may adversely affect vulnerable individuals with pre-existing mental health conditions.

Key data and trends

Prevalence and patterns of use of other drugs

- Among young adults (aged 15 to 34), recent national surveys show last year prevalence estimates for both LSD and hallucinogenic mushrooms equal to or less than 1 %. Exceptions for hallucinogenic mushrooms include Czechia (4.4 % in 2022), Finland (2.7 % in 2022), the Netherlands (2.2 % in 2022), Estonia (1.6 % in 2018, 16-34), Denmark (1.7 % in 2023, 16-34) and Germany (1.1 % in 2021). Exceptions for LSD include Czechia (3.5 in 2022), Ireland (2.4 % in 2019), Estonia (1.7 % in 2018, 16-34), Latvia (1.4 % in 2020), Finland (1.3 % in 2022) and Denmark (1.1 % in 2023).
- Among respondents to the European Web Survey on Drugs, a non-representative survey of people who use drugs, 20 % of those who had used drugs within the last 12 months had used LSD, while 13 % had used ketamine.
- Recent estimates of last year prevalence of ketamine use among young adults (15-34) range from 0.8 % in Romania (2019) to 0.9 % in Denmark (2023, 16-34). The Netherlands reported that ketamine use has increased among young people in nightlife settings.
- In 2023, generally very low levels of ketamine residues in municipal wastewater were reported by 22 cities in 16 EU Member States, with the highest mass loads being detected in cities in Belgium, Germany, Spain, France and the Netherlands (Figure 8.2). Among the 22 cities with data for 2022 and 2023, 12 showed an increase (of at least 10 %), 8 were relatively stable and 2 showed a decrease.

Figure 8.2. Ketamine residues detected in wastewater in selected European cities, 2023



Red = increase | Green = decrease | Yellow = stable, with respect to previous value | Blue = no previous data

Mean daily amounts of ketamine in milligrams per 1000 population. Sampling was carried out over a week in March and April 2023. Taking into account statistical errors, values that differ less than 10 % from the previous value are considered stable in this figure.

Source: Sewage Analysis Core Group Europe (SCORE). For the complete data set and analysis, see Wastewater analysis and drugs – a European multi-city study.

Treatment entry for ketamine use

- Increases were observed in the number of clients entering treatment for problems related to ketamine use in Belgium, Germany and Italy in 2022 and Spain in 2021 (most recent data), with the overall number rising from 179 in 2018 to an estimated 534 clients in 2022 in these countries.

Harms related to use of other drugs

- GHB/GBL (gamma-hydroxybutyric acid/gamma-butyrolactone) was the fourth most common drug reported by Euro-DEN Plus hospitals in 2022. Overall, it was reported by 16 emergency departments in 11 EU Member States and Norway in 2022 and was involved in an estimated 3.7 % of presentations (median) across the 23 participating emergency departments in 17 EU Member States and Norway that reported 2022 data.
- Ketamine was the eighth most common drug reported by Euro-DEN Plus hospitals in 2022. Overall, it was reported by 18 centres in 12 EU Member States and Norway in 2022 and was involved in an estimated 2.3 % of presentations (median) across the 23 centres that reported 2022 data. In 2022, half of the cases were aged between 25 and 45 years, most were males, presented to the emergency services during weekdays, and had also consumed alcohol. In most centres, cocaine was the substance most often reported as used in combination with ketamine. Cannabis and stimulants, including amphetamine and MDMA, were also reported in the acute drug-toxicity presentations with ketamine involved, potentially indicating a diversity of use patterns and possible inadvertent consumption. One in 40 ketamine-related presentations was admitted to intensive care.
- Nitrous oxide was reported in acute drug-toxicity presentations to emergency services of 6 out of 23 sentinel hospitals in 2022. Most cases were younger than 25 years, males and presented during weekdays. A minority of the presentations involved alcohol, and cannabis was the drug most commonly reported in the cases of polydrug use toxicity.
- LSD was reported by 15 centres in 12 of the 17 participating EU Member States and Norway in 2022 and was involved in an estimated 0.7 % of presentations (median) across the 23 centres. Three quarters of the presentations were in males and 4 out of 10 were younger than 25 years. One in 3 LSD-related presentations was admitted to intensive care.

Market data for other drugs

- Seizures of hallucinogenic and dissociative drugs are not consistently monitored across Europe. Different EMCDDA monitoring systems provide the limited information available, which is incomplete, divergent and difficult to generalise.
- In 2022, 1 700 seizures of LSD (lysergic acid diethylamide), amounting to 99 700 units and 2.1 kilograms were reported in Europe (Table 8.1). Twenty-three countries reported 1 439 seizures of hallucinogenic mushrooms, amounting to 143 kilograms. Sixteen countries reported 207 seizures of DMT (dimethyltryptamine), amounting to 754 kilograms, mainly in Türkiye (710 kilograms) and Italy (19 kilograms).

Table 8.1a. Number of seizures and quantity seized of other drugs, EU+2

Drug	Countries	Number	Quantity (kg)	Quantity (litres)	Quantity (tablets/units/blotters)
2C-B	14	569	5.7		64586
LSD	24	1665	2.1		99687
DMT	16	207	754.4	6.1	8453
Hallucinogenic mushrooms	23	1439	143		3588
GHB	17	1011	6.5	166.5	
GBL	16	488	106.9	599.9	
Clophedrone	15	1269	132.3		
Clephedrone	14	153	15.5		

Table 8.1b. Number of seizures and quantity seized of other drugs, EU

Drug	Number	Quantity (kg)	Quantity (litres)	Quantity (tablets/units/blotters)
2C-B	569	5.7		64586
LSD	1330	2		94026
DMT	205	45	6.1	8453
Hallucinogenic mushrooms	1434	143		3588
GHB	621	6.5	62.3	
GBL	471	106.9	481.6	
Clophedrone	1269	132.3		
Clephedrone	153	15.5		

- In 2022, ketamine seizures reported to the EU Early Warning System amounted to 2.8 tonnes, up from 0.87 tonnes in 2021. Seizures of ketamine have fluctuated at levels above 0.5 tonnes since 2017 (Figure 8.3), while the number of ketamine seizures has doubled (Figure 8.4).
- No ketamine laboratories were reported as dismantled in 2022. Given ketamine's common use in veterinary medicine as an anaesthetic, the theft and diversion of the drug from legitimate purposes remains a problematic issue.
- Ketamine was submitted for testing to drug checking services in 11 cities in 4 EU countries in the first half of 2023, with an average purity of 83 % (in the same period, in 2022, the average purity

was 80 %). Detected adulterants generally included stimulants (cocaine, amphetamines, MDMA, synthetic cathinones) or dissociative drugs (2-(2-fluorophenyl)-2-(methylamino)cyclohexan-1-one).

Figure 8.3. Seizures of ketamine powder in the European Union: total quantity (kilograms), 2006-2022

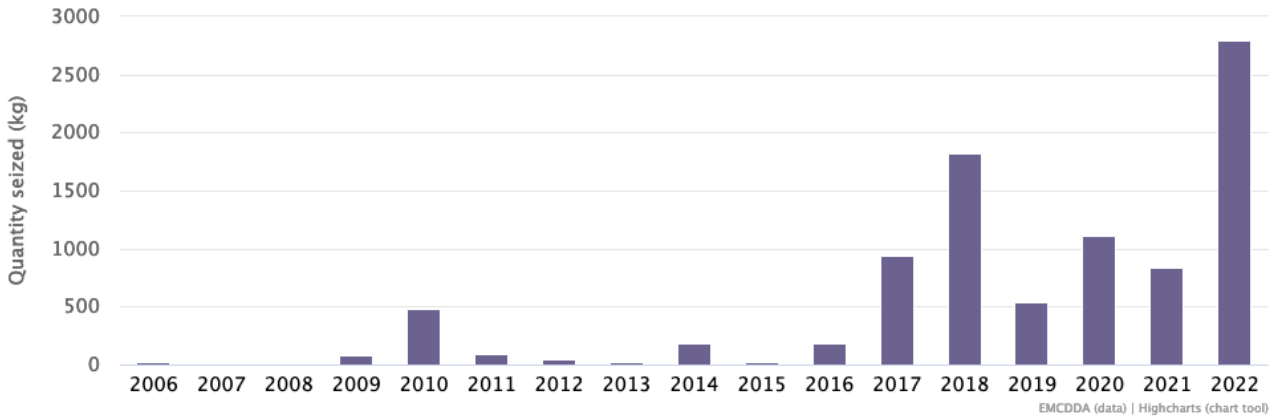
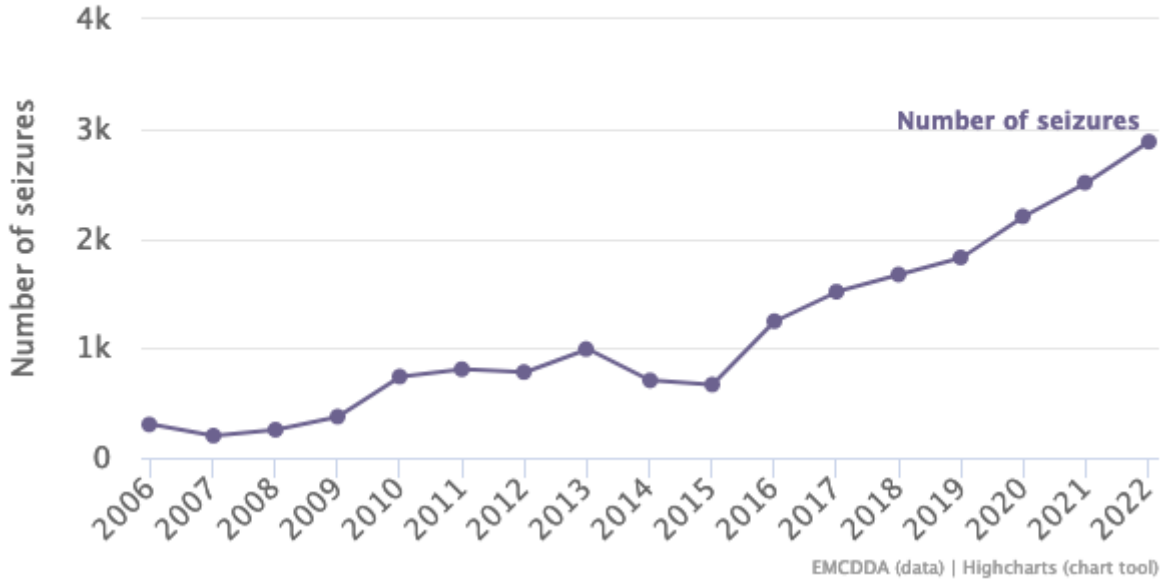


Figure 8.4. Seizures of ketamine powder in the European Union: total number, 2006-2022



- An increasing number of samples of mixtures containing ketamine, MDMA and cocaine have been reported to the EU Early Warning System on new psychoactive substances since about 2018, mostly by Spain. Some of these appear to be sold as ‘pink cocaine’ or ‘tucibi’, with people consuming it potentially unaware they may be consuming ketamine.
- In 2022, 14 EU countries reported 569 seizures of the psychedelic drug 2C-B, amounting to 64 600 tablets or units and 5.7 kilograms. Open-source monitoring indicates that it is sometimes added to mixtures sold as pink cocaine in Europe and elsewhere, alongside MDMA powder and ketamine, which may or may not contain cocaine.

- Seventeen European countries reported 1 500 seizures of GHB (gamma-hydroxybutyrate) or its precursor GBL (gamma-butyrolactone), amounting to 114 kilograms and around 800 litres. GBL has many industrial purposes, making the data challenging to interpret.
- In 2022, EU Member States reported 752 seizures of new benzodiazepines to the EU Early Warning System, representing approximately 3 % of the total number of seizures of new psychoactive substances. Of the 36 new benzodiazepines ever reported to the Early Warning System, 23 were detected in drug seizures in 19 EU countries and Norway in 2022.

Source data

New psychoactive substances – the current situation in Europe (European Drug Report 2024)

The market for new psychoactive substances is characterised by the large number of substances that have emerged, with new ones being detected each year. On this page, you can find an overview of the drug situation for new psychoactive substances in Europe, supported by information from the EU Early Warning System on seizures and substances detected for the first time in Europe. New substances covered include synthetic and semi-synthetic cannabinoids, synthetic cathinones, new synthetic opioids and nitazenes.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Appearance of potent new substances and inadvertent consumption raising health concerns

The market for new psychoactive substances is characterised by the large number of substances that have emerged, with new ones being detected each year. The term 'new psychoactive substances' covers a broad range of substances that are not controlled by international drug control conventions, although some of them may be subject to national regulatory measures. In 2022, EU Member States seized a record 30.7 tonnes of new psychoactive substances (see Seizures of new psychoactive substances, below).

The most recent data shows that drug producers continue to create new substances to avoid legal controls, although the rate at which new psychoactive substances are now entering the market appears to be slowing. Between 2016 and 2022, typically around 50 new psychoactive substances appeared on the market for the first time each year; this fell to 26 in 2023. In addition, around 400 previously reported new substances are detected on the market each year.

In general, the risks to health of these novel compounds are usually unknown, although some clearly pose an acute risk to consumers of experiencing serious or even fatal poisonings or other health problems. Over time, legislative controls and other regulatory measures taken in Europe and non-EU source countries appear to have contributed to a reduction in the number of new derivatives of some drug types, particularly those that have been specifically targeted, such as fentanyl. Other substances, however, designed to evade generic definitions in legislation, continue to emerge, with China and India remaining important source countries for these substances or the precursors that are required to produce them.

Cannabis consumers risk inadvertent exposure to synthetic cannabinoids

The 9 new cannabinoids detected, 4 of which are semi-synthetic cannabinoids, accounted for approximately one third of the new substances first reported to the EU Early Warning System in 2023 (see New psychoactive substances reported, below).

The continuing emergence of new substances in this area adds to concerns that consumers of cannabis may be at risk of inadvertent exposure to synthetic cannabinoids. Adulterated cannabis may appear similar to unadulterated cannabis and can be mis-sold as cannabis to unsuspecting consumers. It is therefore possible that such adulterated products are more widely available but often go undetected.

Synthetic cannabinoids are often highly potent substances, and adulterated products carry poisoning risks. An additional concern is that cannabis edibles (foods, often in the form of sweets that are typically infused with cannabis extract) have become more available on the illicit market in Europe since 2021. In addition to the risks posed by these products due to their THC content and the possibility that they may be mistaken for legitimate commercial products, especially by children, there are concerns that some of these products contain synthetic cannabinoids. Since 2019, at least 5 countries have reported the identification of edibles containing synthetic cannabinoids in the form of sweets (jelly 'gummies'). Cases of severe poisonings after the ingestion of sweets infused with synthetic cannabinoids have been recorded in the European Union.

Synthetic cannabinoids also sometimes appear in samples of other drugs. In May 2023, for example, an unusual and unexpected outbreak of non-fatal poisonings involving more than 20 people was reported in Paris, France, caused by heroin adulterated with synthetic cannabinoids. Around the same time, in April 2023, Lithuania reported the seizure of a similar adulterated heroin sample.

Health risks from HHC and other semi-synthetic cannabinoids remain poorly understood

New regulatory challenges and concerns have emerged about the potential for interaction between the commercialisation of cannabis derivatives and the recreational drug market. In 2022, semi-synthetic cannabinoids, not controlled under international drug laws, started to appear on the European drug market for the first time. The first was HHC (hexahydrocannabinol), which was identified in May 2022 and had been reported by 23 EU Member States and Norway by December 2023. HHC has been listed as a controlled drug in at least 18 EU Member States, as of March 2024. Five other semi-synthetic cannabinoids, HHC acetate, hexahydrocannabiphorol, tetrahydrocannabidiol, tetrahydrocannabiphorol and hexahydrocannabihexol, have also been identified on the European drug market. It appears likely that these substances are being produced from cannabidiol extracted from low-THC cannabis. Initially, semi-synthetic cannabinoids were trafficked from the United States. However, there are now signs that they are also being produced in Europe. Marketed online and in shops as 'legal' replacements for cannabis, they include hemp sprayed or mixed with HHC, which looks and smells like cannabis, as well as vapes and edibles. The effects of HHC in humans have not been sufficiently studied, but anecdotal consumer reports suggest they may be subjectively similar to those of cannabis. Some of the products available, however, are in forms that may deliver high doses, raising concerns about the possibility of adverse health effects. More research is needed on the implications of consuming these substances, especially at higher doses, and currently a lack of robust monitoring data makes the availability, and any risks associated from the use of these substances, difficult to assess.

Synthetic cathinones becoming more significant in Europe's stimulant market

Synthetic cathinones have appeared and become established as replacements for stimulants such as amphetamine in some parts of Europe.

In 2022, large quantities of cathinones such as 3-CMC and 3-MMC, mostly trafficked from India, continued to be seized in Europe, indicative of the important role these drugs now play in some countries. This is a cause for concern, compounded by information suggesting that cathinones are also now increasingly being produced in Europe. Cathinones are also sold alongside or as other drugs, potentially increasing the risk of harm. In 2022 and 2023, the EU Early Warning System noted an increase in reports of synthetic cathinones mis-sold as MDMA or used to adulterate MDMA.

Nitazenes: a new and growing threat to health

New synthetic opioids are often highly potent, meaning a small amount can be sufficient to produce a large number of typical street doses and can pose an increased risk of life-threatening poisoning. In North America, the synthetic opioid fentanyl has been the major driver of a public health emergency characterised by high levels of mortality. Although these drugs have not figured prominently in the European drug problem to date, there are now concerns that risks in this area are growing. New synthetic opioids have been linked to drug-induced deaths in Europe with recent reports from Estonia, Latvia and Lithuania indicating that these substances now account for a significant share of overdose deaths in these countries. At least 163 deaths were associated with fentanyl and fentanyl derivatives in Europe in 2022. Many of these were associated with fentanyl diverted from medical use as opposed to fentanyl produced for the illicit drug market.

Seven new synthetic opioids were formally notified in 2023 to the EU Early Warning System, with 6 of them belonging to the highly potent group of benzimidazole (nitazene) opioids. This is the highest number of nitazene opioids notified in a single year. Since 2019, at least 20 EU countries have now reported the presence of a nitazene. The nitazene opioids appear to have emerged following control measures, introduced both in producer countries and elsewhere, to reduce the availability of fentanyl derivatives. Preliminary reporting from 2023 suggests an increase in deaths linked to nitazenes in Estonia and Latvia. In addition, localised outbreaks of poisonings caused by nitazenes mis-sold as heroin were reported in Ireland and France.

There are also some reports that suggest an increase in the detection of fake medicines containing nitazene opioids. The appearance of nitazenes has also been accompanied by other developments in the market, where new synthetic opioids are found in combination with other substances. These include the emergence in 2021 of 'tranq-dope', in which new synthetic opioids are mixed with the animal sedative and analgesic xylazine, and 'benzo-dope' in 2022, in which new synthetic opioids are mixed with new benzodiazepines (such as bromazolam).

The European opioid market may also be affected by developments elsewhere. Of particular note in this context is the recent ban on opium poppy cultivation in Afghanistan, which appears to have resulted in a dramatic reduction in opium production. While it is still too early to be definitive, this may result in a reduced supply of heroin to Europe. Should this happen, a concern exists that new synthetic opioids could be among the replacement drugs for heroin, potentially increasing the risks associated with opioid use.

More generally, the appearance of highly potent synthetic opioids requires us to review if the current approaches used to prevent, treat and reduce the harm of opioid-related problems remain fit for

purpose. For example, it has been suggested that approaches to providing the opioid antagonist naloxone need to be reviewed, as models of care may need to be adapted to more effectively respond to those who have consumed new synthetic opioids or mixtures that contain new synthetic opioids and other substances.

Key data and trends

New psychoactive substances reported

- At the end of 2023, the EMCDDA was monitoring over 950 new psychoactive substances, 26 of which were first reported in Europe in 2023 (Figure 7.1 and Table 7.1).
- Approximately 400 new psychoactive substances were detected in seizures in 2022 (Figure 7.2).
- In 2023, the EU Early Warning System received reports of 9 new cannabinoids, bringing the total number being monitored to 254.
- Since 2009, a total of 81 new opioids have been identified on the European drug market, with 7 new substances notified in 2023 (1 in 2022, 6 in 2021), 6 of which were highly potent nitazene opioids, which can, in some cases, be hundreds of times more potent than heroin. To date, 16 nitazenes have been identified in Europe (Figure 7.3).

Figure 7.1. Number of new psychoactive substances reported for the first time to the EU Early Warning System, by category, 2005-2023

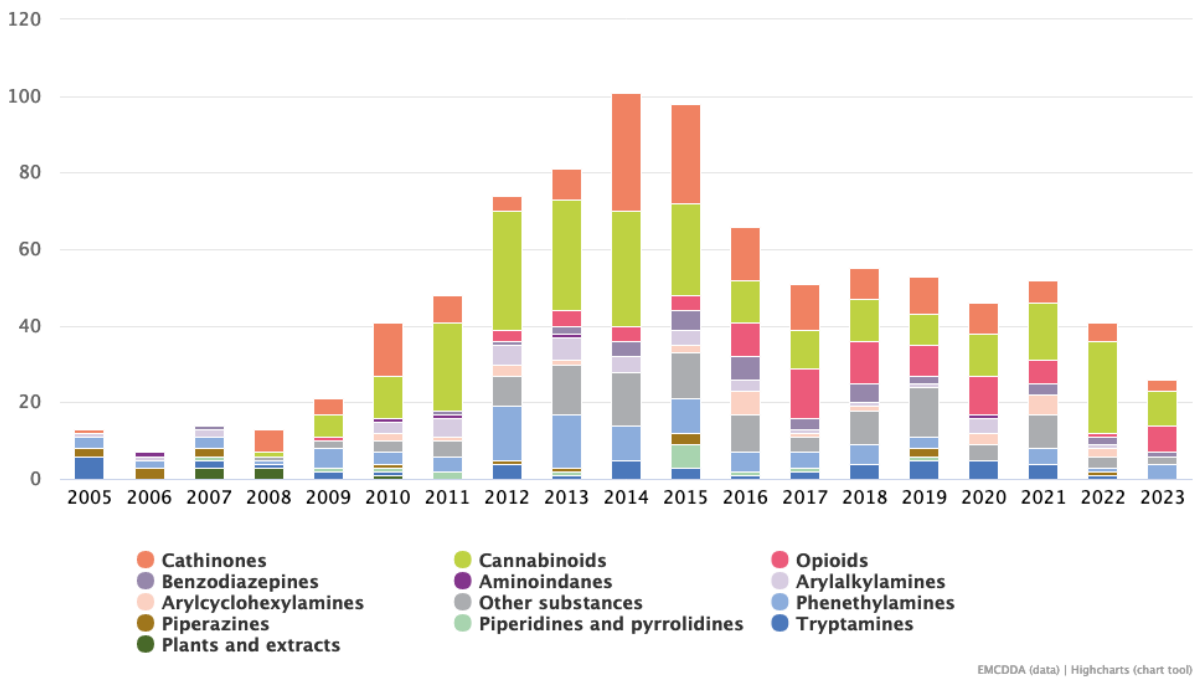


Table 7.1. Notifications of new psychoactive substances under the terms of Regulation (EC) no 1920/2006 (as amended) and Council Framework Decision 2004/757/JHA (as amended) – 2023

Common name	IUPAC name	EMCDDA classification	Date of formal notification	Country
N-desethyl isotonitazene	N-ethyl-2-[2-[(4-isopropoxyphenyl)methyl]-5-nitro-benzimidazol-1-yl]ethanamine	Opioids	22/12/2023	Portugal
N-desethyl etonitazene	2-[2-[(4-ethoxyphenyl)methyl]-5-nitro-benzimidazol-1-yl]-N-ethyl-ethanamine	Opioids	21/12/2023	Sweden
A-PBITMO	(Adamantan-1-yl)(3-pentyl-2-thioxo-2,3-dihydro-1H-benzo[d]imidazol-1-yl)methanone	Cannabinoids	18/12/2023	Germany
2C-T	2-[2,5-dimethoxy-4-(methylsulfanyl)phenyl]ethan-1-amine	Phenethylamines	14/12/2023	Austria
Metonitazepyne	2-(4-methoxybenzyl)-5-nitro-1-(2-(pyrrolidin-1-yl)ethyl)-1H-benzo[d]imidazole	Opioids	23/10/2023	Sweden
Hexahydrocannabihexol (HHCH)	3-hexyl-6,6,9-trimethyl-6a,7,8,9,10,10a-hexahydrobenzo[c]chromen-1-ol	Cannabinoids	18/09/2023	Sweden
Tetrahydrocannabiphorol (THCP)	3-heptyl-6a,7,8,10a-tetrahydro-6,6,9-trimethyl-6H-dibenzo[b,d]pyran-1-ol	Cannabinoids	13/09/2023	Belgium
Protonitazepyne	5-nitro-2-[(4-propoxyphenyl)methyl]-1-(2-pyrrolidin-1-ylethyl)benzimidazole	Opioids	31/07/2023	Slovenia
1T-LSD	N,N-diethyl-7-methyl-4-(thiophene-2-carbonyl)-4,6,6a,7,8,9-hexahydroindolo[4,3-fg]quinoline-9-carboxamide	Others	14/07/2023	Germany
NMDMSB	1-naphthyl 4-methyl-3-(dimethylsulfamoyl)-benzoate	Cannabinoids	03/07/2023	Hungary
3'-Me-PVP	1-(3-methylphenyl)-2-(pyrrolidin-1-yl)pentan-1-one	Cathinones	08/06/2023	Sweden

Common name	IUPAC name	EMCDDA classification	Date of formal notification	Country
CUMYL-3TMS-PRINACA	N-(2-phenylpropan-2-yl)-1-(3-(trimethylsilyl)propyl)-1H-indazole-3-carboxamide	Cannabinoids	30/05/2023	Sweden
N-sec-butyl-pentedrone	2-[(butan-2-yl)amino]-1-phenylpentan-1-one	Cathinones	17/05/2023	France
MDMB-BINACA	methyl 2-(1-butyl-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate	Cannabinoids	11/05/2023	Sweden
4'-Chloro deschloroalprazolam	6-(4-chlorophenyl)-1-methyl-4H-[1,2,4]triazolo[4,3-a][1,4]benzodiazepine	Benzodiazepines	24/04/2023	Ireland
Tetrahydrocannabidiol (H4-CBD)	2-(2-isopropyl-5-methylcyclohexyl)-5-pentylbenzene-1,3-diol	Cannabinoids	03/04/2023	Sweden
ADMB-3TMS-PRINACA	N-(1-amino-3,3-dimethyl-1-oxobutan-2-yl)-1-(3-(trimethylsilyl)propyl)-1H-indazole-3-carboxamide	Cannabinoids	31/03/2023	Germany
N-pyrrolidinyl-3,4-DMA	1-[2-(3,4-dimethoxyphenyl)-1-methylethyl]-pyrrolidine	Phenethylamines	23/03/2023	Ireland
N-cyclohexyl butylone	1-(1,3-benzodioxol-5-yl)-2-(cyclohexylamino)butan-1-one	Cathinones	14/03/2023	Spain
2′-Fluoro-2-fluoro-3-methylfentanyl	N-(1-(2-fluorophenethyl)-3-methylpiperidin-4-yl)-N-(2-fluorophenyl)propionamide	Opioids	03/03/2023	Germany
Ethyleneoxynitazene	2-{2-[(2,3-dihydro-1-benzofuran-5-yl)methyl]-5-nitro-1H-benzimidazol-1-yl}-N,N-diethylethan-1-amine	Opioids	24/02/2023	Estonia
Iso-3-MMC	1-(methylamino)-1-(3-methylphenyl)propan-2-one	Others	15/02/2023	Austria
Etomethazene	2-[(4-ethoxyphenyl)methyl]-N,N-diethyl-5-methyl-1H-benzimidazole-1-ethanamine	Opioids	19/01/2023	Sweden
2-Bromomescaline	2-(2-bromo-3,4,5-trimethoxyphenyl)ethanamine	Phenethylamines	12/01/2023	Austria
2,6-Dibromomescaline	2-(2,6-dibromo-3,4,5-trimethoxyphenyl)ethanamine	Phenethylamines	12/01/2023	Austria

Common name	IUPAC name	EMCDDA classification	Date of formal notification	Country
Hexahydrocannabiphorol (HHC-P)	3-Heptyl-6a,7,8,9,10,10a-hexahydro-6,6,9-trimethyl-6H-dibenzo[b,d]pyran-1-ol	Cannabinoids	06/01/2023	Slovenia

Figure 7.2. Number of new psychoactive substances reported each year following their first detection in the European Union, by category, 2005-2022

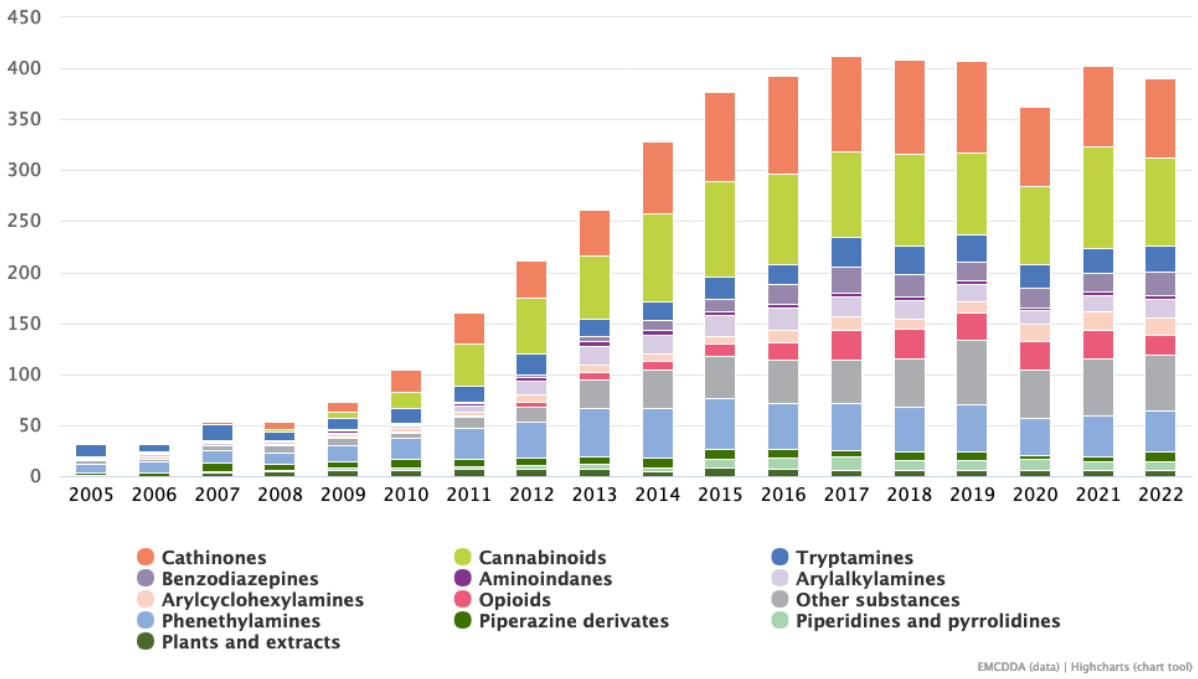
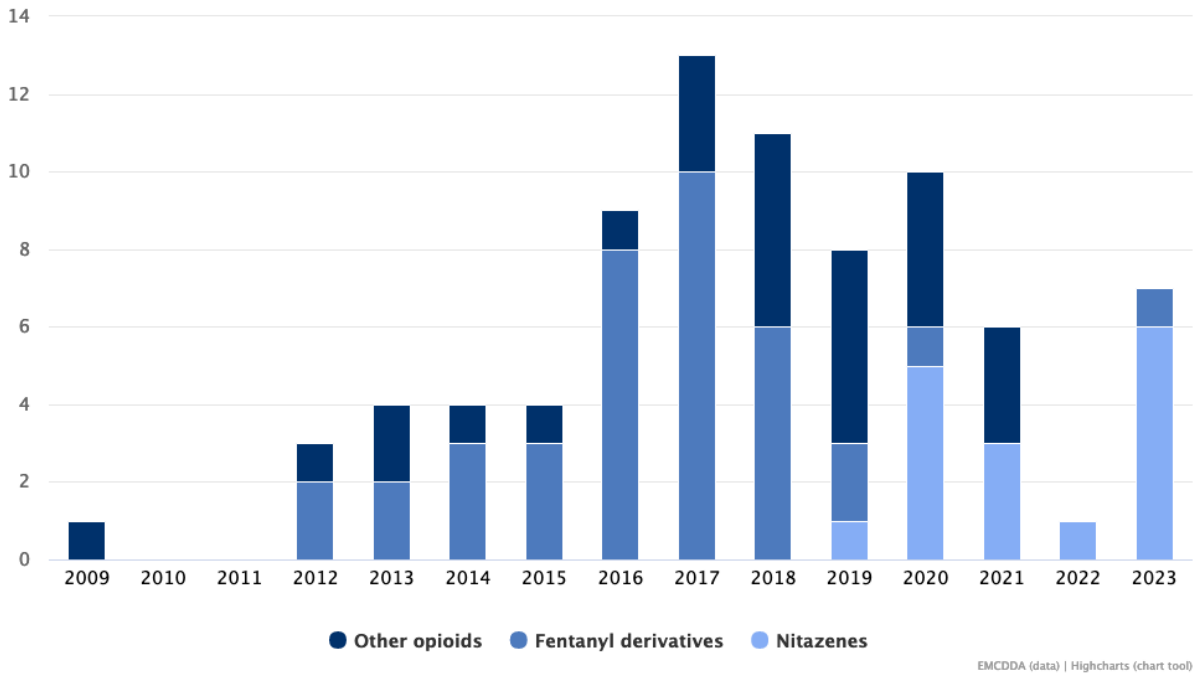


Figure 7.3. Number of new opioids reported for the first time to the EU Early Warning System, 2009-2023



Seizures of new psychoactive substances

- In 2022, 24 countries reported seizing 281 kilograms (385 kilograms in 2021) of synthetic cannabinoids as herbal material. Low-THC herbal cannabis products accounted for around 30 % of these seized materials, amounting to 76 kilograms (242 kilograms in 2021), reported by 10 countries. The samples were variously reported as 'hemp' or 'cannabis' or containing THC, CBD or CBG.
- In 2022, EU Member States accounted for almost 26 390 of the 38 860 seizures of new psychoactive substances reported in the European Union, Norway and Türkiye, amounting to 30.7 of the 31.8 tonnes seized (Figure 7.4). The increase was driven by a small number of large seizures of cathinones (3-CMC, 3-MMC, 2-MMC) and ketamine (Figure 7.5). In addition, 1 472 litres of liquids containing new psychoactive substances were seized, mainly GBL (1 115 litres) and HHC (96 litres).
- In 2022, just 5 substances accounted for over 90 % of the quantity of new psychoactive substances seized in EU countries: 4 cathinones (3-CMC, 3-MMC, 2-MMC and N-ethylnorpentedrone, amounting to 24.8 tonnes) and ketamine (2.8 tonnes, up from 0.87 tonnes in 2021) (Figure 7.5).
- In 2022, 749 seizures of new opioids were reported to the EU Early Warning System, with 40 % containing carfentanil and 22 % containing tramadol. A total of 16.6 kilograms of material was seized, with 50 % (8.2 kilograms) containing carfentanil and 31 % (5.2 kilograms) containing tramadol. Most of the seizures occurred in northern Europe, with Estonia, Latvia, Lithuania, Sweden and Finland reporting 87 % of the seizures and 67 % (11.1 kilograms) of the quantity seized.

Figure 7.4a. Seizures of new psychoactive substances in the European Union: number of seizures, 2005-2022

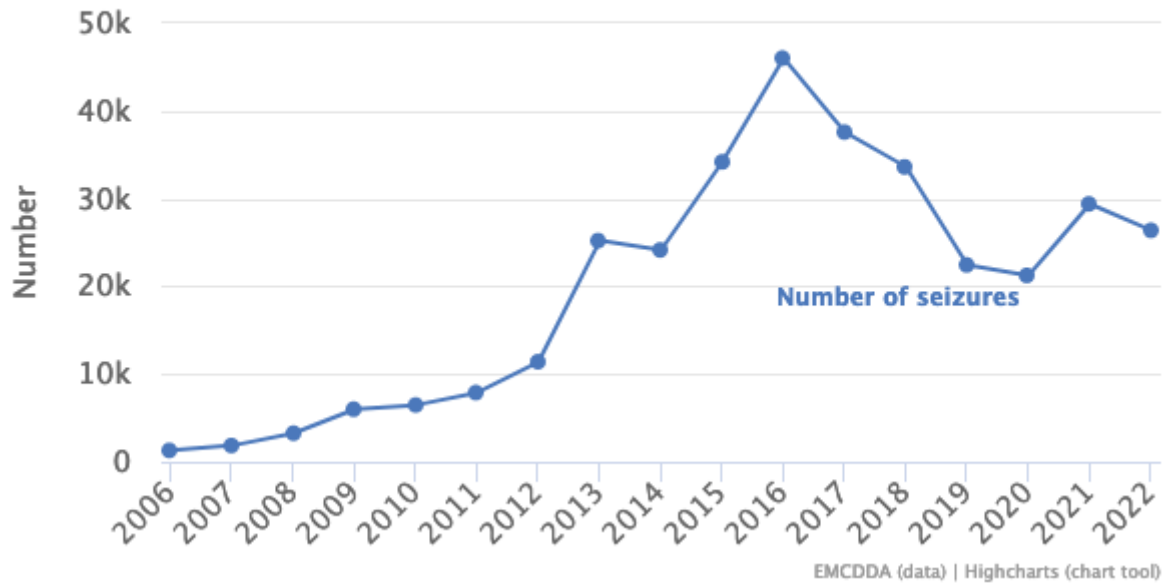


Figure 7.4b. Seizures of new psychoactive substances in the European Union: quantity seized, 2005-2022 (kg)

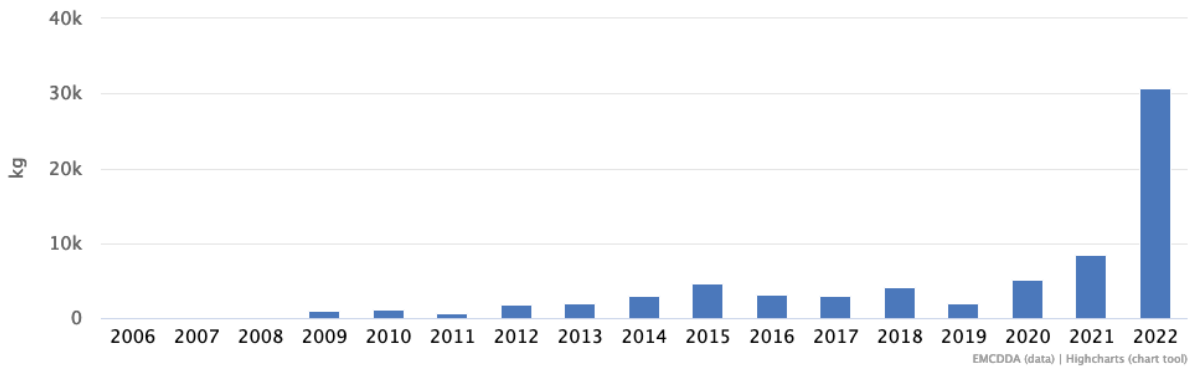
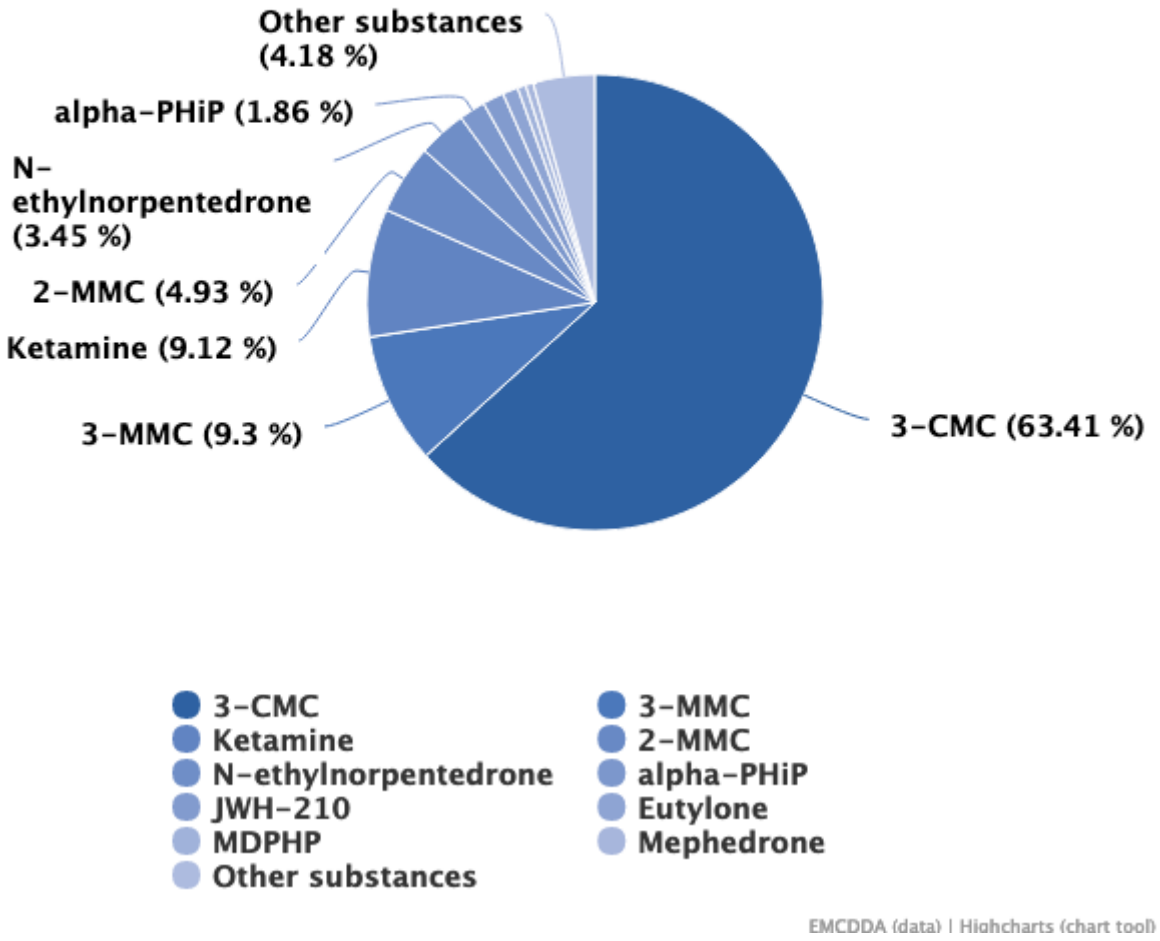


Figure 7.5. Seizures of new psychoactive substances in the European Union: percentage of total quantity seized, by substance, 2022



Based on all physical forms expressed in kilograms.

Prevalence of new psychoactive substances use

- National estimates of last year use of new psychoactive substances (excluding ketamine and GHB) among young adults (aged 15 to 34) range from 0.1 % in Latvia and Norway to 5.1 % in Romania. Among 15- to 16-year-old schoolchildren, the most recent European survey (see ESPAD), carried out in 2019, estimated that lifetime use of new psychoactive substances ranged from 0.9 % to 6.6 %, with lifetime use ranging from 1.1 % to 5.2 % for synthetic cannabinoids and 0.2 % to 2.5 % for synthetic cathinones.

Abbreviations

Abbreviations of chemical names used on this page

Abbreviation	Chemical name
2-MMC	2-methylmethcathinone
3-CMC	3-chloromethcathinone
3-MMC	3-methylmethcathinone
4-CMC	4-chloromethcathinone, clephedrone
4-MMC	4-methylmethcathinone, mephedrone
CBD	cannabidiol
CBG	cannabigerol
GHB	gamma hydroxybutyrate
GBL	gamma-butyrolactone
HHC	hexahydrocannabinol
THC	tetrahydrocannabinol

Source data

Injecting drug use in Europe – the current situation (European Drug Report 2024)

Despite a continued decline in injecting drug use over the past decade in the European Union, this behaviour is still responsible for a disproportionate level of both acute and chronic health harms associated with the consumption of illicit drugs. On this page, you can find the latest analysis of injecting drug use in Europe, including key data on prevalence at national level and among clients entering specialist treatment, as well as insights from studies on syringe residue analysis and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Variety of substances now injected causing serious health harms

Despite a continued decline in injecting drug use over the past decade in the European Union, this behaviour is still responsible for a disproportionate level of both acute and chronic health harms associated with the consumption of illicit drugs. Half a million Europeans are estimated to have injected an illicit drug in the last year. This underlines the scale of the ongoing challenges in this area and the fact that reducing the harm associated with injecting drug use remains an important public health priority.

People who inject drugs are at greater risk of contracting blood-borne infections or dying from a drug overdose. Injecting can also exacerbate other pre-existing health problems or be a cause of abscesses, septicaemia and nerve damage. Historically, heroin has been the main drug associated with injecting in Europe, but this has been changing in recent years. Increasingly today, other drugs, including amphetamines, cocaine, synthetic cathinones, opioid agonist medications and other medicines and various new psychoactive substances, are also injected, either alone or in combination. While it is known that there is considerable variation in injecting between countries, recent studies of syringe residues also reveal that there can also be considerable variation in the drugs injected between different sites within a country. Multiple substances are commonly detected in syringe residues, often including both stimulant and opioid drugs, and polydrug use can increase the risk of a drug overdose. Recognising the complexity of injecting drug use in Europe and the significance of polydrug use in this context is therefore likely to have important implications both for understanding the harms associated with this mode of administration and for designing interventions to reduce them.

Injecting stimulant drugs such as cocaine and synthetic cathinones tends to be more associated with high-frequency injecting patterns of use, and has been associated with local HIV outbreaks in the last decade in Europe. Methamphetamine injecting carries similar risks. This is a concern, as there are a number of signals that stimulant injecting is becoming a more common behaviour among people who inject drugs. In addition, people who inject drugs may use stimulants as replacement substances, when opioids such as heroin are scarce.

There are multiple long-term risks linked to injecting dissolved medicine tablets and capsules, and also crack cocaine, including vascular damage and infective endocarditis and other bacterial infections. An additional concern is raised by the availability of highly potent synthetic opioids, such as fentanyl and its derivatives, which can cause rapid onset of life-threatening respiratory depression leading to fatal overdoses, and these risks are likely to be elevated when such substances are injected. The highly potent benzimidazole opioids (nitazenes), which can be more potent than fentanyl, were involved in three localised poisoning outbreaks in France (1) and Ireland (2) in 2023, where consumption of nitazenes mis-sold as heroin resulted in multiple overdoses (see also New psychoactive substances – the current situation in Europe).

In addition to the provision of drug treatment, harm reduction interventions, such as the provision of sterile injecting equipment, remain among the most common public health measures targeting the risks associated with injecting drugs. Although, by international standards, such interventions are relatively well developed in Europe, it is also clear that some EU Member States face challenges in providing sufficient coverage and access to harm reduction and drug treatment interventions for people who inject drugs. For example, the coverage of needle and syringe programmes is low in Bulgaria, Italy, Cyprus, Hungary and Romania in comparison with other EU Member States with comparable estimates of injecting drug use. Moreover, historically the need to reduce the risk of acquiring blood-borne infectious diseases has been a primary focus of many interventions in this area. This concern remains important, but there is now greater recognition that more also needs to be done to reduce overdose deaths and the broader range of health harms associated with injecting drug use. Forensic and toxicological analysis of drug batches suspected of containing highly potent substances (e.g. nitazenes), combined with rapid risk communication, is an important part of the overall approach to overdose prevention and needs to be scaled up. Other interventions targeting these outcomes, including take-home naloxone and drug consumption rooms, are generally less well developed, and therefore this remains an important area for investment and service development.

Changing patterns of drug injecting, an increasing diversity of substances and the adequacy of the type and level of existing responses remain key issues for both frontline responders and policymakers in the European Union. As the subgroups of people who inject drugs change, now encompassing primarily opioid and stimulant-based open drug scenes involving marginalised people who inject drugs, as well the use of substances such as methamphetamine and cathinones in some settings and subgroups, responding effectively to the risk posed by drug injecting has become a more urgent and complex challenge.

Key data and trends

Prevalence of injecting drug use

- Only 18 countries have estimates of the prevalence of injecting drug use since 2015, where they range from under 0.1 per 1 000 population aged 15 to 64 in the Netherlands, to over 10 per 1 000 in Estonia. Opioids are reported as the main injected drugs in the majority (19) of the 22 countries for which data are available for clients entering treatment in 2022.
- Adjusting population estimates of high-risk opioid and stimulant users for the proportion of drug treatment entrants reporting injecting provides a prevalence estimate of injecting drug use of 1.8 per 1 000 population aged 15 to 64 years. This suggests there were an estimated 504 000 people who inject drugs in the European Union in 2022 or 512 000 if Norway is included (Figure 9.1).

Figure 9.1a. Estimated number of people who inject drugs, by country

Number of people who inject drugs

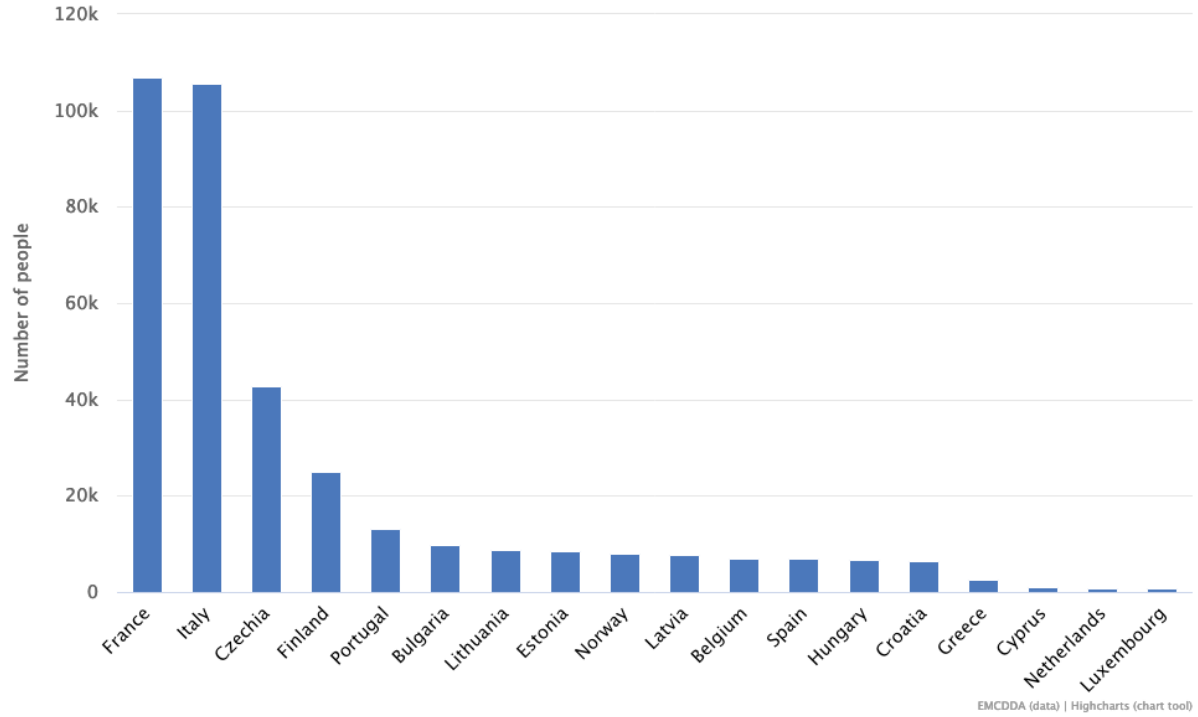
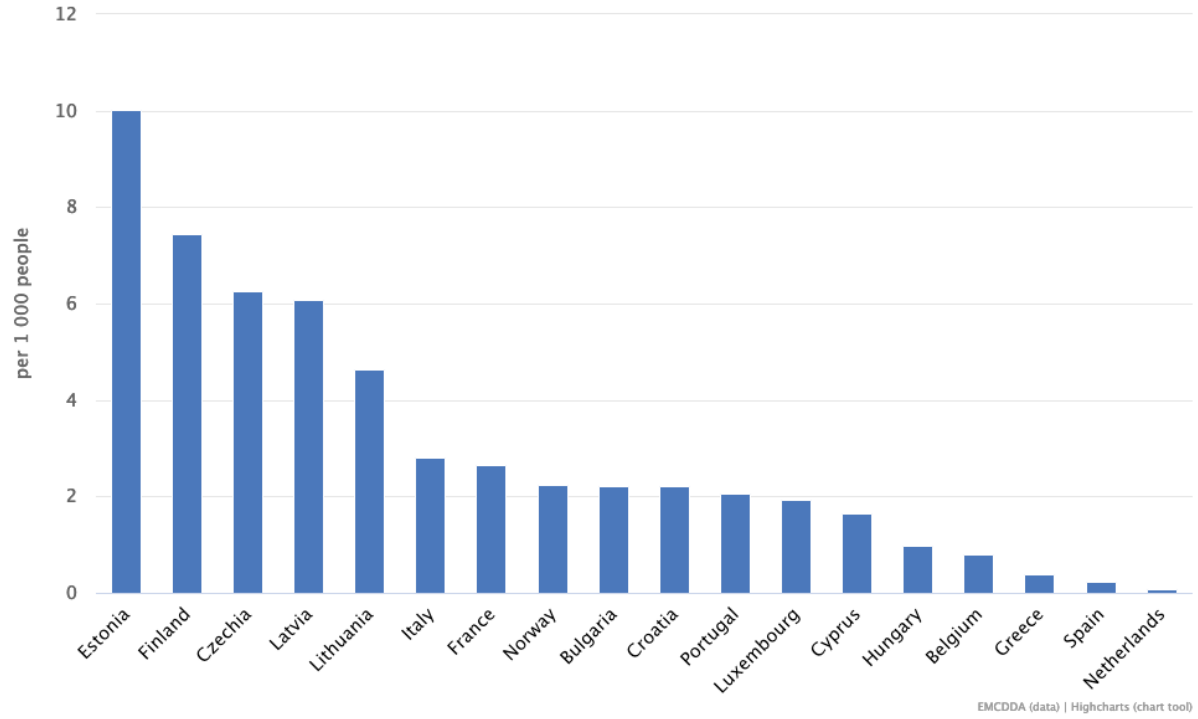


Figure 9.1b. Estimated prevalence of people who inject drugs (per 1000 people)

Prevalence of people who inject drugs (per 1 000 population)

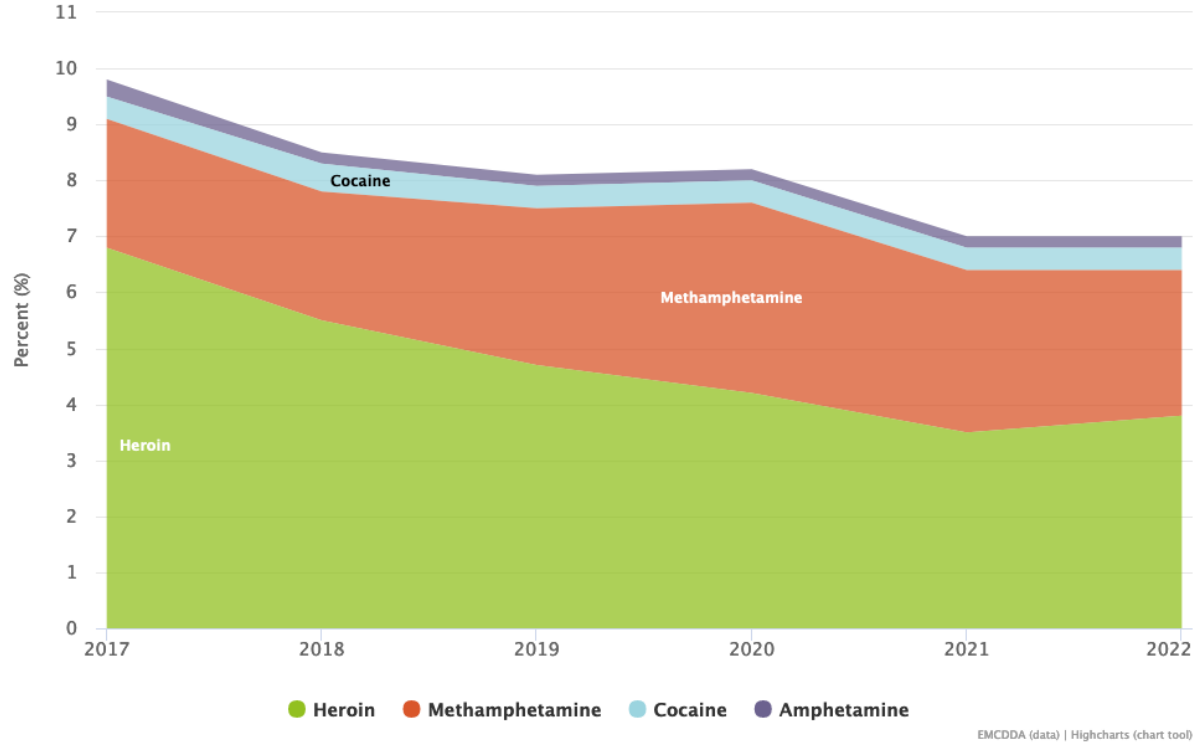


Based on the latest data available from each country.

Injecting drug use among clients entering specialised treatment

- Among first-time clients entering specialised drug treatment in 2022, or most recent year available, with heroin as their primary drug, 18 % (down from 37 % in 2013) reported injecting as their main route of administration. In this group, levels of injecting vary between countries, from less than 10 % in Belgium, Spain, France and Portugal to 60 % or more in Bulgaria, Czechia, Estonia, Latvia, Lithuania, Romania and Slovakia.
- Available data indicate that injecting is reported as the main route of administration by less than 1 % of first-time cocaine clients, 2 % of first-time amphetamine clients and 16 % of first-time methamphetamine clients. It should be noted that Czechia and Slovakia account for more than 90 % of methamphetamine first-time entrants who reported injecting as their main route of administration.
- Considering the four main injected drugs together, injecting as the main route of administration among first-time entrants to treatment in Europe has declined from 10 % in 2017 to 7 % in 2022 (Figure 9.2).

Figure 9.2. Trends in injecting among first-time treatment entrants with heroin, cocaine, amphetamine or methamphetamine as primary drug: percentage reporting injecting as main route of administration



Trends in injecting among first-time treatment entrants are based on 22 countries with data for at least 5 of the 6 years (missing values were interpolated from adjacent years), and one country for which the final 2 years were extrapolated.

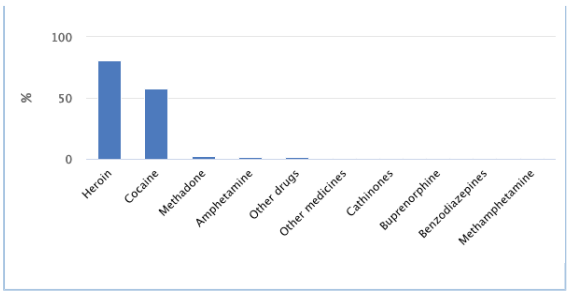
Syringe residue analysis

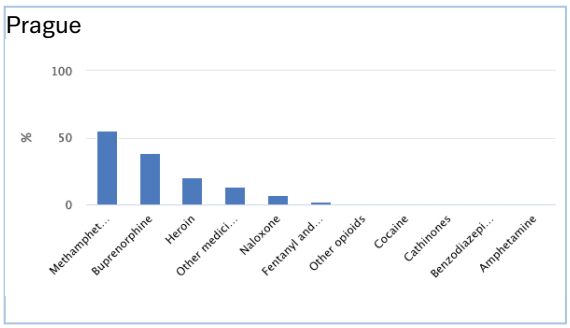
- Analysis of 1 845 used syringes by the ESCAPE network of 12 cities in 11 EU Member States between 2021 and 2022 detected 54 psychoactive substances. These data are not nationally

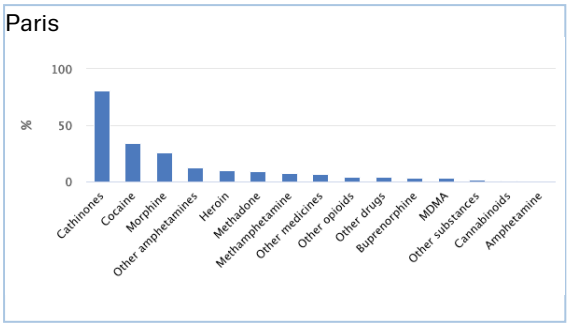
representative and therefore should be understood as indicative of a diversity at local-level in drug use dynamics, rather than reflecting the overall national situations.

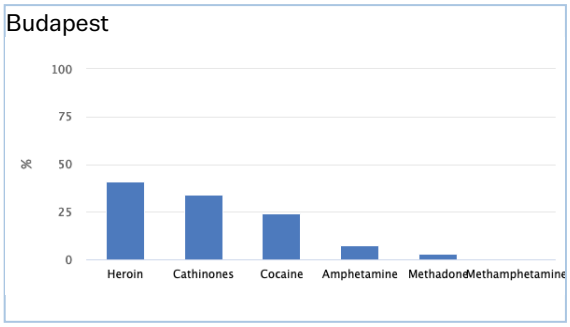
- Heroin was still the most commonly detected drug in 5 out of the 12 participating cities, but stimulants, mostly cocaine, were found in syringes in all cities. They were found in a high proportion (over 50 %) of the syringes sampled in Athens (cocaine), Cologne (cocaine), Dublin (cocaine), Thessaloniki (cocaine), Prague (methamphetamine), Oslo (amphetamine), Tallinn (amphetamine) and Paris (synthetic cathinones) (Figure 9.3).
- Injection of diverted opioid agonist medications was common in some cities, with buprenorphine detected in more than 30 % of the syringes in Helsinki, Prague and Thessaloniki and methadone detected in more than 30 % of the syringes in Dublin, Riga and Vilnius. Benzodiazepines were also detected, albeit to a lesser extent (in more than 5 % of the syringes in Helsinki, Dublin and Tallinn). Carfentanil was commonly found in syringes in Vilnius (92 %) and Riga (29 %). Another potent synthetic opioid, isotonitazene, was detected in 10 % and 26 % of syringes from Tallinn and Riga, respectively. Xylazine, a potent veterinary tranquilliser, was detected in 25 out of 194 syringes (13 %) in Riga, where it was found in the presence of isotonitazene or metonitazene in all 25 syringes and together with carfentanil in 3 syringes.
- Overall, a third of the syringes contained residues of two or more drug categories, indicating frequent polydrug use or re-use of injecting paraphernalia. The most frequent combination was a mixture of a stimulant and an opioid.
- Preliminary data on syringe residue analysis for 2023 confirm existing trends. In Tallinn, the potent synthetic opioid protonitazene was found in half of the syringes (77 of 154), suggesting nitazenes are continuously available on the local drug market. While no nitazenes were detected in the 155 syringes analysed in Dublin, heroin was observed in 150 (97 %) and cocaine in 139 (90 %), reflecting polydrug use or the re-use of syringes, or both. In Budapest, of the 147 syringes analysed, cathinones were found in 101 (69 %) and amphetamine in 35 (24 %), while heroin was detected in 22 (15 %), indicating a greater role for synthetic stimulants in the local drug market. Reflecting a different consumption dynamic, of the 159 syringes analysed in Split, methadone was found in 132 (83 %), while cocaine was detected in 67 (44 %), with amphetamine observed in 41 (24 %). Lastly, in Helsinki, out of the 163 syringes analysed, detections of buprenorphine and amphetamine remained high, while benzodiazepines, mostly alprazolam, were found in 60 syringes (37 %).

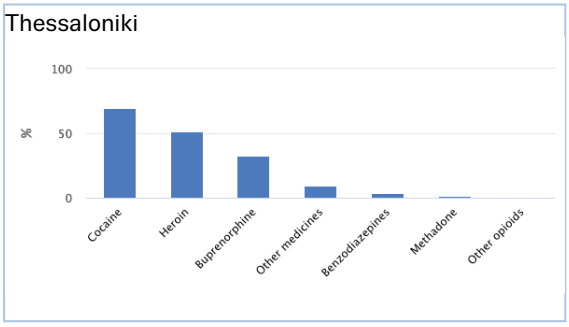
Figure 9.3. Percentage of used syringes tested positive by drug category, by city, 2022

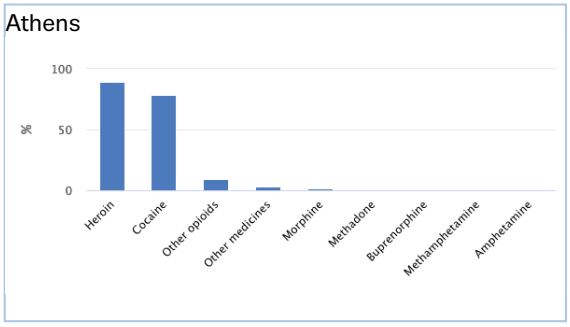












Data source: ESCAPE project. For the complete data set and analysis, see ESCAPE: data explorer, analysis and key findings.

Source data

The data used to generate infographics and charts on this page may be found below.

Drug-related infectious diseases – the current situation in Europe (European Drug Report 2024)

People who inject drugs are at risk of contracting infections through the sharing of drug use paraphernalia. On this page, you can find the latest analysis of drug-related infectious diseases in Europe, including key data on infections with HIV and hepatitis B and C viruses.

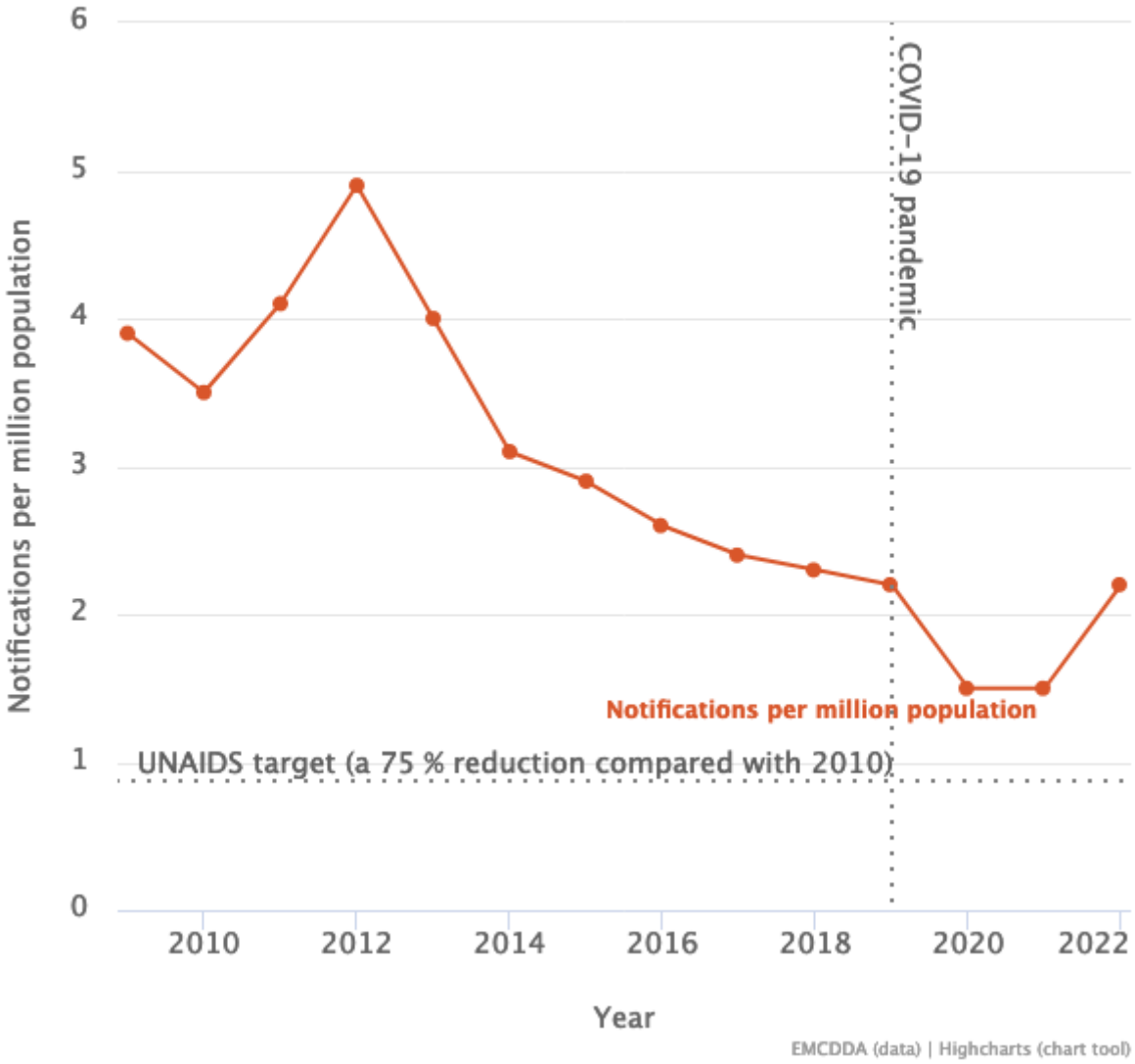
This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Rebound in HIV notifications to pre-pandemic levels highlights service development needs

People who inject drugs are at risk of contracting infections such as viral hepatitis B and C (HBV and HCV, respectively) and the human immunodeficiency virus (HIV) through the sharing of drug use paraphernalia. These infections can cause chronic diseases that may result in severe health-related harms, including death. While the long-term trend in new HIV infections related to injecting drug use has been declining in the European Union, more than half of the reporting countries saw an increase in new HIV notifications in 2022 compared with 2021 (Figure 10.1). The increase observed in 2022 may, in part at least, reflect increased rates of HIV testing following the lifting of COVID-19-related restrictions on movement and the return to pre-pandemic functioning of health services (including HIV testing). Another possible contributory factor is the increased movement of people living with a known HIV diagnosis in European countries following the Russian invasion of Ukraine. Thus, these data need to be interpreted with caution, as they are not necessarily indicative of an increase in rates of new infections. Nor do they necessarily put into question the long-term decline in HIV notifications. Nevertheless, the decline of 38 % noted since 2010 falls short of the World Health Organization's (WHO) target of a 75 % reduction, suggesting increased efforts are still needed in this area.

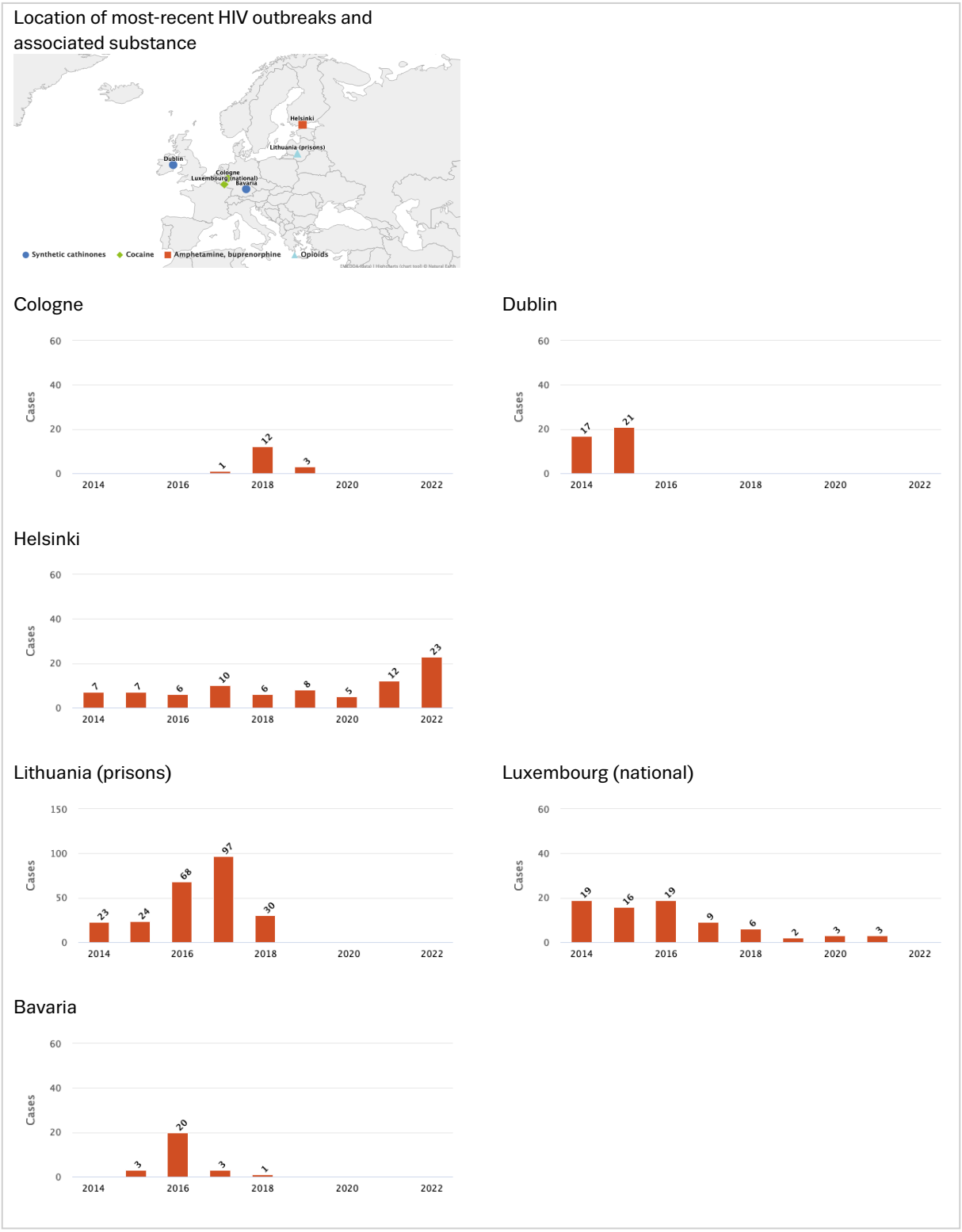
Figure 10.1. New HIV notifications linked to injecting drug use in the European Union, 2009 to 2022



Source: ECDC.

It is also important to note the role that stimulants now appear to play in respect to HIV infections related to injecting drug use. The injection of stimulants, alone or in combination with opioids, has been associated with most HIV outbreaks documented in Europe in the past decade, and local HIV outbreaks linked to stimulant injecting continue to be reported, with an example of an ongoing outbreak that was still active in 2022 reported in Monza, Italy (Figure 10.2). The increased availability of cocaine on the European drugs market and its injection is a cause for concern, as it may lead to more HIV outbreaks.

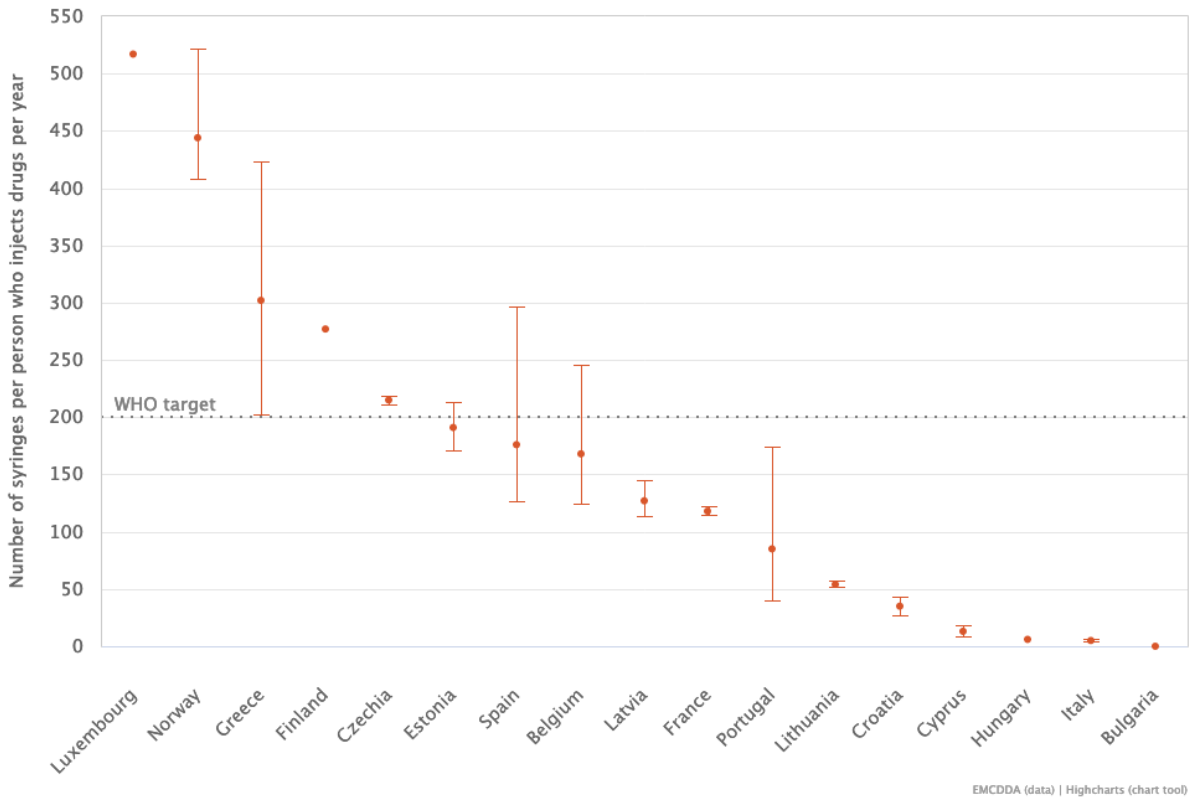
Figure 10.2. Most-recent HIV outbreaks in Europe among people who inject drugs: number of cases and the associated injected substance, 2014 to 2022



An additional concern is that, in 2022, over 40 % of new HIV diagnoses linked to injecting drug use in the European Union were diagnosed late. Patients with a late HIV diagnosis are at increased risk of HIV-related morbidity and mortality and may have a poorer response to antiretroviral treatment. Voluntary and confidential infectious disease testing of people who inject drugs is a prerequisite for linkage to care and treatment provision.

By 2022, no EMCDDA reporting country had yet reached all 95-95-95 WHO targets for the continuum of care among people who inject drugs living with HIV. These targets aim to have 95 % of people living with HIV tested, 95 % of these people on antiretroviral therapy and 95 % of those achieving viral suppression by 2030. Overall, among people living with HIV, those who inject drugs are less likely to be diagnosed, linked to care and achieve viral suppression. This implies a greater risk of HIV-related morbidity and mortality, as well as the possibility of more onward transmission. Recent guidance from the EMCDDA and ECDC on the prevention and control of infectious diseases among people who inject drugs supports the implementation of tailored community-based testing services. This includes testing outside formal healthcare settings, for example in outreach services, and highlights how a more integrated approach to testing and linkage to care is an effective way to reduce this persistent health inequity. Harm reduction approaches are now seen as fundamental to reducing HIV transmission among people who inject drugs, particularly the provision of sterile injecting equipment, including in prisons and through pharmacies. However, coverage and access to free needle and syringe provision remain insufficient in many countries, with only 5 of the 17 countries with available data achieving the WHO service provision targets in 2022 (Figure 10.3). Obtaining secure funding for harm reduction services working with people who inject drugs can be challenging in some countries. For example, non-governmental organisations in Bulgaria and Romania have experienced funding and procurement difficulties in recent years, leading to a reduction in provision. In Sofia, during the period of reduced syringe provision, HIV prevalence rates from routine diagnostic tests conducted in drug treatment centres increased, reaching 15 % in 2022, reflecting the risk of increased infections when service levels are inadequate.

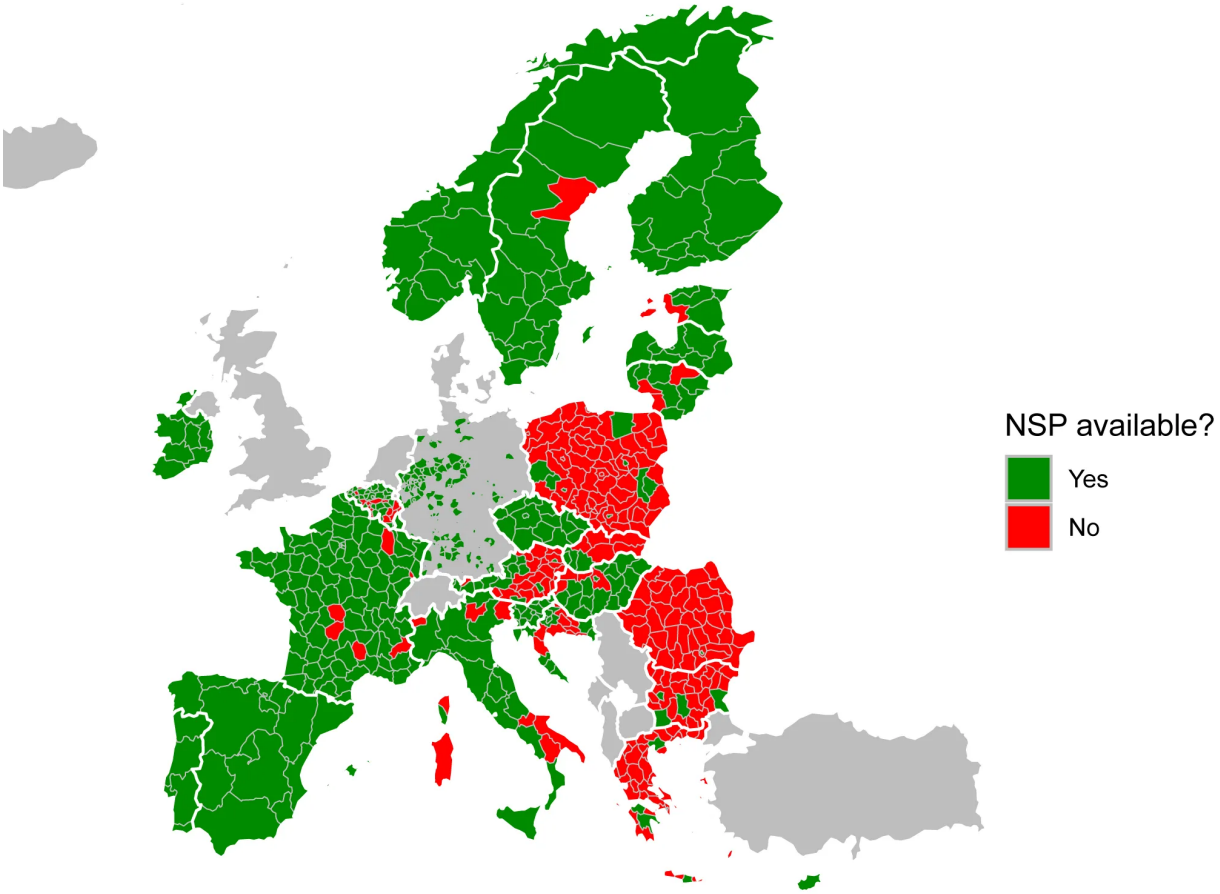
Figure 10.3. Number of sterile syringes distributed per person who inject drugs per year, 2022 or latest data



Norway on track to eliminate HCV as a public health threat among people who inject drugs

In Europe, people who inject drugs also have a high burden of chronic viral hepatitis, and injecting drug use remains the most common risk factor for new HCV diagnoses. A recent study found that at least 36 % of the overall chronic HCV prevalence in the EU Member States, Norway and Iceland is associated with injecting drug use. There is also evidence that harm reduction services, such as needle and syringe programmes, as well as the provision of opioid agonist treatment, can reduce the risk of HCV transmission. As noted earlier, the coverage of and access to these interventions vary considerably between European countries (Figure 10.4). In addressing the harms associated with HCV infection, it is important to identify individuals who remain chronically infected with the virus, as they are at risk of cirrhosis and cancer, and can transmit the virus to others through the sharing of any injecting paraphernalia that has been in contact with their blood. However, barriers to the uptake of HCV testing and treatment exist in many countries and may result in many HCV infections not being diagnosed and treated.

Figure 10.4. Availability of needle syringe programmes in Europe at regional level, 2022 or the most recent year available



Data are at NUTS levels 2 or 3. For information on NUTS (nomenclature of territorial units for statistics) visit the Eurostat website. The lack of data at NUTS levels 2 or 3 does not mean that the intervention is not available within a country.

Time trends in the prevalence of active HCV infection among people who inject drugs are useful for monitoring the impact of prevention and treatment. The EMCDDA monitors national progress through its elimination barometer. Among the countries reporting to the EMCDDA, only Norway has evidence that they have achieved an 80 % reduction in viraemic HCV prevalence among people who inject drugs between 2015 and 2021, which is needed to achieve the Sustainable Development Goal 3.3 on HCV elimination by 2030. The prevalence of active HCV infection, as measured by HCV-RNA in a large seroprevalence study among people who inject drugs and use harm reduction services in Oslo, decreased by more than 80 % between 2015 (46 %) and 2022 (8.9 %). A similar trend in prevalence of active infections was observed in Bergen and Stavanger, while modelling

work suggests incidence among people who inject drugs has decreased by 79 % at the national level over the same period.

Responding to interactions between high-risk drug-taking and sexual behaviours requires multi-agency partnerships

The use of illicit stimulants and other drugs to facilitate group sexual encounters, sometimes of an extended duration, among men who have sex with men is known as chemsex. The drugs associated with this practice include synthetic stimulants, depressants and dissociatives, and both high-risk drug-taking and high-risk sexual behaviours may take place in some settings, making this an important area for outreach and harm reduction. High-risk consumption of some of these drugs, including injecting drug use, places people at risk of infectious diseases, acute drug toxicity and other health problems. People using drugs in this way often do not present as clients in drug treatment clinics but may be in contact with other services, including sexual health services. Providing effective harm reduction responses for people engaged in these high-risk behaviours remains a challenge, and the development of tailored interventions is needed. In Europe, treatment services for drug and sexual health problems are usually funded separately, have different eligibility criteria and are rarely co-located. This makes it difficult to provide integrated care for people exposed to the dual risks of unprotected sex and high-risk drug use in the context of sexualised drug use.

Greater investment still needed to meet global targets

EU policymakers have made a commitment to the WHO global health sector strategies to end AIDS and the epidemics of viral hepatitis and sexually transmitted infections by 2030. Achieving these objectives, however, still requires increased investment in harm reduction services, testing and linkage to treatment, as the provision in many countries remains insufficient. Greater efforts are therefore needed to prevent future outbreaks and reduce transmission, thereby reducing the burden of disease associated with HIV, HCV, HBV and other infections among people who inject drugs.

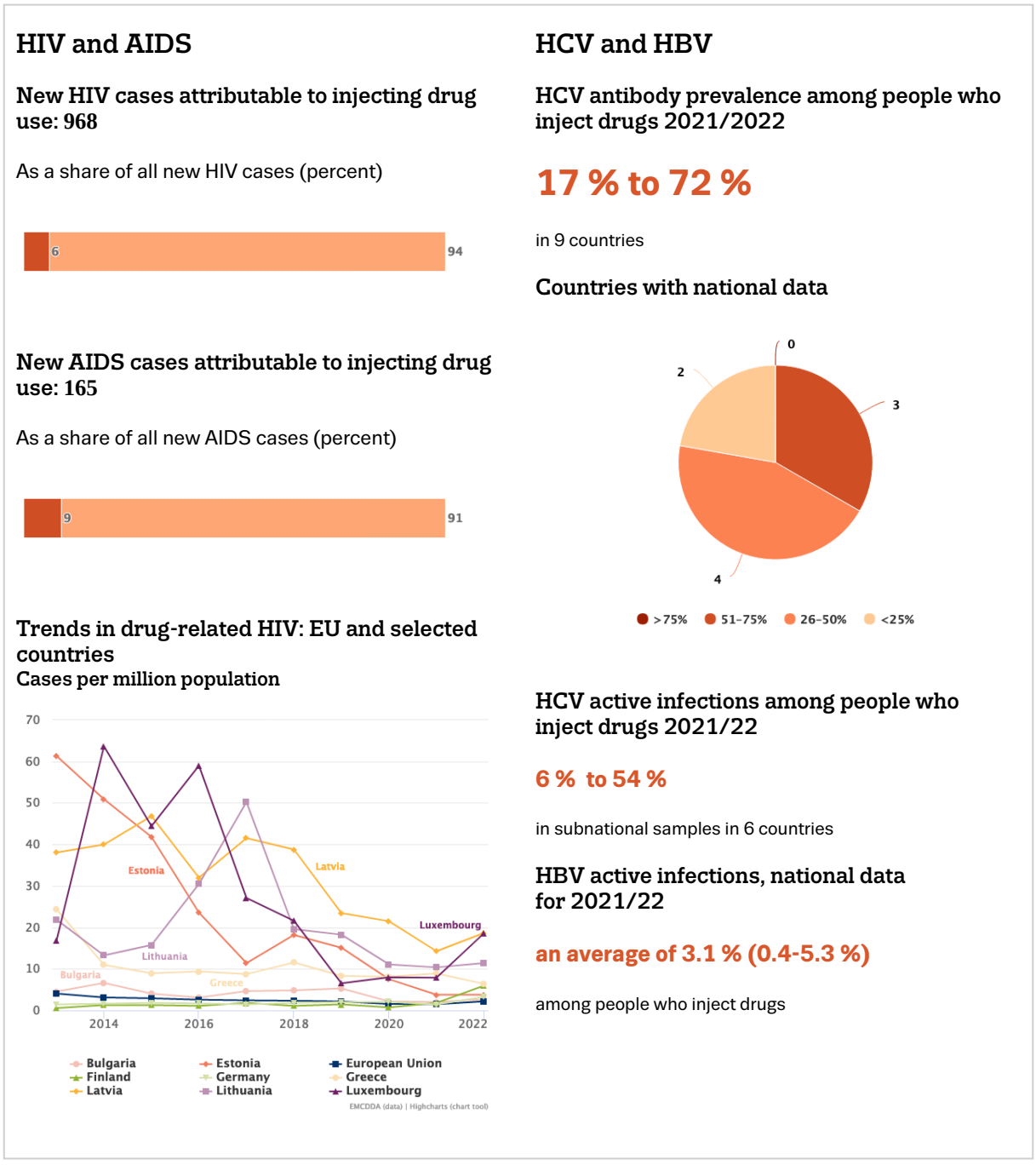
Key data and trends

HIV/AIDS

- In 2022, the number of new HIV notifications linked to injecting drug use in the European Union increased to 968, compared with 662 the previous year (Figure 10.5).
- The share of new HIV cases related to injecting drug use also increased between 2021 and 2022: from 4.8 % to 5.9 % of new cases with a known route of transmission. In 2022, the share of new HIV cases related to injecting drug use was greater than 10 % in Latvia (25 %), Finland (21 %), Luxembourg (19 %), Greece (15 %), Lithuania (14 %), Germany (11 %) and Norway (11 %).
- In 2022, 165 new AIDS diagnoses related to injecting drug use were notified in the European Union.
- Delayed diagnosis and treatment initiation among marginalised populations was a prominent characteristic of the latest HIV cluster detected in the European Union. Situated in the Lombardy region of Italy, it involved 20 analytically linked infections acquired between 2006 and 2022

traced back to the same HIV strain showing resistance-associated mutations.

Figure 10.5. Drug-related infectious diseases

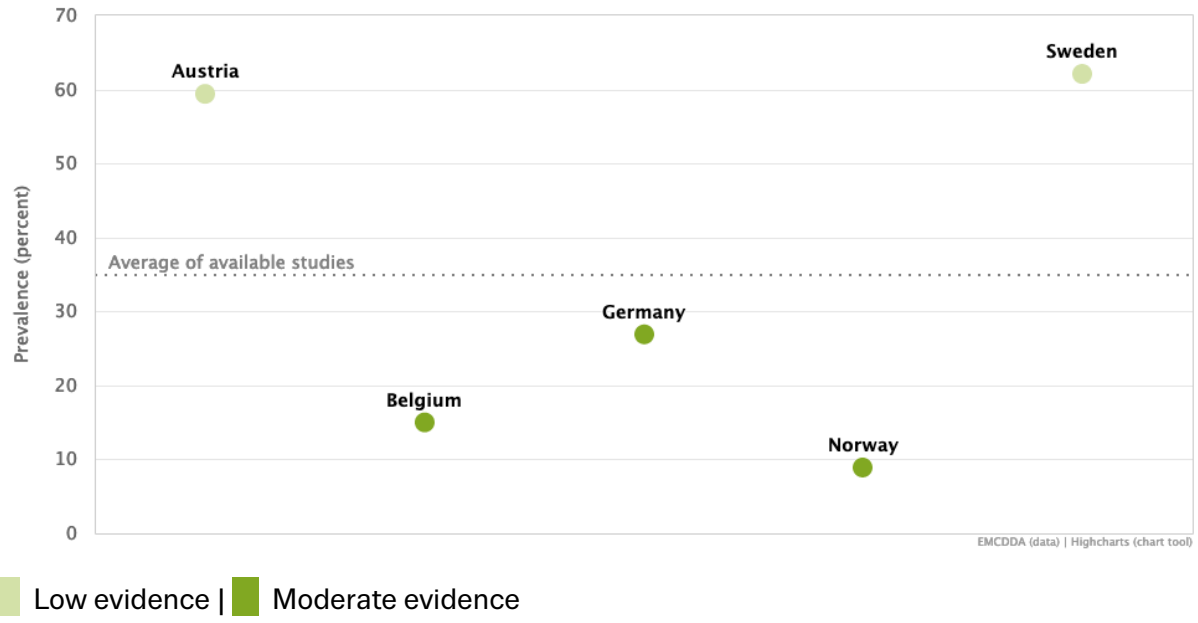


HCV and HBV

- Five European countries have recent prevalence estimates of active HCV infection among people who inject drugs and access drug services. The prevalence of active HCV infection derived from seroprevalence studies ranged from just under 9 % (Oslo, 2022) to 27 % (Bavaria, 2022), while results from routine HCV diagnostic tests ranged from 15 % (Belgium, 2019) to 59 % (Austria, 2020) and 62 % (Sweden, 2014) (Figure 10.6).

- Snapshots of HCV diagnosis and treatment in several European countries provide insight into linkages to care. In 2022, data from treatment programmes in Greece indicated that of the 26 % of people who inject drugs who tested positive for HCV-RNA, 85 % reported being prescribed treatment, and 54 % of those who had a diagnosis of HCV completed treatment. In Norway, a yearly seroprevalence study conducted among ever-injectors attending drug services in Oslo found a significant decrease in HCV-RNA prevalence between 2015 (46 %) and 2022 (8.9 %), reflecting the impact of prevention and treatment measures.
- In 2023, people who inject drugs were reported to face clinical or financial restrictions in accessing direct-acting antiviral HCV treatment in 5 EU Member States.
- Estimates for HBV infection (as measured by the presence of the hepatitis B surface antigen), derived from the latest seroprevalence studies among people who inject drugs, ranged from 0.4 % (Czechia, 2022) to 5.3 % (Spain, 2021).
- In 2023, there were 20 EU Member States with a viral hepatitis policy that included people who inject drugs. Integrating testing and treatment for HCV, HBV and HIV into harm reduction, drug treatment and prison health services is key to achieving the continuum of care targets for people who inject drugs.

Figure 10.6. Prevalence of active HCV infection among people who inject drugs, by country, 2022 or latest available data



Source data

Drug-induced deaths – the current situation in Europe (European Drug Report 2024)

Estimating the mortality attributable to drug use is critical for understanding the public health impact of drug use and how this may be changing over time. On this page, you can find the latest analysis of drug-induced deaths in Europe, including key data on overdose deaths, substances implicated and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Improving our understanding of drug-related mortality is a key requirement for developing effective responses

Estimating the mortality attributable to drug use is critical for understanding the public health impact of drug use and how this may be changing over time. Understanding the factors driving trends in this area is also likely to be key for the development of effective responses. However, despite improvements over the last decade, there are still important limitations in the information currently available to us, and this hampers the development of both policies and responses.

The term drug-induced deaths is used for an indicator that is intended to capture those deaths that are directly attributable to the consumption of drugs, sometimes referred to as drug overdose deaths. It should be noted that estimates of drug-induced deaths only represent a share of the overall mortality associated with drug use, as this measure does not include mortality from motor vehicle and other accidents, violence, suicides by means other than drug poisoning or chronic disease, where drug use may have played a role. A need exists therefore, through cohort studies and other approaches, to extend our understanding in these other important areas of drug-related mortality.

Despite these limitations, an assessment of drug-induced deaths is still a key measure for understanding the harm that the use of illicit drugs can cause, but it is also a challenging one to interpret for methodological and data availability and quality issues. This is particularly true when interpreting recent trends in drug-induced deaths, where data for the most recent reporting year (2022) are available for only 21 of the 29 countries covered by this indicator, and estimated values must therefore be calculated if an overall EU estimate is to be derived. Given the speed at which new drug threats can emerge, improving the timeliness and completeness of data in this area is an important priority for the future.

It should also be noted that, for methodological reasons, the numbers of drug-induced deaths identified are likely to represent minimum estimates; that reporting capacity varies between countries, meaning that national comparisons need to made with caution. In addition, a lack of detailed toxicological information in some countries currently means that our overall understanding of the role different drugs play in driving rates of drug-induced deaths over time is limited. The lack of detailed toxicological information can also hamper an understanding of the role played by

different drugs when used in combination. As the majority of fatal overdoses involve the use of more than one substance, and as drug consumption patterns are becoming ever more complex, there is also therefore a growing need to improve our understanding of how changes in patterns of polydrug use are impacting on mortality. A positive development in this area is that the launch of the new European Union Drugs Agency (EUDA) in 2024 will strengthen the capacity for rapid threat assessment, early warning and the issuing of alerts, and support measures to improve routine reporting capacity in this area. Importantly, the new agency will also coordinate a new network of forensic and toxicological laboratories, increasing the analytical capacity available to monitor how different drugs and drug combinations are impacting on trends in mortality.

While opioids are often present, most drug-induced deaths are associated with the consumption of multiple substances

For the year 2022, the number of reported drug-induced deaths increased slightly in some EU countries and fell in others. The provisional overall estimate of about 6 400 drug-induced deaths in 2022 represents a slight increase on 2021, but this figure should not be over-interpreted, as a number of countries with large populations have yet to provide data, and estimated values have necessarily been used to compute this provisional total.

Although detailed toxicological information is not available on all death cases, the information that does exist suggests polydrug toxicity is the norm, and where detailed toxicological information is available, it usually reports the presence of multiple substances.

The available information highlights that opioids, usually in combination with other substances, remain the group of substances most commonly implicated in drug-induced deaths. Overall, trends in deaths where opioids are implicated appear stable, but the proportion of deaths in older age groups is increasing. It is estimated that heroin was involved in more than 1 800 deaths in the European Union, and heroin remains the drug commonly identified as involved in opioid-related deaths in some western European countries. However, the data available suggest heroin is now present in the majority of overdose deaths in only a few countries, and both other opioids and other drugs are now playing a more important role. Opioids other than heroin, including methadone and, to a lesser extent, buprenorphine, pain-relief medicines containing opioids, and other synthetic opioids are associated with a substantial share of overdose deaths in some countries.

The data on drug mortality are also indicative of an ageing opioid-using cohort in Europe as illustrated by the two-thirds increase in the number of drug-induced deaths among 50- to 64-year-olds between 2012 and 2022. Despite public perceptions that drug overdoses are a problem that impacts mostly on young people, cases of mortality linked to drug consumption are typically found among males aged 40 or older.

The available data also suggest the deaths where stimulants are implicated are rising in some countries, although with important caveats here. Stimulant deaths are likely to be particularly prone to under-reporting, and stimulants are often implicated in deaths where other drugs, including opioids, are also found to be present. There is also some information to suggest that stimulants appear to be more commonly implicated in deaths reported among younger age cohorts.

Concerns growing about deaths linked to synthetic opioids

Potent synthetic opioids, such as the fentanyl derivative carfentanil and nitazene opioids, some of which are significantly more potent than fentanyl, have been associated with some outbreaks of

fatal and non-fatal poisonings. However, with the exception of some Baltic countries, these drugs do not currently figure prominently in the routine data available at EU level. Nonetheless, developments in this area are worrying because of the potential of these substances to impact negatively on public health in Europe in the future.

Of particular concern in this area is the recent appearance of the nitazene opioids, which were involved in localised poisoning outbreaks in Ireland and France during 2023. In Ireland, nitazenes were mis-sold as heroin resulting in inadvertent consumption and multiple overdoses (see New psychoactive substances – the current situation in Europe). Due to their high potency and novelty, there are concerns that nitazene opioids may not be routinely detected in procedures commonly used for post-mortem toxicology. This raises the possibility that the number of deaths reported could be an underestimate. Some evidence of this exists from countries in the Baltic area, where improvements in testing methods have resulted in an increase in the detection of these substances. In provisional data from Estonia, the drugs were identified in almost half the drug-induced deaths (56 of 117, 48 %) in 2023. This compares with 32 of 82 drug-induced deaths (39 %) in 2022. In Latvia, both the national statistics and the forensic registers provisionally reported a doubling in the overall number of drug-induced deaths, from 63 in 2022 to 130 in 2023, with nitazenes identified in 38 (29 %) of these cases. Although systematic testing for nitazenes was not possible in 2022, there was a dramatic rise in the number of acute drug toxicological presentations involving opioids (from 1 936 in 2021 to 2 357 in 2022). Anecdotal reports from clinical staff suggesting that greater doses of naloxone were required raise concerns that synthetic opioids may have been involved.

Another source of information on drug mortality is provided by deaths reported to the Early Warning System on new psychoactive substances. At least 150 cases of deaths with confirmed exposure to nitazenes have been reported to this mechanism from 5 countries during 2023. However, this figure includes cases where the cause of death has not been confirmed.

The challenges of responding to deliberate self-poisonings

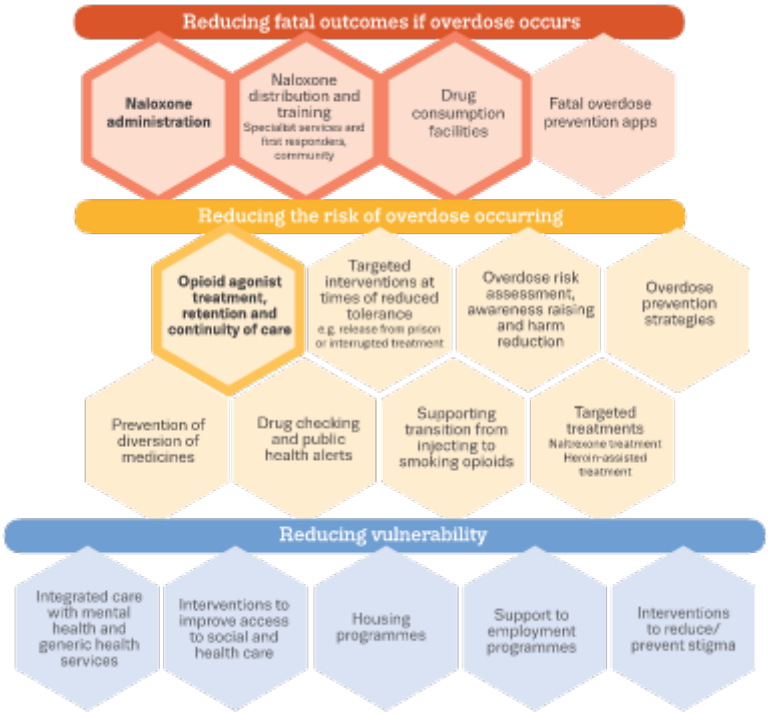
Determining the intention of a person who has died from a drug overdose can be difficult. Many overdose deaths are reported as accidental, and others have an undetermined intent. However, in some countries more information is available on intention, and a relatively high proportion of reported overdose deaths (1 in 6 overall) were classified as intentional (that is, with a suicidal intent). In all countries in the European Union, Norway and Türkiye, the most recent available data show that the proportion of overdose deaths with a suicidal intent was higher among women. In a few countries (Hungary, Netherlands, Slovenia, Sweden), more than a third of the reported overdose deaths among women were classified as having a suicidal intent. In Bulgaria, Poland and Finland, a suicidal intent was recorded for more than a quarter of the overdose deaths among females reported in 2022. These findings indicate the need for interventions that target deliberate self-harm and suicidal intent among people who use drugs, and especially to recognise the disproportional risk that females may experience in this context.

Preventing opioid-related overdoses and deaths remains difficult

Responses aimed at reducing opioid-related deaths include interventions geared towards preventing overdoses from happening in the first place and those that focus on preventing death when overdoses do occur (see Figure 11.1). Changes in both the population of people who inject opioids and the types of substances they are using create new and greater challenges for interventions designed to reduce overdose deaths. These include the challenge to develop

differentiated programmes to target the needs of different groups and, particularly, to be sensitive to the necessity to configure services to be appropriate to the needs of different age cohorts. Enrolment in opioid agonist treatment is strongly evidenced as a protective factor against opioid overdose and some other causes of death, yet coverage and access issues still exist in many countries.

Figure 11.1. Interventions to prevent opioid-related deaths, by intended aim and evidence of benefit



Notes: Interventions where there is evidence of benefit and where we can have a high or reasonable confidence in the available evidence, are highlighted in a bolder frame. Much of the current evidence on interventions listed in this figure is either emerging or deemed insufficient, in part because of the practical and methodological difficulties of conducting research, especially in developing randomised controlled trials (see Spotlight on... Understanding and using evidence) and also because service delivery models often differ considerably.

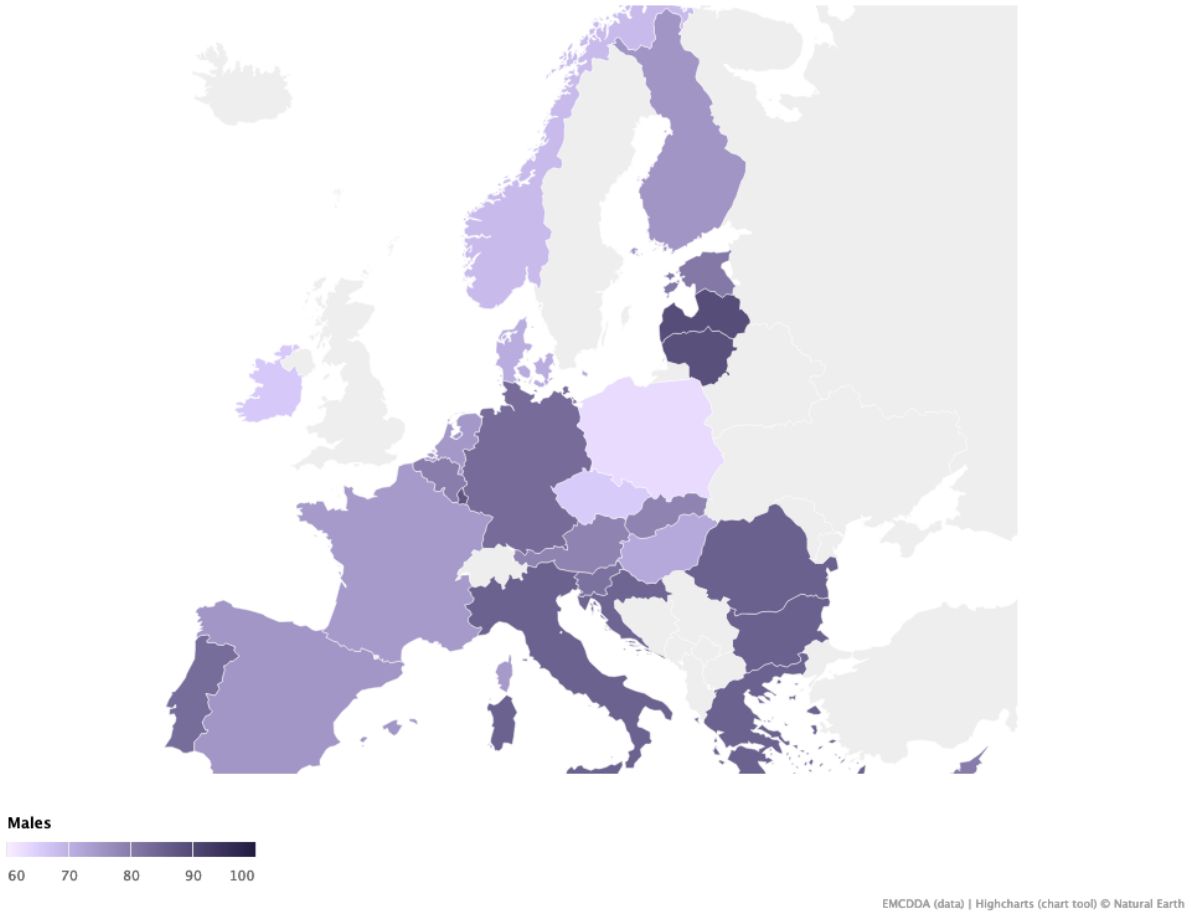
The evidence is also growing that the increasing availability of opioid antagonists can play an important role in preventing fatal opioid overdoses. However, again, the extent to which this approach is available varies between and within countries. The implementation of naloxone programmes, including pilot projects, to prevent overdose deaths was reported by 16 European countries up to 2022. Changing consumption patterns also require services to review current delivery protocols. Overdoses involving potent synthetic opioids may require, for example, the administration of multiple doses of naloxone to reverse the opioid effects. In some countries, drug consumption rooms are also provided in part as a response to reducing overdose mortality. These facilities are now operational in 10 EU countries and Norway (see Harm reduction – the current situation in Europe). Where multicultural and new immigrant populations are present, increased own-language harm reduction messaging is desirable for high-risk drug users. For more information on the health and social responses to prevent opioid-related deaths see the EMCDDA's recent miniguide.

Key data and trends

Mortality rates due to overdose

- The mortality rate due to overdoses in the European Union in 2022 is estimated at 22.5 deaths per million population aged 15 to 64.
- The mortality rates due to overdose are typically 3 to 4 times higher among males compared with females (Figure 11.2), with men aged 25 to 39 the most affected. Overdose mortality rates in this age group can be considerably higher than for the male population aged 15 to 64 (adults). For example, in Sweden, the overdose mortality rate for men aged 25 to 39 was 122 deaths per million in 2022, compared with 73 deaths per million adult men in the country. In Estonia, the comparable figures were 197 deaths per million men aged 25 to 39 and 62 deaths per million adult men; and in Ireland, the mortality rate was 183 deaths per million men aged 25 to 39 compared with 85 deaths per million among all adult men.
- Men aged 40 to 59 are those most affected by overdose mortality in a number of European countries, including Denmark, Spain, Italy, the Netherlands, Portugal and Norway.

Figure 11.2. Proportion of males among drug-induced deaths in the European Union, Norway and Türkiye in 2022, or most recent year (percent)

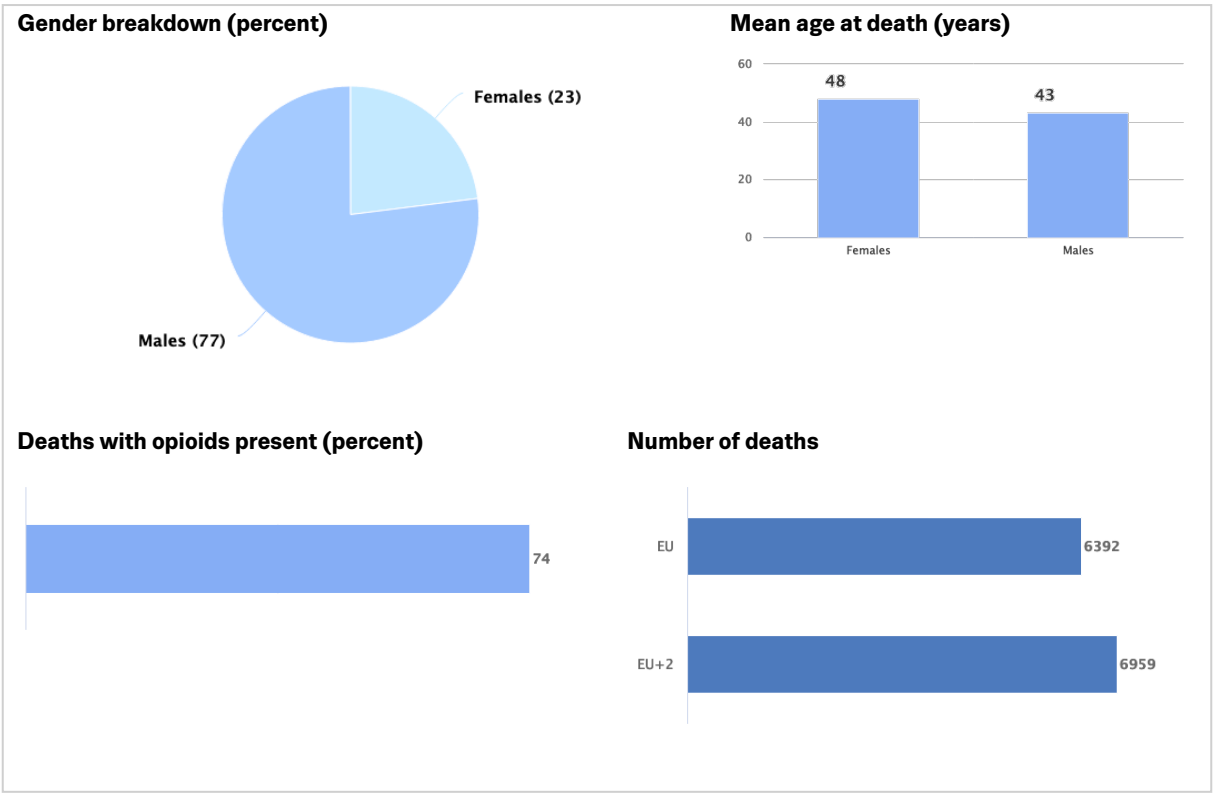


Overdose deaths

It is estimated that at least 6 392 overdose deaths involving drugs occurred in the European Union in 2022 (6 166 in 2021). This is a minimum estimate as some countries report that their monitoring system is missing some cases. For example, a cross-validation of the 2022 data from the different registers in Spain suggested that only 4 out of 5 cases might be reported. In Germany, the mortality register only contains cases that have come to the attention of the police. Thus cases outside of police focus may be under-reported. However, the extent of the underestimation is unknown.

- Opioids, including heroin and its metabolites, often in combination with other substances, were estimated to be present in three quarters (74 %) of the fatal overdoses reported in the European Union in 2022 (see Figure 11.3 and Figure 11.4). It should be noted that multiple drugs are commonly found in toxicology reports from drug-induced deaths.

Figure 11.3a. Drug-induced deaths



EU+2 refers to EU Member States, Norway and Türkiye.

Figure 11.3b. Drug-induced deaths in the European Union: age at death, 2022 or most recent available data (percent)

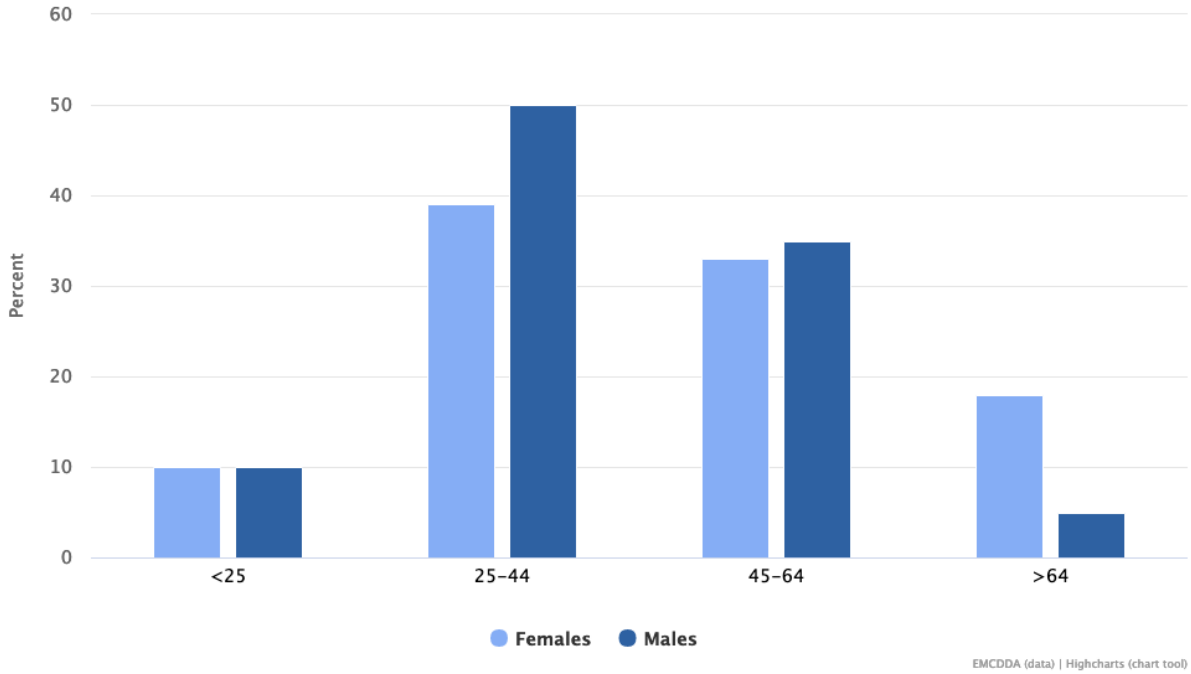


Figure 11.3c. Trends in drug-induced deaths in the European Union, Norway and Türkiye

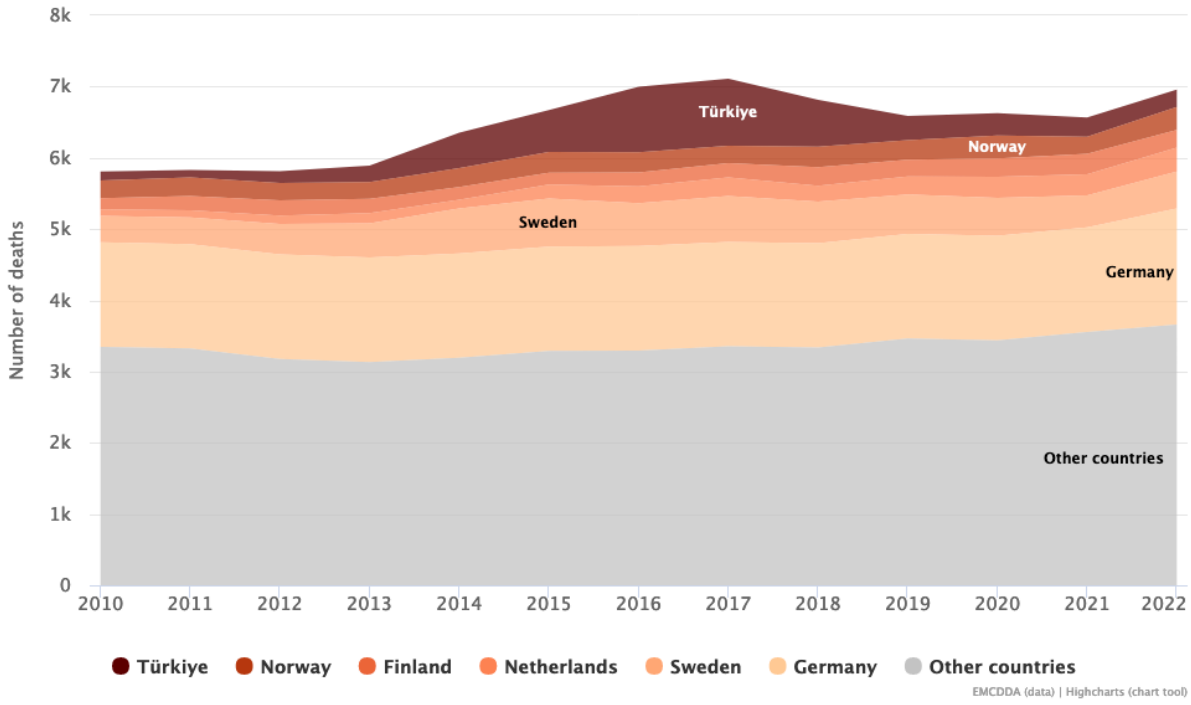


Figure 11.3d. Age distribution (percent) of drug-induced deaths reported in the European Union, Norway and Türkiye in 2022 or the most recent year

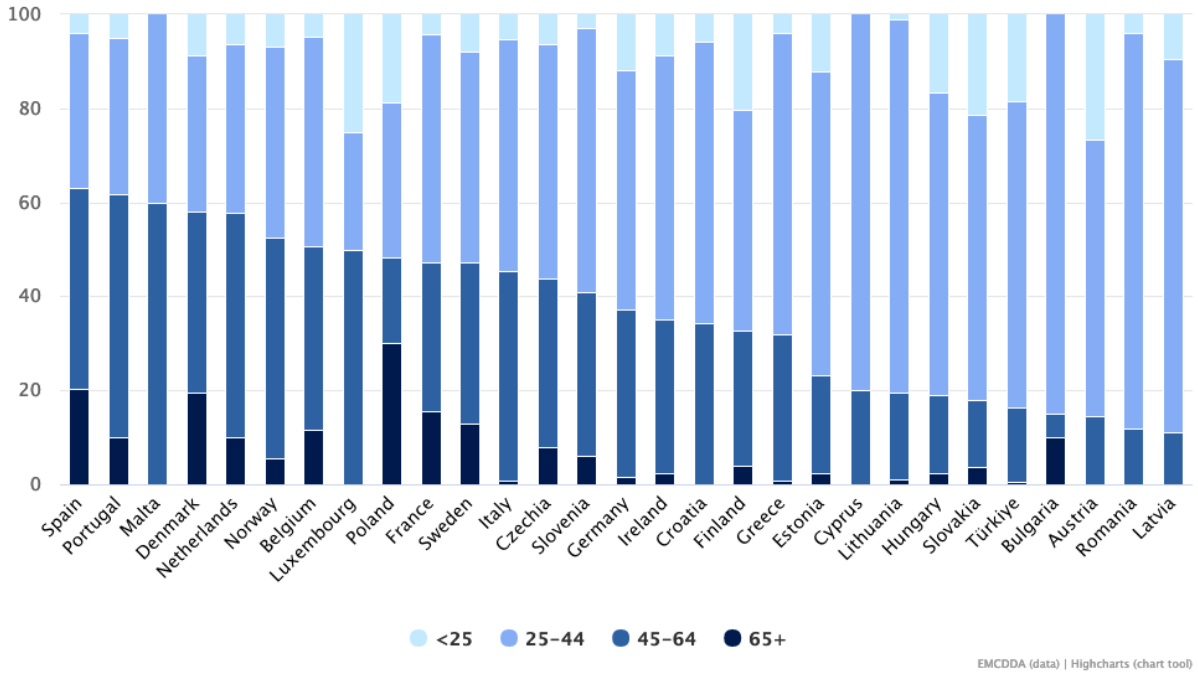
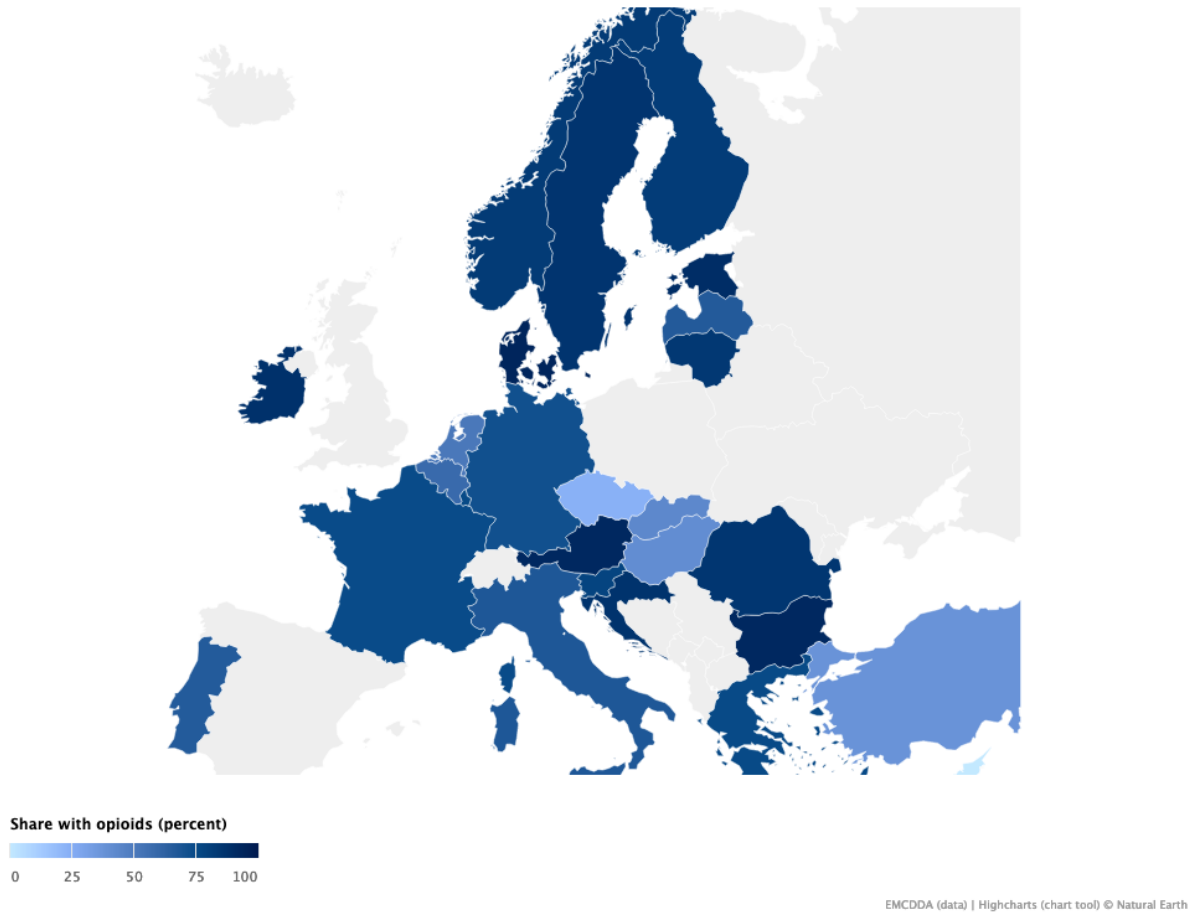


Figure 11.4. Proportion of drug-induced deaths cases with opioids mentioned, 2022 or most recent available data

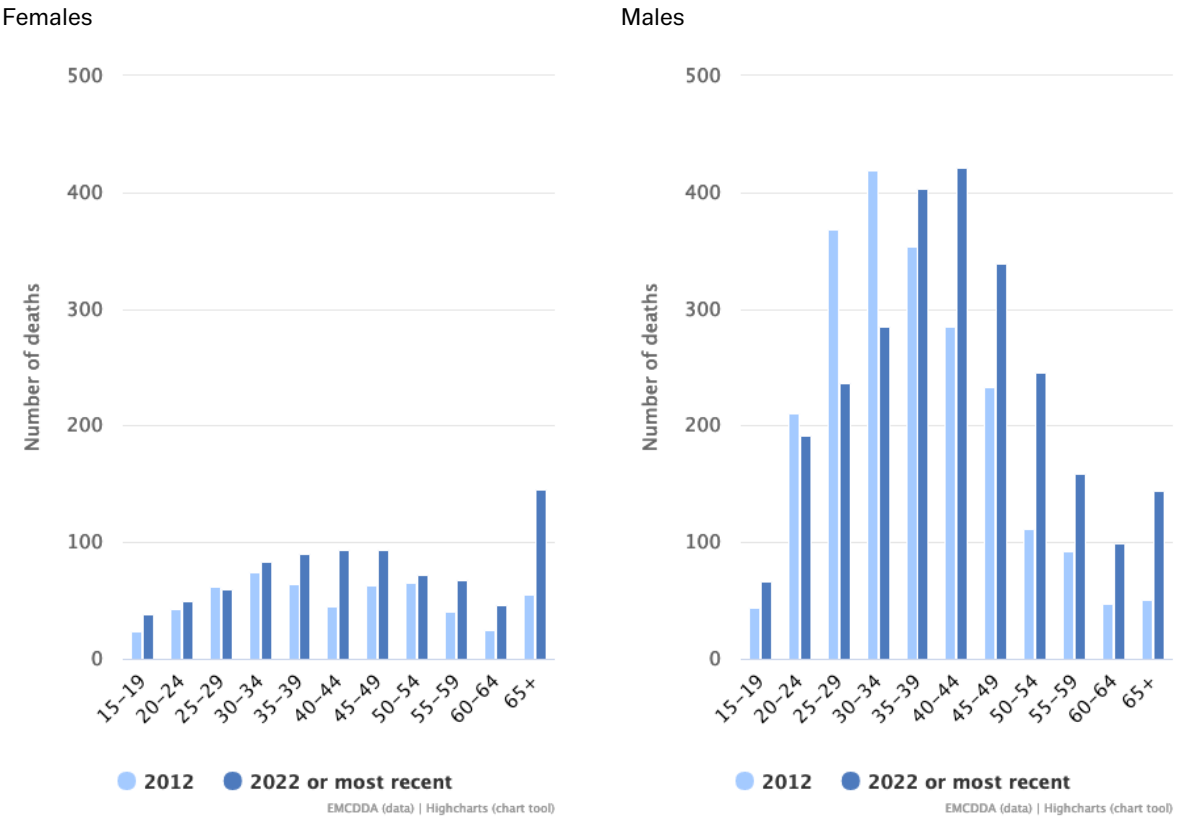


Although information on toxicology is not available for data reported through the general mortality registers (preferred source) in Spain and Poland, available data from the alternative source (forensic special mortality registers) suggest that most drug-induced deaths in these countries involved opioids.

- The data available have limitations with respect to quality and coverage. Nevertheless, the information available suggests that heroin remains involved in large numbers of deaths in some western European countries: over 728 cases in Germany, 222 in Spain, 173 in France, 142 in Austria (heroin or morphine), 127 in Italy and 104 in Sweden. Overall, it is estimated that more than 1 800 deaths involved heroin in the European Union.
- Heroin was present in the majority of overdose deaths in a relatively small number of EU countries, namely Austria (heroin or morphine) (77 %) and Italy (57 %). Heroin has been reported in approximately two fifths to one fifth of overdose deaths in Portugal (42 %), Slovenia (42 %), Romania (41 %), Türkiye (35 %), France (26 % in 2021), Denmark (24 %), Spain (24 % in 2021), Norway (22 %) and Sweden (21 %). In 2022, heroin was reported in fewer than 1 in 6 overdose deaths in Estonia, Latvia, Lithuania and Finland.
- In preliminary data subject to further updating, 5 countries reported the presence of nitazenes in at least 150 deaths in 2023: Estonia (56), Latvia (76), Finland (8), Sweden (1) and Norway (13).

- Among 19 European countries providing data for 2021 and 2022, cocaine, mostly in the presence of opioids, was involved in 996 (23 %) overdose deaths in 2022 (807 or 20 % in 2021).
- Deaths involving cocaine are now also being reported in countries where they were previously less common, such as Denmark, the Netherlands, Austria and Slovenia. Cocaine was involved in 52 % of the overdose deaths in Spain (477 of the 910 cases with information available) in 2021 and in 67 % of the overdose deaths in Portugal (46 of 69 cases) in 2022.
- In France, cocaine was involved in 39 % (259 of the 662 deaths with information available) of the cases in 2021. This is an increase from 23 % (130 of 567 deaths with information available) in 2020, suggesting that cocaine is contributing to the overall increase in the number of overdose deaths in the country.
- Stimulants other than cocaine, including amphetamine and methamphetamine, are involved in many deaths, often alongside opioids. Out of 20 countries with post-mortem data available for 2022, 18 reported deaths where non-cocaine stimulants were involved. The highest numbers of deaths involving non-cocaine stimulants were reported by Germany (476 cases), Türkiye (186), Denmark (68), Norway (63), Latvia (62), Finland (34), Estonia (33) and Austria (32). While the numbers reported by the countries may vary from year to year, the total numbers of such cases for the 16 countries that reported comparable data in all three years were 496 in 2020, 462 in 2021 and 492 in 2022. Beyond these drug-induced deaths, other stimulant-related deaths, such as those associated with cardiovascular problems, may go undetected.
- The number of overdose deaths reported in the European Union among those aged 50 to 64 is estimated to have increased by 69 % between 2012 and 2022 (by 43 % among women and by 101 % among men) (Figure 11.5).

Figure 11.5. Number of drug-induced deaths reported in the European Union in 2012 and 2022, or the most recent year, by age band



Opioid agonist treatment – the current situation in Europe (European Drug Report 2024)

Opioid users represent the largest group undergoing specialist drug treatment, mainly in the form of opioid agonist treatment. On this page, you can find the latest analysis of the provision of opioid agonist treatment in Europe, including key data on coverage, the number of people in treatment, pathways to treatment and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: 11 *June 2024*

Treating opioid-related problems still consumes most treatment resources

While there is now greater heterogeneity in the characteristics of those seeking help for drug problems, due to the long-term nature of opioid agonist treatment, those receiving it still probably account for the greatest share of the resources invested in drug treatment services in most countries. An estimated 1.7 million people received treatment for problems related to the use of illicit drugs in the European Union in 2022 (2.0 million, including Norway and Türkiye). Specialist drug treatment encompasses a range of medical (including pharmacological), psychological, social and behavioural approaches to stop or reduce drug use and injecting. Generally, the majority will receive some form of opioid agonist treatment, which is the main pharmacological treatment approach and is typically combined with psychosocial interventions. The available evidence supports this approach, with positive outcomes found with respect to treatment retention, illicit opioid use, reported risk behaviour, drug-related harms and mortality. Recent guidance from the EMCDDA and ECDC on the prevention and control of infectious diseases among people who inject drugs recommends the provision of opioid agonist treatment in both community and prison settings to prevent transmission of HCV and HIV and to help reduce injecting risk behaviour and injecting frequency. The guidance also recommends the provision of sterile injecting equipment alongside opioid agonist treatment to maximise the coverage and effectiveness of the interventions among people who inject opioids.

There remain, however, important differences between countries in the settings and form in which treatment is provided and the extent to which the availability of opioid agonist treatment is sufficient to meet the needs of those requiring this form of care. The provision of opioid agonist treatment is still clearly insufficient in some countries (see Key data and trends , below). The relative importance of outpatient and inpatient provision within national treatment systems also varies greatly between countries. Almost a fifth of drug treatment in Europe is provided in inpatient settings, mainly hospital-based residential centres (e.g. psychiatric hospitals), but this can also include therapeutic communities and, in some countries, specialist residential treatment centres in prisons. Overall, however, opioid agonist treatment is more commonly provided in outpatient settings. These can include specialist

drug treatment centres, low-threshold agencies, and primary healthcare centres, which can include general practitioners' surgeries.

The available data suggest that the provision of opioid agonist treatment did not drop significantly during the COVID-19 pandemic, when public health-based restrictions on movement were in place. During that period, however, service delivery models may have been adapted. Examples of this include increased use of telemedicine and less restrictive approaches to providing take-home doses. There is also some information to suggest that access to care for new clients seeking opioid agonist treatment may have been disrupted temporarily during the pandemic period.

Meeting the more complex needs of an ageing cohort of opioid treatment clients

The long-term nature of opioid problems is underlined by the data available on the characteristics of those receiving opioid agonist treatment. The data also indicate that Europe's cohort of those who have had problems with heroin is ageing. This is illustrated by the fact that almost 70 % of clients in opioid agonist treatment are now aged 40 or older, while less than 10 % are under 30 years old. This has important implications for service delivery, with services having to address a more complex set of healthcare needs in a population that is becoming ever more vulnerable. An important consideration here is the need to ensure the existence of effective referral pathways to more generic services offering treatment for other conditions associated with the ageing process. This is becoming increasingly necessary in order to support older opioid treatment clients in need of geriatric care due to the long-term effects of illicit drug use, but also tobacco and alcohol use, on their physical health. The treatment of this marginalised group also needs to respond to a complex and often long-established set of problems related to mental health issues, social isolation, employment and housing. The development of integrated, multidisciplinary and age-specialised care services for this group will remain an important consideration in policy and provision as the demographics of opioid use in Europe continue to change.

Polydrug use and the appearance of highly potent new synthetic opioids on local drug markets can increase the risks from opioid use, especially for older people and those with complex healthcare needs. Where highly potent opioids have become an established feature of drug markets, more research is needed to determine if adaptations are needed to ensure that current approaches to providing opioid agonist treatment remain optimal. In addition, as noted elsewhere in this report, should we see the reduced availability of heroin on the European market, this may increase the demand for care in this area.

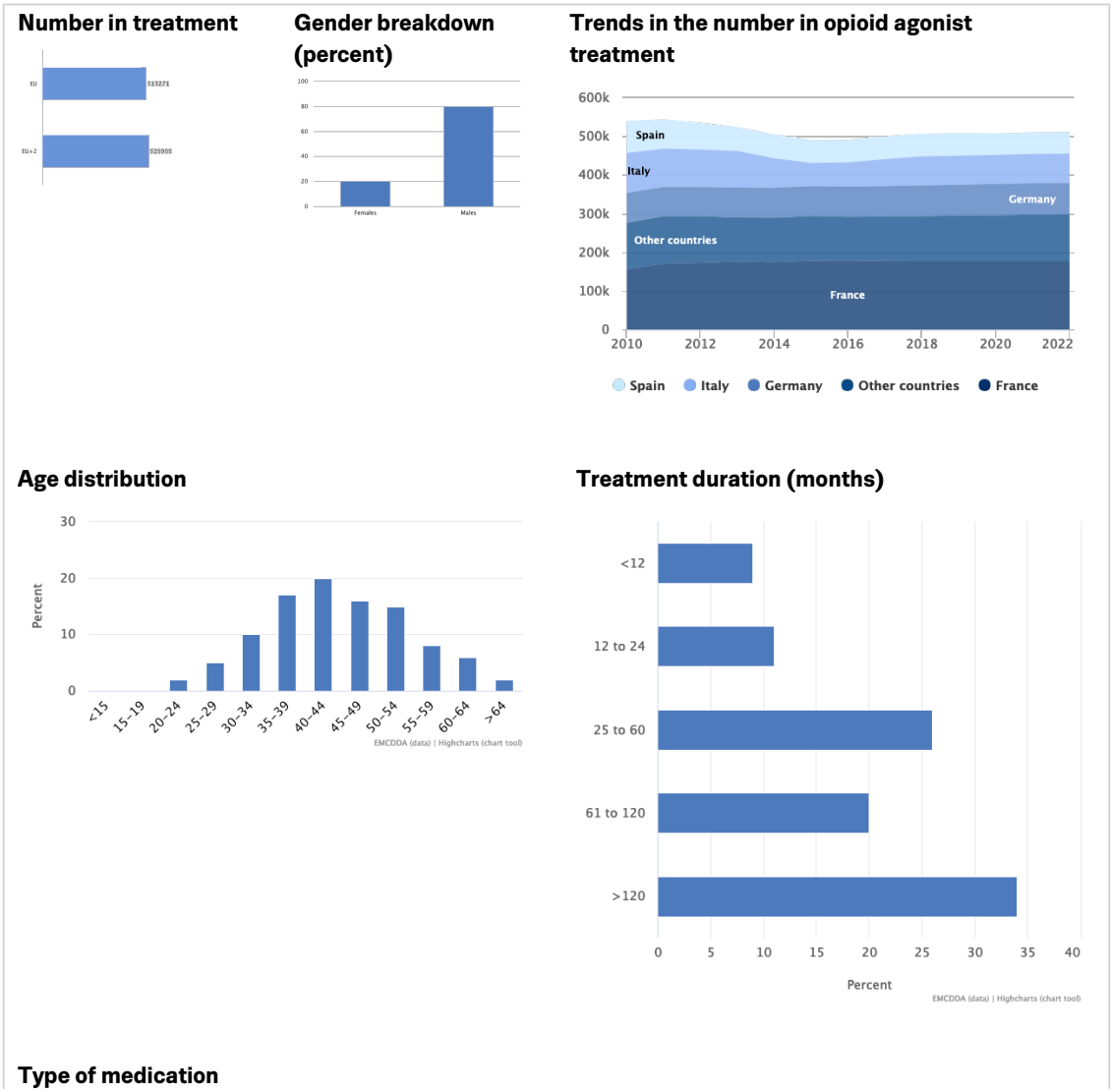
More information on health and social responses to opioid use, including among older people, can be found in the EMCDDA's Health and social responses to drug problems: A European guide.

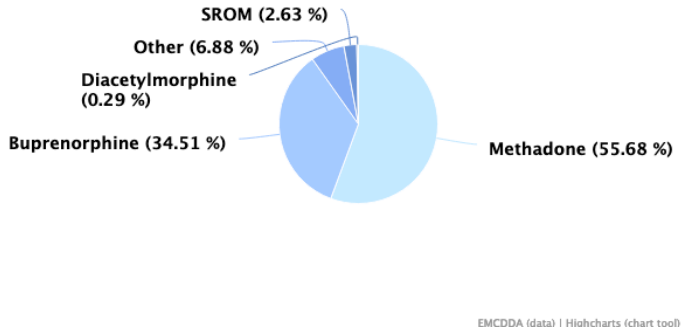
Key data and trends

Number of people in treatment

- A comparison with current estimates of the number of high-risk opioid users in Europe would suggest that, overall, opioid agonist treatment was received by about half of the number of high-risk opioid users in the European Union in 2022, an estimated 513 000 (526 000 including Norway and Türkiye) (Figure 12.1). However, there are differences between countries. In those countries where data from 2011 or 2012 are available for comparison, there was generally an increase in coverage. Levels of provision, however, remain low and insufficient in some countries estimated to have significant numbers of high-risk opioid users, such as Latvia, Lithuania, Poland, Romania and Slovakia (Figure 12.2).

Figure 12.1. Clients in opioid agonist treatment





Trends in the number of opioid agonist clients are based on 26 countries. Only countries with data for at least 7 of the 10 years are included in the trends graph. Missing values are interpolated from adjacent years. Data for age distribution are based on 16 countries representing 28 % (141 164) of all registered clients in the European Union. Data for gender are based on 17 countries representing 18 % (93 612) of all registered clients. Data for treatment duration are based on 7 countries representing 7 % of all registered clients (34 300).

Distribution of OAT clients by type of medication: SROM is slow-release oral morphine and DHC is dihydrocodeine.

Figure 12.2a. Coverage of opioid agonist treatment (percent) in 2022 or the most recent year

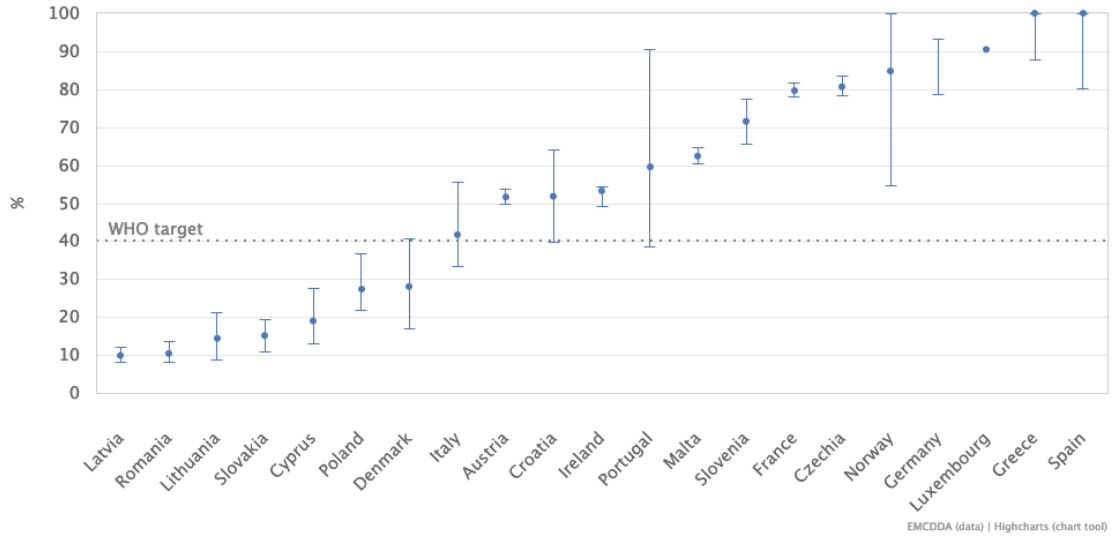
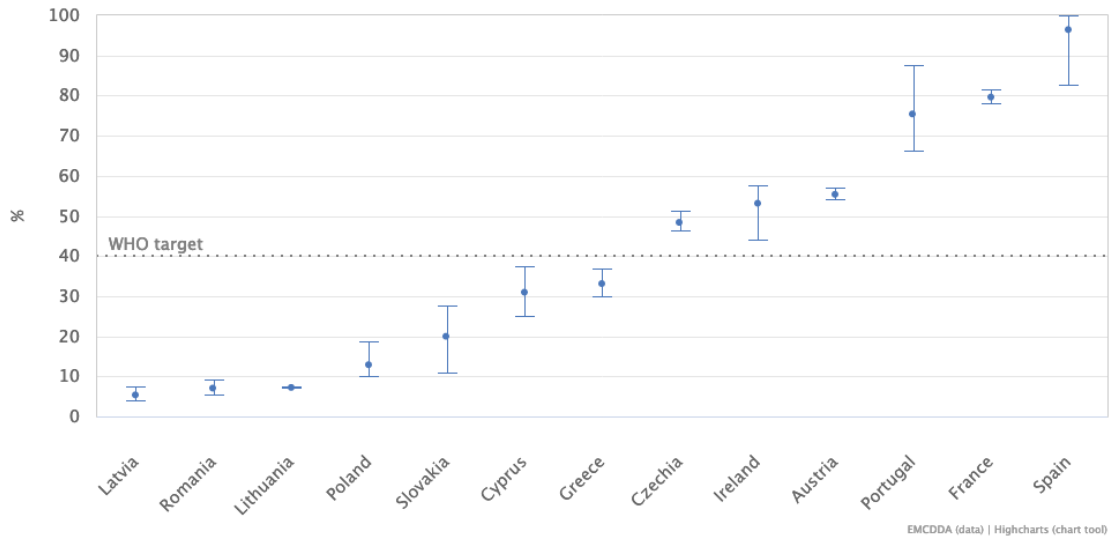


Figure 12.2b. Coverage of opioid agonist treatment (percent) in 2011/12



Coverage is defined as the share of high-risk opioid users receiving the intervention. Data are displayed as point estimates and uncertainty intervals.

- Data from countries that consistently reported on clients receiving opioid agonist treatment between 2010 and 2022 show an overall stable trend in treatment levels during this period, with little fluctuation in the number of clients receiving this treatment. The reasons for this stability vary. In countries with high treatment provision, it may reflect the often chronic, relapsing nature of opioid dependence and the need for treatment over a prolonged period; in others (e.g. Latvia), it may reflect the low capacity of treatment systems.
- At the onset of the COVID-19 pandemic, EU Member States sought to ensure continued access to opioid agonist treatment for people engaged in high-risk drug use. Comparing treatment data between 2019 and 2022 indicates that the number of clients remained stable, with only Croatia and Hungary reporting a decrease greater than 10 % of their opioid agonist treatment population during this period. These reductions may be partly due to decreased access to treatment during the pandemic.
- In some countries, the number of people receiving opioid agonist treatment has increased, reflecting increased treatment provision, with 11 countries reporting an increase between 2016 and 2022, including Denmark (37 %), Poland (54 %), Romania (17 %) and Sweden (21 %).

Pathways to treatment

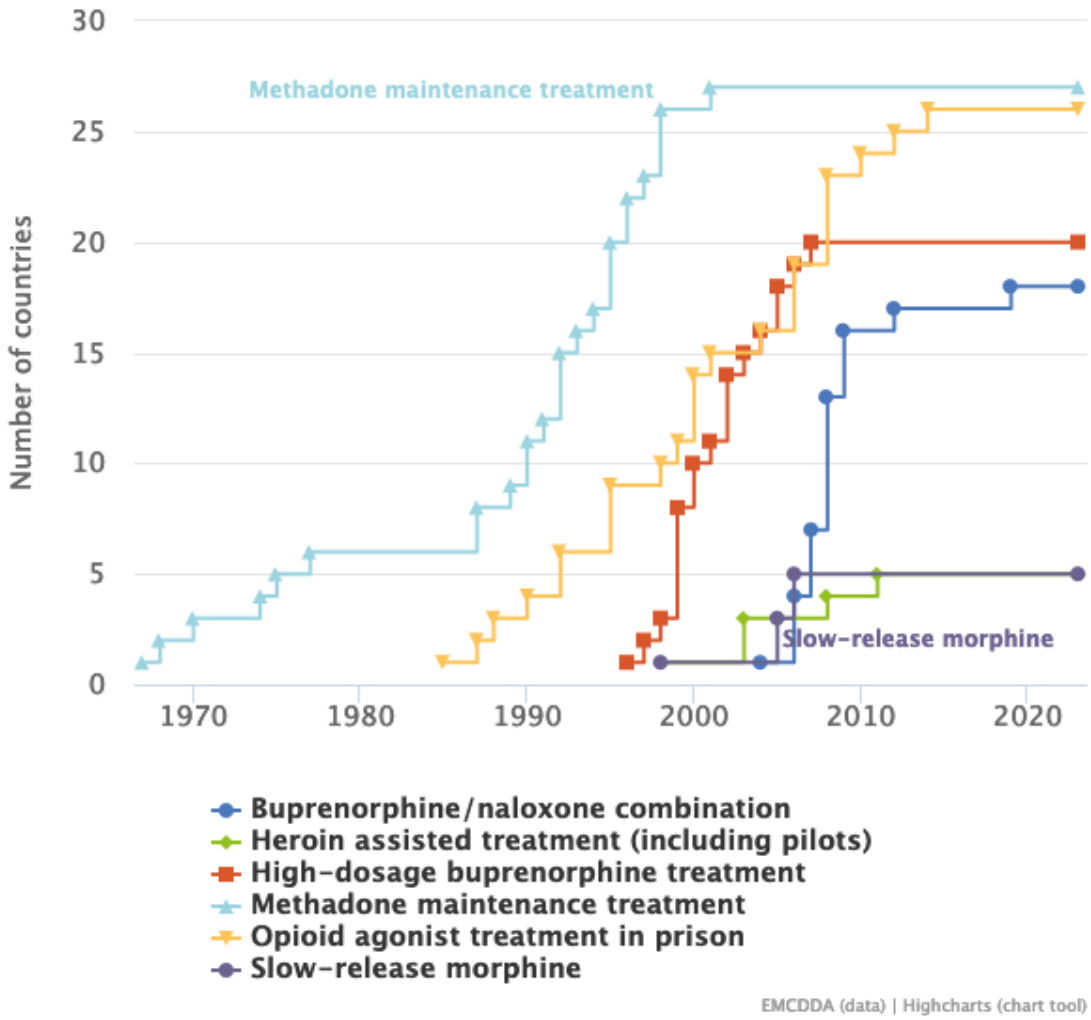
- Client pathways through drug treatment are often characterised by the use of different services, multiple entries and varying lengths of stay. Self-referral continues to be the most common route into specialist drug treatment for opioid clients. This form of referral, which also includes referral by family members or friends, accounted for about two thirds (66 %) of those with primary opioid problems entering specialist drug treatment in Europe in

2022. Almost one fifth (23 %) of clients were referred by health, education and social services, including other drug treatment centres, while 7 % were referred by the criminal justice system.

Opioid agonist medications

- The provision of more than one opioid agonist treatment medication in 2022 is reported by 26 countries. Methadone is the most commonly prescribed medication, received by more than half (56 %) of opioid agonist treatment clients across Europe. Another 35 % are treated with medications based on buprenorphine, which is the principal medication reported to be used in 8 countries. Other substances, such as slow-release morphine or diacetylmorphine (heroin), are more rarely prescribed, being received by almost 10 % of opioid agonist clients in Europe, with 5 countries reporting some provision of heroin-assisted treatment, if pilot projects are included (Figure 12.3).

Figure 12.3. Number of European countries implementing opioid agonist treatment, up to 2023



Implementation at any level, including pilot projects, is included.

Alternative treatment options

- Although less common than opioid agonist treatment, alternative treatment options for opioid users are available in all European countries. In the 11 countries for which data are available, between 5 % and 47 % of all opioid users in treatment receive interventions not classified as opioid agonist treatment, such as medically assisted detoxification and outpatient or inpatient abstinence-oriented interventions.

Source data

The data used to generate infographics and charts on this page may be found below.

Harm reduction – the current situation in Europe (European Drug Report 2024)

Harm reduction encompasses interventions, programmes and policies that seek to reduce the health, social and economic harms of drug use to individuals, communities and societies. On this page, you can find the latest analysis of harm reduction interventions in Europe, including key data on opioid agonist treatment, naloxone programmes, drug consumption rooms and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Evolving drug problems pose a broader set of challenges for harm reduction

The use of illicit drugs is a recognised contributor to the global burden of disease. Interventions designed to reduce this burden include prevention activities, intended to reduce or slow the rate at which drug use may be initiated, and the offer of treatment to those who have developed drug problems. A complementary set of approaches goes under the general heading of harm reduction. Here the emphasis is on working non-judgementally with people who use drugs in order to reduce the risks associated with behaviours that are mostly associated with adverse health outcomes, and more generally to promote health and well-being. Probably the best known of these is the provision of sterile injecting equipment to people who inject drugs, with the aim of reducing the risk of contracting an infectious disease. Over time these sorts of approaches appear to have contributed to the relatively low rate, by international standards, of new HIV infections now associated with injecting drug use in Europe. Over the last decade, as patterns of drug use have changed and the characteristics of those who use drugs have also evolved, to some extent, harm reduction interventions have also needed to adapt to address a broader set of health outcomes and risk behaviours. Prominent among these are reducing the risk of drug overdose and addressing the often-considerable and complex health and social problems faced by people who use drugs in more marginalised and socially excluded populations.

A spectrum of responses is needed to reduce changing drug-related harms

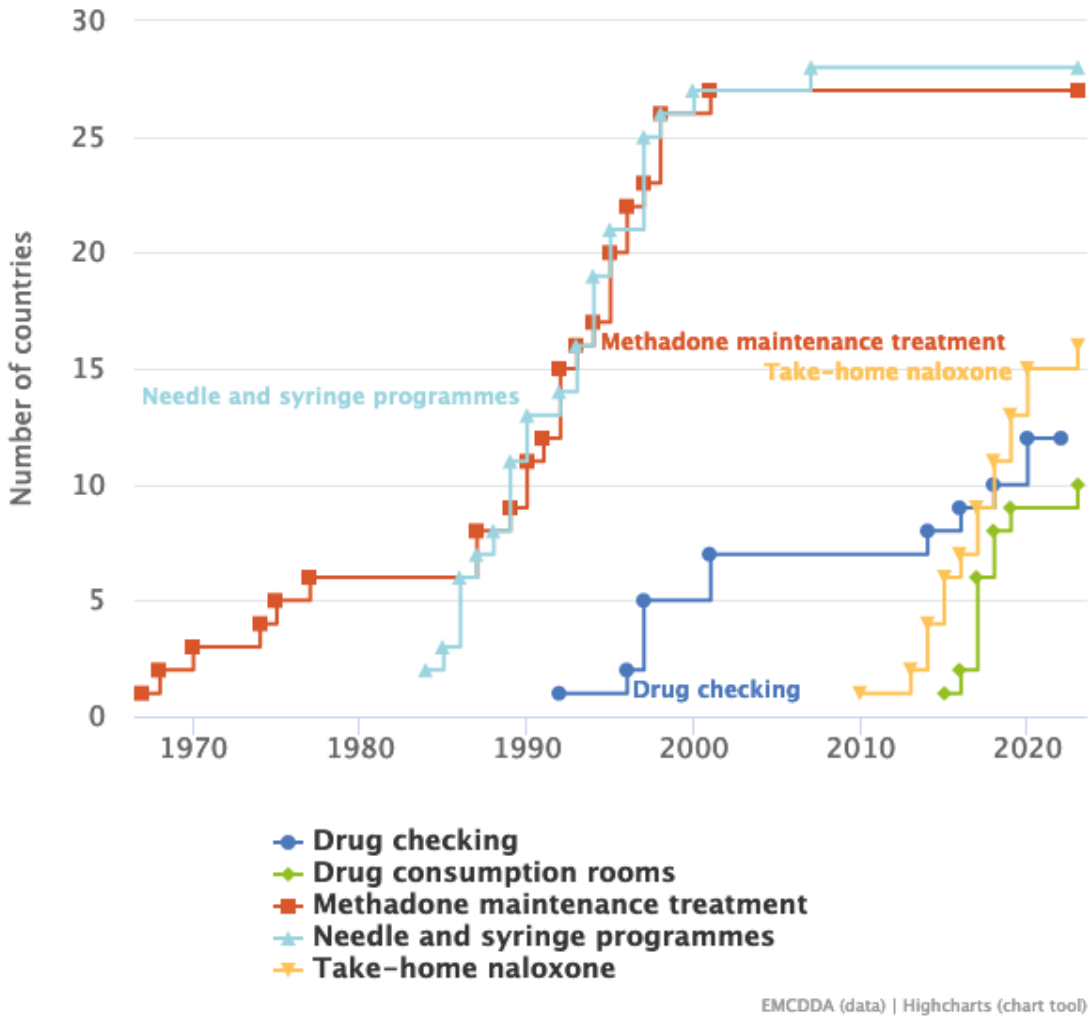
Chronic and acute health problems are associated with the use of illicit drugs, and these can be compounded by factors such as the properties of the substances, the route of administration, individual vulnerability and the social context in which drugs are consumed. Chronic problems include dependence and drug-related infectious disease, while there is a range of acute harms, of which drug overdose is perhaps the best documented. Although

relatively rare at the population level, the use of opioids still accounts for much of the morbidity and mortality associated with drug use. Injecting drug use also increases risks. Correspondingly, working with opioid users and those who inject drugs has been historically an important target for harm reduction interventions and also the area where service delivery models are most developed and evaluated.

Reflecting this, some harm reduction services have become increasingly integrated into the mainstream of healthcare provision for people who use drugs in Europe over the last three decades. Initially, the focus was on expanding access to opioid agonist treatment and needle and syringe programmes as a part of the response to high-risk drug use, primarily targeting injecting use of heroin and the HIV/AIDS epidemic. Recent joint EMCDDA-ECDC guidance on the prevention and control of infectious diseases among people who inject drugs recommends providing opioid agonist treatment to prevent hepatitis C and HIV, as well as to reduce injecting risk behaviours and injecting frequency, in both the community and prison settings. The guidelines also recommend the provision of sterile injecting equipment alongside opioid agonist treatment to maximise the coverage and effectiveness of the interventions among people who inject opioids.

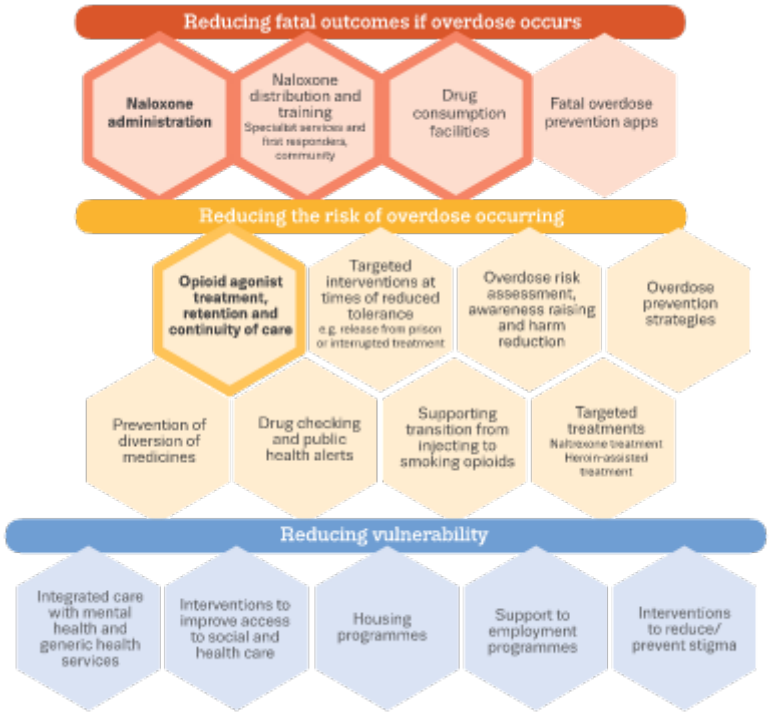
In the last three decades, approaches to harm reduction have been broadened in some EU countries to encompass other responses, including drug consumption rooms and take-home naloxone programmes intended to reduce fatal overdoses (Figure 13.1). Interventions to reduce opioid-related deaths include those aimed at preventing overdoses from occurring and those aimed at preventing death when an overdose does occur (Figure 13.2).

Figure 13.1. Number of European countries implementing harm reduction interventions, up to 2023



Implementation at any level, including pilot projects, is included.

Figure 13.2. Interventions to prevent opioid-related deaths, by intended aim and evidence of benefit



Note: Interventions where there is evidence of benefit and where we can have high or reasonable confidence in the available evidence are highlighted in a bolder frame. Much of the current evidence on interventions listed in this figure is either emerging or deemed insufficient, in part because of the practical and methodological difficulties of conducting research, especially in developing randomised controlled trials (see Spotlight on... Understanding and using evidence) and also because service delivery models often differ considerably.

In some countries, there are drug checking facilities, which have been established with the aim of enabling people to understand better what substances the illicit drugs they have bought contain. Tablets, for example, purchased as MDMA, may also contain adulterants and other drugs, such as synthetic cathinones. With many synthetic stimulants and new psychoactive substances now available on the illicit market in similar looking powders or pills, consumers may be increasingly at risk of being unaware of what particular stimulant or mixture of substances they may be consuming.

The increasing integration of the markets for new psychoactive substances and illicit drugs is creating new public health challenges, such as herbal cannabis mixed with synthetic cannabinoids, stimulants mixed with cathinones and ketamine or new synthetic opioids mixed with or mis-sold as heroin. As poisoning events can evolve rapidly, understanding what constitutes the delivery of effective of risk communication has become more important. Although the range of services provided may differ, all drug checking services undertake some form of health risk communication activity, often by issuing alerts on analysed drug products and sharing data with other stakeholders. The aim is to prevent or reduce harm at the level of the individual (the person submitting the substance for checking) and of the population (others who may be exposed to the same substance). Future steps in this field may include moves towards harmonisation and the building of consensus among European drug checking services on the determination of criteria and thresholds for when and how to issue alerts, as well as the adoption of evidence-based standard operating procedures for health risk communication. These issues are explored in a recent manual developed by the EMCDDA and the Trans-European Drug Information project on health risk communication strategies.

Some of these interventions remain controversial for reasons that include their legal status and the evolving nature of their evidence base. Coverage of these newer interventions therefore remains uneven within and between countries, and where they do exist, they are often most commonly found only in large cities. Overall, coverage and access to harm reduction services more generally, including those service models that are long-established and relatively well evidenced, varies considerably between EU countries, and in some countries remains inadequate in comparison to estimated needs.

Increasing preparedness to reduce the harm from potent synthetic drugs and unintentional consumption

Potent synthetic substances have a growing potential to cause drug-related harms in Europe, as inadvertent consumption of these substances in powders or mixtures sold as other drugs can lead to poisonings and deaths. This, together with more complex patterns of polydrug consumption, adds to the already considerable challenges of developing effective responses to reduce drug overdose deaths and drug-related poisonings. An example of this growing complexity, albeit currently on a relatively small scale, was seen in Estonia in 2022, where mixtures were identified containing new synthetic opioids and new benzodiazepines and also the tranquilliser xylazine. Known respectively as 'benzo-dope' and 'tranq-dope', these sorts of mixtures have been linked to increases in overdose deaths and other negative health-related outcomes in the United States and Canada. More recently, the highly potent benzimidazole opioids (nitazenes), which are more potent than fentanyl, have also been involved in localised poisoning outbreaks in parts of Europe (see also New psychoactive substances – the current situation in Europe).

During a recent outbreak in Ireland, a rapid risk communication exercise was undertaken, with the support of low-threshold services, which included leaflet drops to open drug scenes and distribution of information on social media and news platforms. This is an example of how services may need to respond both more rapidly and more intensively to outbreaks of drug poisoning than in the past (Figure 13.3). The presence of such mixtures and mis-sold substances on the market highlights the need to review current approaches to the delivery of some harm reduction interventions. For example, the distribution and administration of the opioid antagonist naloxone may need to be reviewed in the context of these mixtures and mis-sold substances.

Figure 13.3. Example of a rapid risk communication issued in Ireland, 2024

More generally, given possible developments in the synthetic opioid market, it would be prudent to review current plans to prepare for and respond to any possible increase in the availability and use of synthetic opioids or in the harm associated with these substances. This could include enhancing toxicological analysis capabilities, alert messaging and frontline responder preparedness. Where drug consumption rooms are operational, the possible benefits and risks from also providing drug checking services may be an issue for consideration. Most drug consumption rooms in Canada, for example, offer drug checking for fentanyl. This is currently uncommon in the European Union, but a consumption room in Copenhagen has recently started providing this service, and other pilot projects are reported to be in development elsewhere in Europe.

Stimulant-related harms linked to different patterns of use

Reducing the risks associated with injecting drug use has always been an important target for harm reduction interventions, and the service models are relatively well developed and evidenced. However, even in this area, changes in drug consumption are creating new challenges for effective service delivery. In the last decade, there have been HIV outbreaks

associated with the injection of illicit synthetic stimulants in 7 European cities, across 6 EU countries. A potentially increased frequency of injection is associated with stimulant use compared with heroin use, while crushing and dissolving crack cocaine and other tablets for injection also brings with it additional health risks. These consumption patterns raise questions regarding, for example, the type and adequacy of needles and syringes provided to people in street-based open drug scenes, which now are typically characterised by polydrug use. An additional concern exists that service restrictions during COVID-19 lockdowns adversely impacted on testing for drug-related infections, such as HIV and HCV, and on conduits to care among more vulnerable and marginalised populations of people who use drugs, including those experiencing homelessness.

Synthetic stimulants and various other substances are consumed to facilitate and enhance sex in the context of sexualised drug use by various groups, but mainly among men who have sex with men, when it is known as 'chemsex'. While this definition is imprecise, it is usually used to refer to settings or events where both high-risk drug taking and high-risk sexual behaviour may occur. The drugs involved can range from stimulants, such as methamphetamine, cocaine and synthetic cathinones, to alcohol, depressants such as GHB/GBL and dissociatives such as ketamine. While it is difficult to estimate the prevalence of chemsex, information from research studies suggests it is an issue that is present, albeit at a small scale and among specific subgroups of people who use drugs, across Europe. Engaging with and providing effective harm reduction responses for people engaged in these forms of high-risk behaviours remains a challenge, and the development of tailored harm-reduction interventions is likely to be needed. Also likely to be needed in this area are strong multi-agency partnerships between those providing sexual health services and those services providing drug-related harm reduction.

New challenges and opportunities to reduce harm

Despite cannabis being Europe's most commonly consumed illicit drug, an argument can be made that it is also an area in which harm reduction advice and interventions are often lacking. Cannabis users in Europe commonly smoke the drug with tobacco, and an undeveloped area for the development of harm reduction approaches is the consideration of what might constitute effective inventions to reduce smoking-related harm in this group. More generally, as the types and forms of cannabis products available in Europe continue to change, so too have considerations about the implications this has for harm reduction responses. Overall, cannabis products, both resin and herbal, are now of a higher potency – they contain more THC – than they were historically, and high-potency cannabis products are associated with more acute and chronic harms. In addition, the diversity of product types has expanded, with edibles, e-liquids and extracts all now available. These changes create new potential challenges to identify what constitutes effective harm reduction interventions and opportunities to implement them to reduce harm.

Cannabis is not the only area in which harm reduction approaches have the potential to play a greater role. As noted elsewhere in this year's European Drug Report, there are also signs of increasing consumer interest in less commonly known substances, including dissociative drugs and psychedelics such as nitrous oxide and ketamine. These substances do have the potential to cause possible harm, and some patterns of use are likely to increase the risk of adverse consequences occurring, creating potential opportunities for harm reduction

approaches.

While some harm reduction responses remain controversial in some countries in Europe, the overall concept that evidence-based measures to reduce harm are an important component of balanced drug policies is largely accepted. The contexts within which harm reduction services operate, the evidence base that supports them, and what constitutes standards for quality of care in this area therefore remain key areas for further development and policy consideration. Looking forward, the evolving threats to public health arising from Europe's dynamic illicit drugs markets highlight the growing need to evaluate new and evolving models of service provision that may be needed to protect the health of people at risk of adverse outcomes arising from more complex consumption patterns, new substances and mixtures, or associated with particular subgroups or settings.

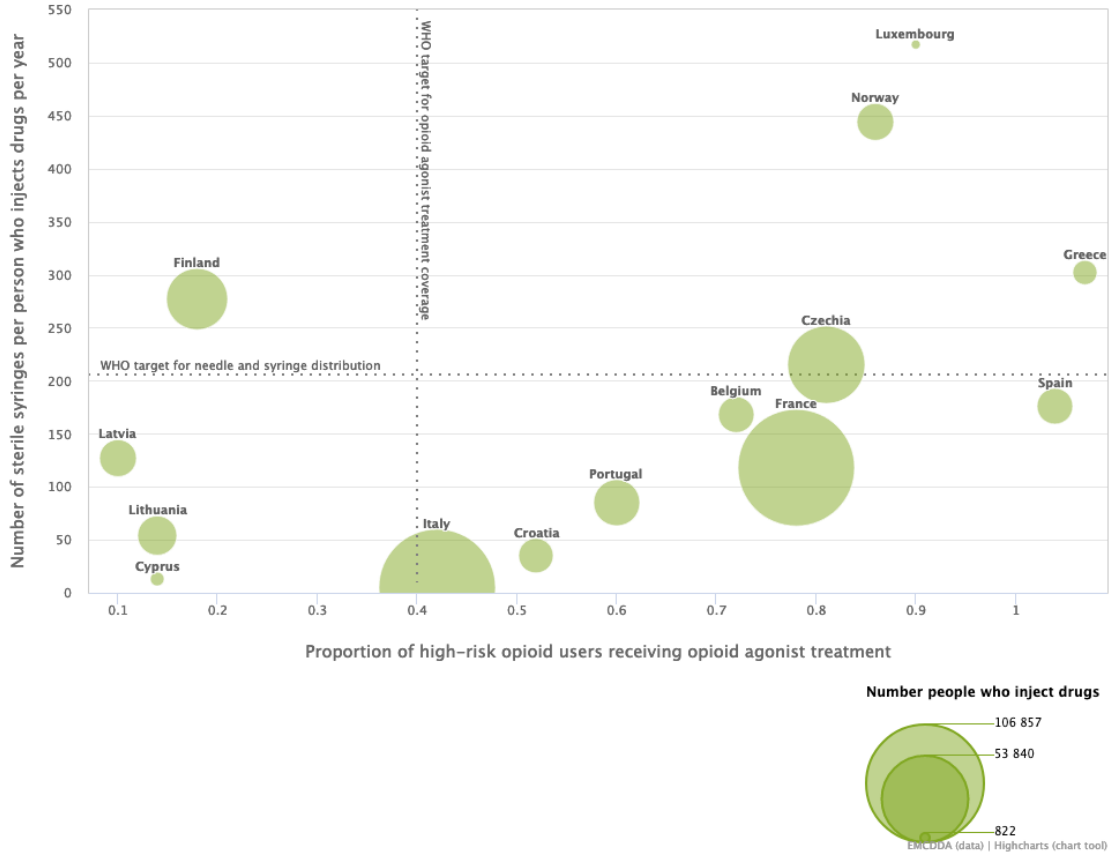
The EMCDDA's Health and Social Responses to Drug Problems: A European Guide contains detailed information for those wanting to find out more about the evidence that exists for the relative effectiveness of harm reduction and other forms of intervention.

Key data and trends

Needle and syringe programmes

- Needle and syringe programmes are also a widely available and standard component of harm reduction services. In 2022, all EU Member States and Norway had needle and syringe programmes in place. Needle and syringe coverage and access remain a challenge, with only 5 of the 17 EU countries with available data reaching the WHO service provision targets in 2022 (Figure 13.4).

Figure 13.4. Needle and syringe distribution and opioid agonist treatment coverage in relation to WHO 2020 targets, 2022 or latest available estimate



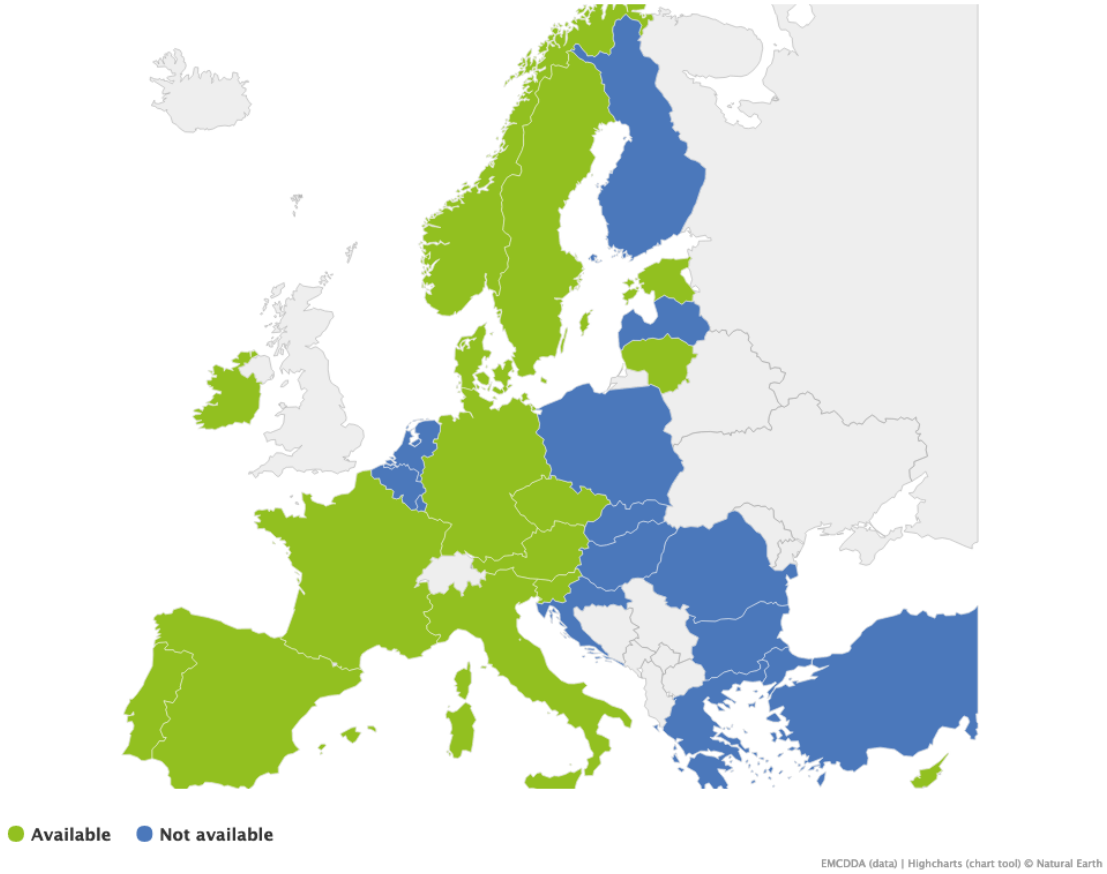
Opioid agonist treatment

- Opioid agonist treatment can be considered as an effective form of drug treatment and also as a service delivery model that addresses some harm reduction objectives. Opioid agonist treatment is a well-established intervention that is implemented in all European countries and is acknowledged as a protective factor against overdose deaths. A range of opioid agonist medications are prescribed in treatment clinics in Europe, but methadone is the most widely used, with about 56 % of opioid agonist clients receiving it, while another 35 % are treated with buprenorphine-based medications.

Take-home naloxone programmes

- Up to 2022, 16 European countries have reported the implementation of take-home naloxone programmes, which includes pilot projects, to prevent overdose deaths and 10 countries report having opened at least one drug consumption room, intended to facilitate safer use and prevent various health problems (Figure 13.5).

Figure 13.5. Availability of take-home naloxone in Europe



Data for EU Member States, Türkiye and Norway in 2023 or most recent year.

Drug checking services

- Twelve European countries report the existence of some type of drug checking service. These services aim to prevent harms by allowing people to find out what chemicals are in the illicit substances they have bought, and, in some cases, provide access to counselling or brief interventions. The analytical techniques used by services range from sophisticated technology that can provide information on strength and content of a wide variety of substances, to methods that simply show the presence or absence of a particular drug (Figure 13.6).

Figure 13.6. An illustration of the range of drug checking technologies available and their relative accuracy and reliability
Drug checking technologies ranked in order of increasing accuracy and reliability of results:

Multiple methods(most accurate and reliable)

- High-performance liquid chromatography
- Fourier transform spectroscopy
- Thin-layer chromatography
- Reagent test kit(least accurate and reliable)

Drug consumption rooms

- While drug consumption rooms have become a more accepted harm reduction response, establishing them remains problematic in some countries. In 2023, 10 EU countries and Norway had operational facilities (Figure 13.7). Where multicultural and new immigrant populations are present, increased own-language harm reduction messaging is desirable for people engaged in high-risk drug use.

Figure 13.7. Location and number of drug consumption facilities throughout Europe, 2023

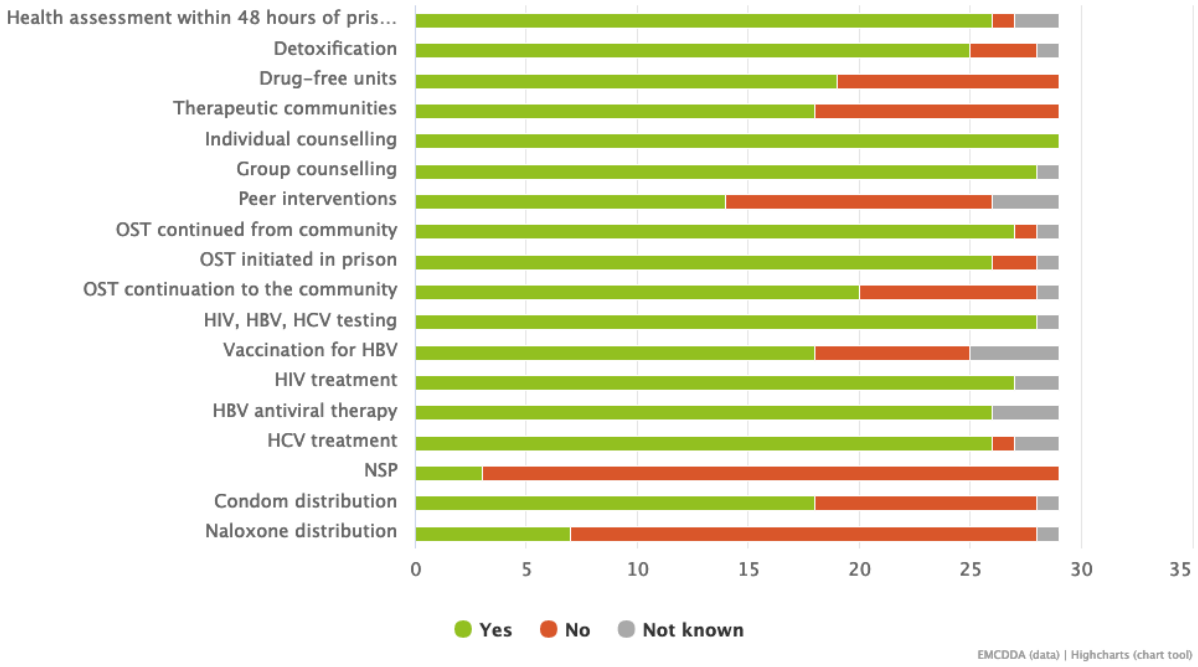
Source: European Network of Drug Consumption Rooms (ENDCR) and Correlation – European Harm ReductionNetwork (C-EHRN).

Please note that all geographical coordinates used here are approximate only.

Interventions in prisons

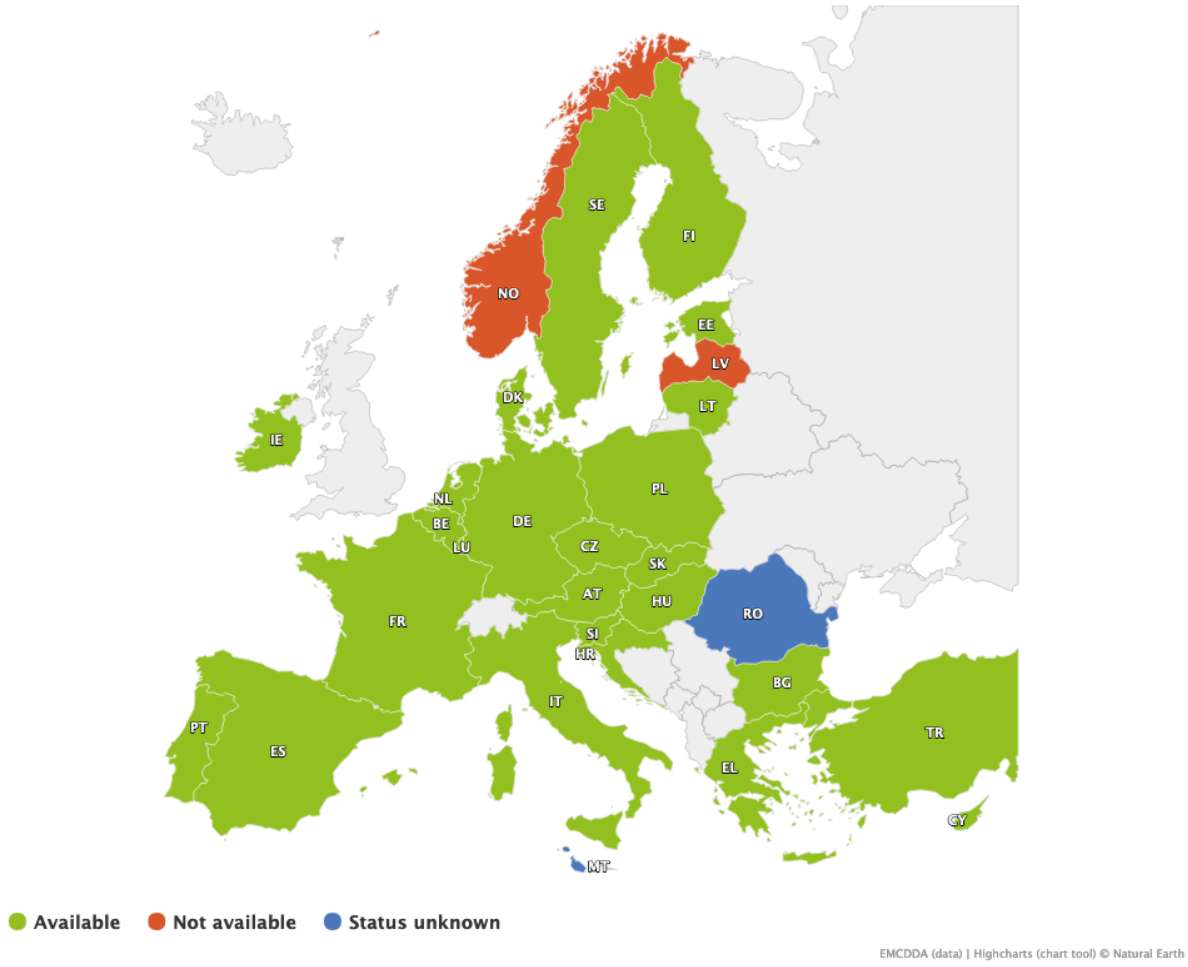
- EMCDDA data on harm reduction and treatment interventions available in prisons in 2022 show that continuity of opioid agonist treatment was available in all EU Member States, apart from Slovakia, as well as in Türkiye. Initiation of opioid agonist treatment in prison was not allowed in 2 countries (Bulgaria, Slovakia). Needle and syringe programmes were available in prisons in 3 countries: in all prisons in Spain and Luxembourg (2 prisons), and in one female prison in Germany. Take-home naloxone was available in 7 countries (Germany, Estonia, Ireland, France, Italy, Lithuania, Norway) (Figure 13.8).

Figure 13.8. Availability of drug-related and other health and social care interventions targeting people who use drugs and are in prison, Europe, 2022
Number of countries reporting the formal availability of interventions in prison



European situation by type of intervention in prison

Select an intervention from the dropdown list below
Availability of interventions in prison settings



Source: Prison and drugs in Europe: current and future challenges (EMCDDA, 2021), updated with recent data from 2023 prison workbooks, EMCDDA national focal points

Source data

The data used to generate infographics and charts on this page may be found below.

List of figures (European Drug Report 2024)

This page contains a full list of all figures and graphical elements available in the European Drug Report 2024. Note that, if viewing this page as part of a PDF, links will go to the online pages, not the corresponding figures in the PDF. Links are organised below according to the chapter in which they appear.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: 11 June 2024

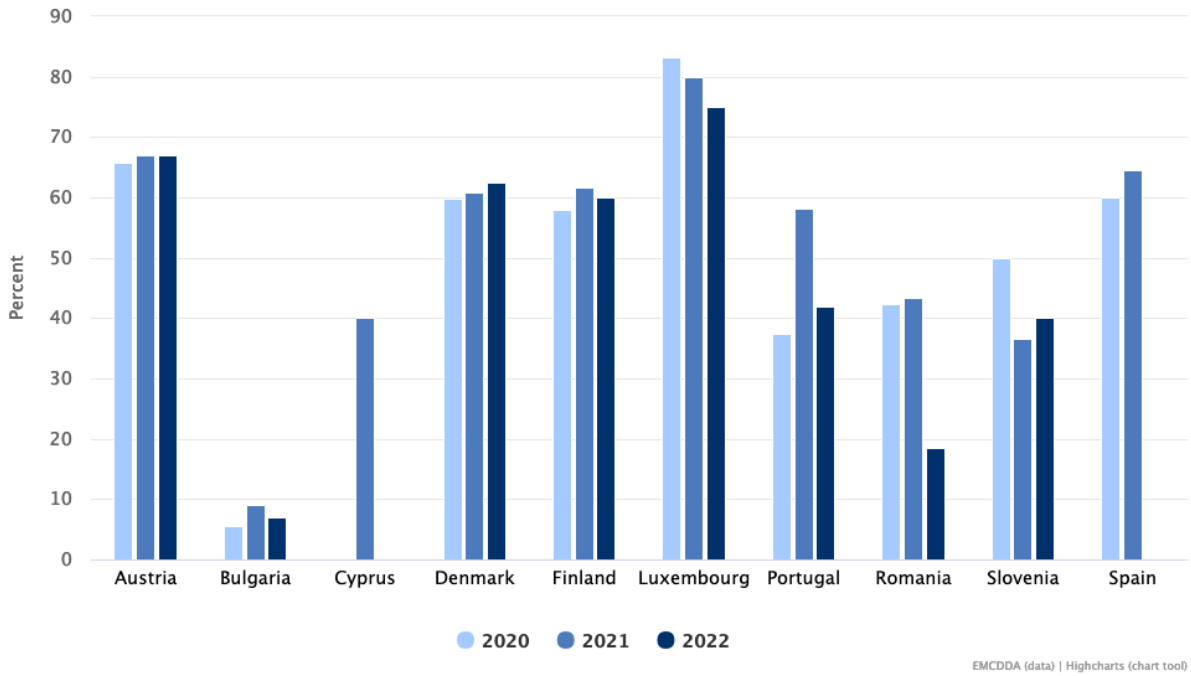
List of figures by chapter

- In half of the 20 countries with post-mortem toxicological data available for 2022, at least 1 in 4 drug-induced deaths involved methadone. The opioid agonist medicine was mentioned in around a third of the cases reported in Germany, France (2021), Spain (2021) and Croatia. There is little information available on whether the medicines were prescribed, misused or acquired on the black market. However, the mention of the drug does not mean that it was the cause of the poisoning, as overdoses often involve polydrug use with other opioids, alcohol and other medicines such as benzodiazepines. In 2022, buprenorphine was identified in 56 % (107) of the drug-induced deaths reported in Finland, in 19 % (92) in Sweden, in 7 % (20) in Denmark and in

7 % (49) of the deaths reported by the special register in France in 2021. In all other countries with available data, buprenorphine was reported in less than 5 % of fatal overdose cases or not reported at all.

- Tramadol, an opioid medicine used to treat moderate to severe pain, was involved in about 6 % (177) of reported overdose deaths in 12 European countries in 2022. However, it was involved in 47 % of the deaths reported by the French registry of medicine misuse-related deaths in 2020, suggesting that improving surveillance and toxicological investigation might increase the detection of deaths associated with opioid-containing medicines.
- Where available, data indicate that fentanyl and fentanyl derivatives were linked to 163 overdose deaths in 2022. Germany reported the largest number of deaths with the drug involved (73). However, some of these fatalities might be associated with diverted fentanyl medicines rather than illicit fentanyl. The other cases were reported in 2022 in Lithuania (33 deaths), followed by Denmark (20), Sweden (17), Estonia (8), Austria (4), Finland (3), Latvia (4), Türkiye (1). Preliminary 2023 data from Estonia and Latvia indicate that the number of drug-induced deaths involving new synthetic opioids further increased. In drug-induced deaths involving nitazenes, the most prominent nitazenes detected in Estonia in 2023 were protonitazene (38 of 56, 68 %) and metonitazene (27 of 56, 48 %); isotonitazene (32 of 38, 84 %) was most common in Latvia. Figures for 2023 are preliminary and might be underestimates. In countries with available data, between 2021 and 2022, oxycodone was reported as being involved in 327 drug-induced deaths, mainly in Denmark, Estonia, Finland and Sweden.
- Consuming opioids in combination with benzodiazepines increases the risk of overdose. In 2022, benzodiazepines, together with other substances, primarily opioids, were detected in the majority of overdose deaths in Denmark, Luxembourg, Austria and Finland, and in more than 4 out of 10 cases in Portugal and Slovenia (Figure 11.6). In addition, benzodiazepines were detected in high proportions of the overdose deaths reported in the most recent data available for Spain, Cyprus and Romania. In Bulgaria, where the total numbers of overdose deaths are small and caution is warranted due to year on year fluctuations, benzodiazepines are rarely detected. In many countries, this information is not available and in others, post-mortem toxicology findings are not reported for all cases.

Figure 11.6. Proportion of drug-induced deaths with benzodiazepines involved, 2020 to 2022, selected countries (percent)



- Few countries report information on the involvement of pregabalin in drug-induced deaths. Among those that do, Finland reported 87 deaths in 2022 (90 in 2021). Several countries reported an increase in the number of deaths with pregabalin mentioned: Denmark (from 48 deaths in 2021 to 58 in 2022), Austria (from 37 in 2021 to 54 in 2022), Spain (from 41 in 2020 to 81 in 2021), and Türkiye (from 5 in 2021 to 25 in 2022).
- Deaths linked to synthetic cannabinoids declined to 8 in Türkiye in 2022 (46 in 2021). Seven countries with available data reported 27 deaths with synthetic cathinones involved in 2022, mainly in Finland (13 cases), Estonia (5 cases), Portugal (4 cases), Austria (2), Romania (2) and Slovenia (1). Where data are available for 2021 and 2022, the numbers increased in Estonia (from 3 to 5), Finland (from 6 to 13), Portugal (from 0 to 4), Romania (from 1 to 2) and Slovenia (from 0 to 1), and decreased in Austria (from 7 to 2).

All-cause drug-related mortality

- Cohort studies show that all-cause mortality is much higher among people who use drugs than among their peers in the general population. Examples include the finding that between 2018 and 2022 the excess mortality risk of people who inject drugs in two Greek cities was 17 times that of the general population. Between 2010 and 2019, patients with opioid use disorders in Croatia had an excess mortality risk 17 times higher in females and 8 times higher in males compared with the general population.

Source data

Opioid agonist treatment – the current situation in Europe (European Drug Report 2024)

Opioid users represent the largest group undergoing specialist drug treatment, mainly in the form of opioid agonist treatment. On this page, you can find the latest analysis of the provision of opioid agonist treatment in Europe, including key data on coverage, the number of people in treatment, pathways to treatment and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: 11 *June 2024*

Treating opioid-related problems still consumes most treatment resources

While there is now greater heterogeneity in the characteristics of those seeking help for drug problems, due to the long-term nature of opioid agonist treatment, those receiving it still probably account for the greatest share of the resources invested in drug treatment services in most countries. An estimated 1.7 million people received treatment for problems related to the use of illicit drugs in the European Union in 2022 (2.0 million, including Norway and Türkiye). Specialist drug treatment encompasses a range of medical (including pharmacological), psychological, social and behavioural approaches to stop or reduce drug use and injecting. Generally, the majority will receive some form of opioid agonist treatment, which is the main pharmacological treatment approach and is typically combined with psychosocial interventions. The available evidence supports this approach, with positive outcomes found with respect to treatment retention, illicit opioid use, reported risk behaviour, drug-related harms and mortality. Recent guidance from the EMCDDA and ECDC on the prevention and control of infectious diseases among people who inject drugs recommends the provision of opioid agonist treatment in both community and prison settings to prevent transmission of HCV and HIV and to help reduce injecting risk behaviour and injecting frequency. The guidance also recommends the provision of sterile injecting equipment alongside opioid agonist treatment to maximise the coverage and effectiveness of the interventions among people who inject opioids.

There remain, however, important differences between countries in the settings and form in which treatment is provided and the extent to which the availability of opioid agonist treatment is sufficient to meet the needs of those requiring this form of care. The provision of opioid agonist treatment is still clearly insufficient in some countries (see Key data and trends, below). The relative importance of outpatient and inpatient provision within national treatment systems also varies greatly between countries. Almost a fifth of drug treatment in Europe is provided in inpatient settings, mainly hospital-based residential centres (e.g. psychiatric hospitals), but this can also include therapeutic communities and, in some countries, specialist residential treatment centres in prisons. Overall, however, opioid agonist treatment is more commonly provided in outpatient settings. These can include specialist drug treatment centres, low-threshold agencies, and primary healthcare centres, which can include general practitioners' surgeries.

The available data suggest that the provision of opioid agonist treatment did not drop significantly during the COVID-19 pandemic, when public health-based restrictions on movement were in place.

During that period, however, service delivery models may have been adapted. Examples of this include increased use of telemedicine and less restrictive approaches to providing take-home doses. There is also some information to suggest that access to care for new clients seeking opioid agonist treatment may have been disrupted temporarily during the pandemic period.

Meeting the more complex needs of an ageing cohort of opioid treatment clients

The long-term nature of opioid problems is underlined by the data available on the characteristics of those receiving opioid agonist treatment. The data also indicate that Europe's cohort of those who have had problems with heroin is ageing. This is illustrated by the fact that almost 70 % of clients in opioid agonist treatment are now aged 40 or older, while less than 10 % are under 30 years old. This has important implications for service delivery, with services having to address a more complex set of healthcare needs in a population that is becoming ever more vulnerable. An important consideration here is the need to ensure the existence of effective referral pathways to more generic services offering treatment for other conditions associated with the ageing process. This is becoming increasingly necessary in order to support older opioid treatment clients in need of geriatric care due to the long-term effects of illicit drug use, but also tobacco and alcohol use, on their physical health. The treatment of this marginalised group also needs to respond to a complex and often long-established set of problems related to mental health issues, social isolation, employment and housing. The development of integrated, multidisciplinary and age-specialised care services for this group will remain an important consideration in policy and provision as the demographics of opioid use in Europe continue to change.

Polydrug use and the appearance of highly potent new synthetic opioids on local drug markets can increase the risks from opioid use, especially for older people and those with complex healthcare needs. Where highly potent opioids have become an established feature of drug markets, more research is needed to determine if adaptations are needed to ensure that current approaches to providing opioid agonist treatment remain optimal. In addition, as noted elsewhere in this report, should we see the reduced availability of heroin on the European market, this may increase the demand for care in this area.

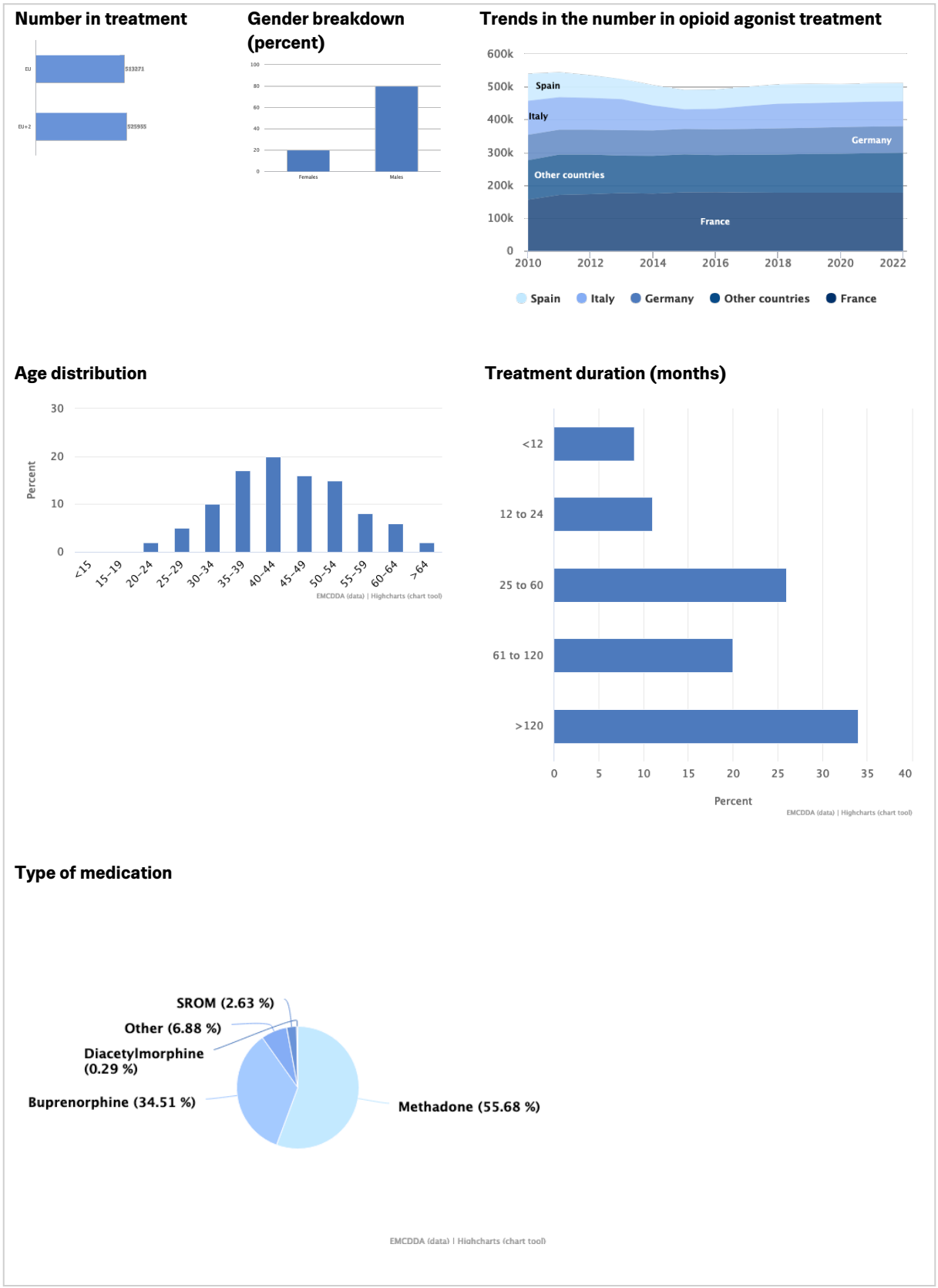
More information on health and social responses to opioid use, including among older people, can be found in the EMCDDA's Health and social responses to drug problems: A European guide.

Key data and trends

Number of people in treatment

- A comparison with current estimates of the number of high-risk opioid users in Europe would suggest that, overall, opioid agonist treatment was received by about half of the number of high-risk opioid users in the European Union in 2022, an estimated 513 000 (526 000 including Norway and Türkiye) (Figure 12.1). However, there are differences between countries. In those countries where data from 2011 or 2012 are available for comparison, there was generally an increase in coverage. Levels of provision, however, remain low and insufficient in some countries estimated to have significant numbers of high-risk opioid users, such as Latvia, Lithuania, Poland, Romania and Slovakia (Figure 12.2).

Figure 12.1. Clients in opioid agonist treatment



Trends in the number of opioid agonist clients are based on 26 countries. Only countries with data for at least 7 of the 10 years are included in the trends graph. Missing values are interpolated from adjacent years. Data for age distribution are based on 16 countries representing 28 % (141 164) of all registered clients in the European Union. Data for gender are based on 17 countries representing 18 % (93 612) of all registered clients. Data for treatment duration are based on 7 countries representing 7 % of all

registered clients (34 300).

Distribution of OAT clients by type of medication: SROM is slow-release oral morphine and DHC is dihydrocodeine.

Figure 12.2a. Coverage of opioid agonist treatment (percent) in 2022 or the most recent year

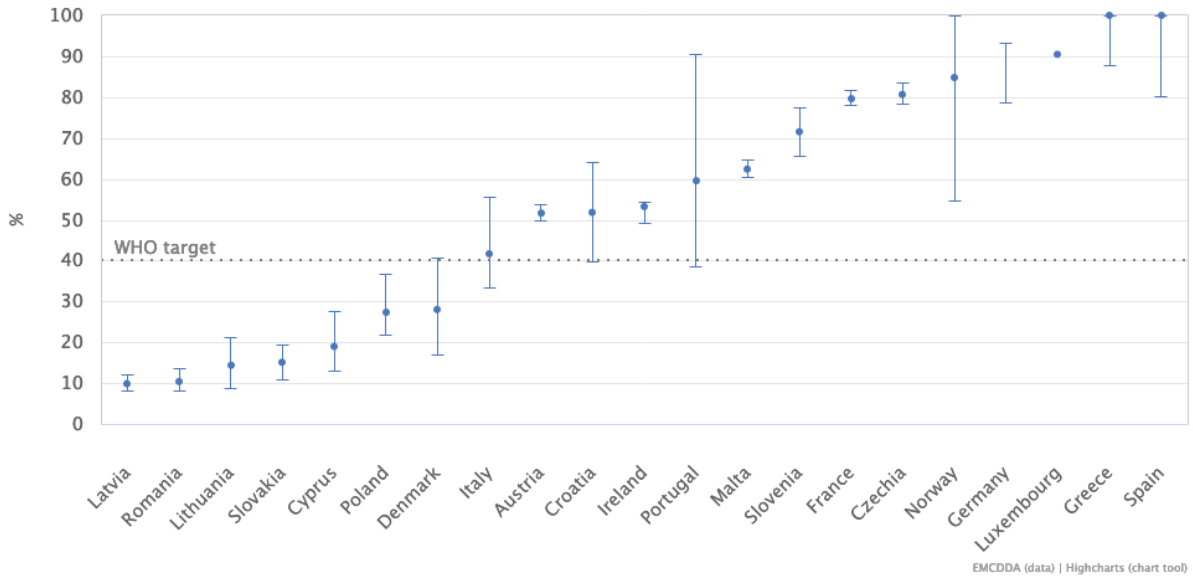
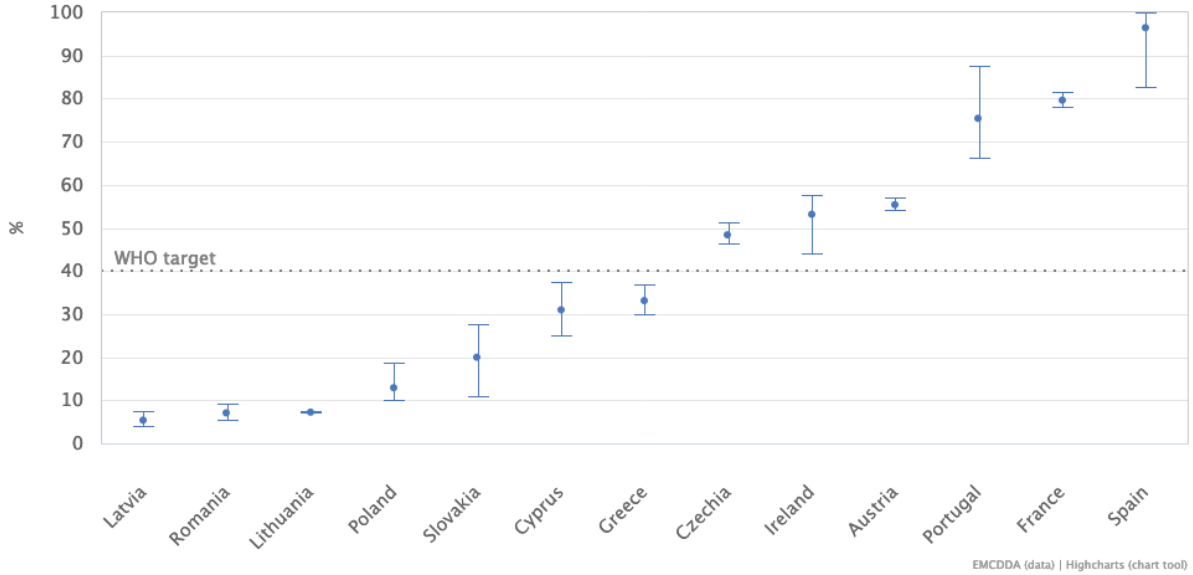


Figure 12.2b. Coverage of opioid agonist treatment (percent) in 2011/12



Coverage is defined as the share of high-risk opioid users receiving the intervention. Data are displayed as point estimates and uncertainty intervals.

- Data from countries that consistently reported on clients receiving opioid agonist treatment between 2010 and 2022 show an overall stable trend in treatment levels during this period, with little fluctuation in the number of clients receiving this treatment. The reasons for this stability vary. In countries with high treatment provision, it may reflect the often chronic, relapsing nature

of opioid dependence and the need for treatment over a prolonged period; in others (e.g. Latvia), it may reflect the low capacity of treatment systems.

- At the onset of the COVID-19 pandemic, EU Member States sought to ensure continued access to opioid agonist treatment for people engaged in high-risk drug use. Comparing treatment data between 2019 and 2022 indicates that the number of clients remained stable, with only Croatia and Hungary reporting a decrease greater than 10 % of their opioid agonist treatment population during this period. These reductions may be partly due to decreased access to treatment during the pandemic.
- In some countries, the number of people receiving opioid agonist treatment has increased, reflecting increased treatment provision, with 11 countries reporting an increase between 2016 and 2022, including Denmark (37 %), Poland (54 %), Romania (17 %) and Sweden (21 %).

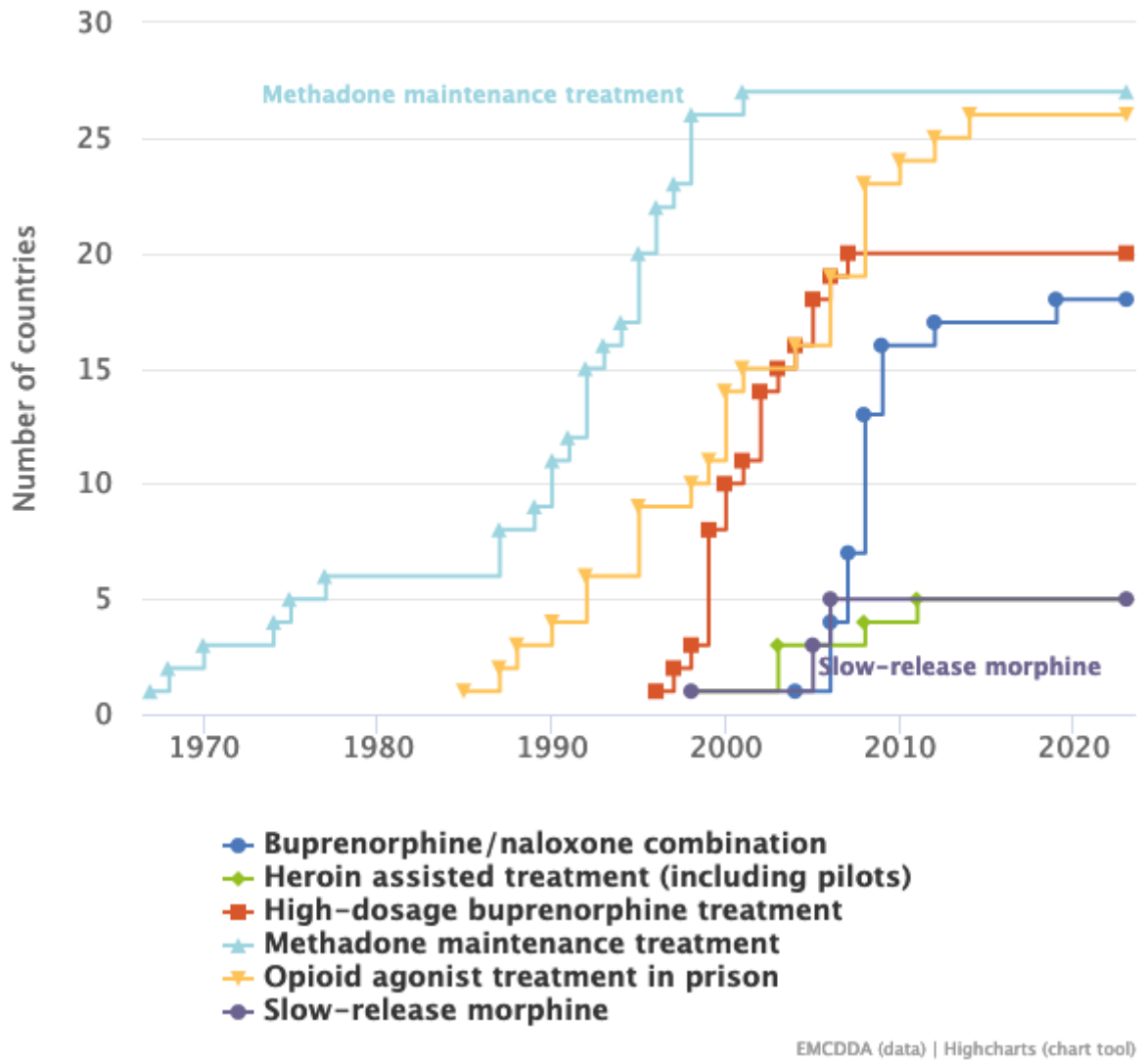
Pathways to treatment

- Client pathways through drug treatment are often characterised by the use of different services, multiple entries and varying lengths of stay. Self-referral continues to be the most common route into specialist drug treatment for opioid clients. This form of referral, which also includes referral by family members or friends, accounted for about two thirds (66 %) of those with primary opioid problems entering specialist drug treatment in Europe in 2022. Almost one fifth (23 %) of clients were referred by health, education and social services, including other drug treatment centres, while 7 % were referred by the criminal justice system.

Opioid agonist medications

- The provision of more than one opioid agonist treatment medication in 2022 is reported by 26 countries. Methadone is the most commonly prescribed medication, received by more than half (56 %) of opioid agonist treatment clients across Europe. Another 35 % are treated with medications based on buprenorphine, which is the principal medication reported to be used in 8 countries. Other substances, such as slow-release morphine or diacetylmorphine (heroin), are more rarely prescribed, being received by almost 10 % of opioid agonist clients in Europe, with 5 countries reporting some provision of heroin-assisted treatment, if pilot projects are included (Figure 12.3).

Figure 12.3. Number of European countries implementing opioid agonist treatment, up to 2023



Implementation at any level, including pilot projects, is included.

Alternative treatment options

- Although less common than opioid agonist treatment, alternative treatment options for opioid users are available in all European countries. In the 11 countries for which data are available, between 5 % and 47 % of all opioid users in treatment receive interventions not classified as opioid agonist treatment, such as medically assisted detoxification and outpatient or inpatient abstinence-oriented interventions.

Source data

The data used to generate infographics and charts on this page may be found below.

Harm reduction – the current situation in Europe (European Drug Report 2024)

Harm reduction encompasses interventions, programmes and policies that seek to reduce the health, social and economic harms of drug use to individuals, communities and societies. On this page, you can find the latest analysis of harm reduction interventions in Europe, including key data on opioid agonist treatment, naloxone programmes, drug consumption rooms and more.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: *11 June 2024*

Evolving drug problems pose a broader set of challenges for harm reduction

The use of illicit drugs is a recognised contributor to the global burden of disease. Interventions designed to reduce this burden include prevention activities, intended to reduce or slow the rate at which drug use may be initiated, and the offer of treatment to those who have developed drug problems. A complementary set of approaches goes under the general heading of harm reduction. Here the emphasis is on working non-judgementally with people who use drugs in order to reduce the risks associated with behaviours that are mostly associated with adverse health outcomes, and more generally to promote health and well-being. Probably the best known of these is the provision of sterile injecting equipment to people who inject drugs, with the aim of reducing the risk of contracting an infectious disease. Over time these sorts of approaches appear to have contributed to the relatively low rate, by international standards, of new HIV infections now associated with injecting drug use in Europe. Over the last decade, as patterns of drug use have changed and the characteristics of those who use drugs have also evolved, to some extent, harm reduction interventions have also needed to adapt to address a broader set of health outcomes and risk behaviours. Prominent among these are reducing the risk of drug overdose and addressing the often-considerable and complex health and social problems faced by people who use drugs in more marginalised and socially excluded populations.

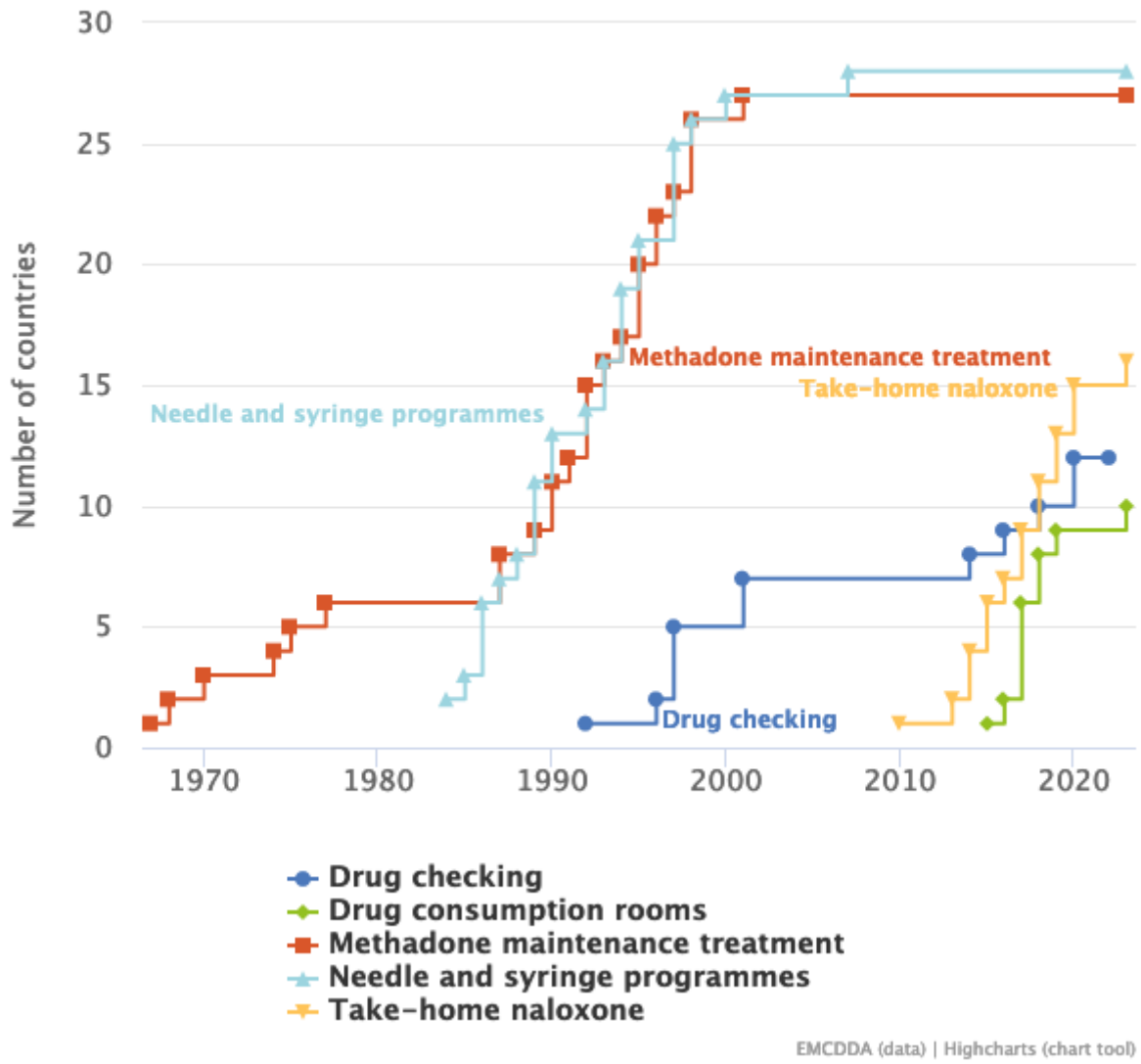
A spectrum of responses is needed to reduce changing drug-related harms

Chronic and acute health problems are associated with the use of illicit drugs, and these can be compounded by factors such as the properties of the substances, the route of administration, individual vulnerability and the social context in which drugs are consumed. Chronic problems include dependence and drug-related infectious disease, while there is a range of acute harms, of which drug overdose is perhaps the best documented. Although relatively rare at the population level, the use of opioids still accounts for much of the morbidity and mortality associated with drug use. Injecting drug use also increases risks. Correspondingly, working with opioid users and those who inject drugs has been historically an important target for harm reduction interventions and also the area where service delivery models are most developed and evaluated.

Reflecting this, some harm reduction services have become increasingly integrated into the mainstream of healthcare provision for people who use drugs in Europe over the last three decades. Initially, the focus was on expanding access to opioid agonist treatment and needle and syringe programmes as a part of the response to high-risk drug use, primarily targeting injecting use of heroin and the HIV/AIDS epidemic. Recent joint EMCDDA-ECDC guidance on the prevention and control of infectious diseases among people who inject drugs recommends providing opioid agonist treatment to prevent hepatitis C and HIV, as well as to reduce injecting risk behaviours and injecting frequency, in both the community and prison settings. The guidelines also recommend the provision of sterile injecting equipment alongside opioid agonist treatment to maximise the coverage and effectiveness of the interventions among people who inject opioids.

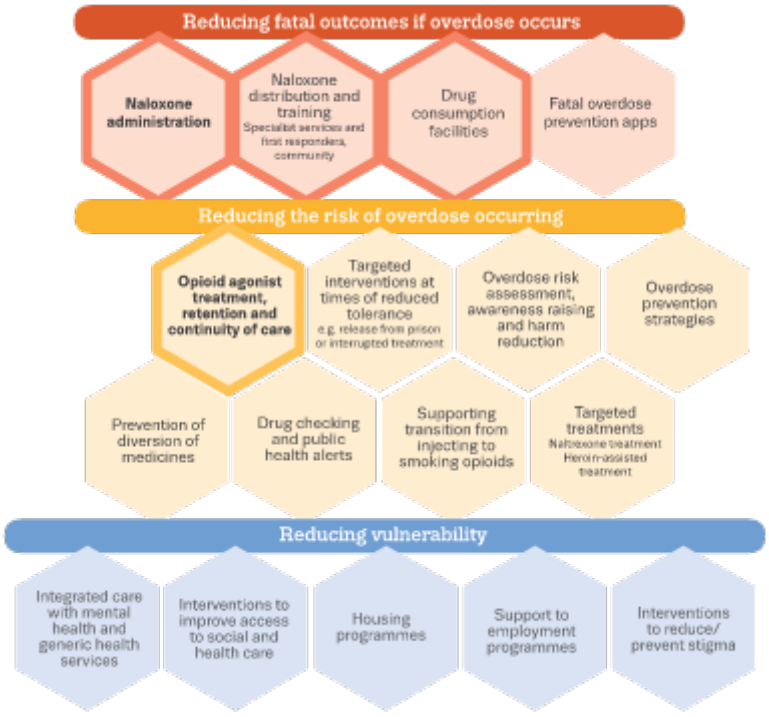
In the last three decades, approaches to harm reduction have been broadened in some EU countries to encompass other responses, including drug consumption rooms and take-home naloxone programmes intended to reduce fatal overdoses (Figure 13.1). Interventions to reduce opioid-related deaths include those aimed at preventing overdoses from occurring and those aimed at preventing death when an overdose does occur (Figure 13.2).

Figure 13.1. Number of European countries implementing harm reduction interventions, up to 2023



Implementation at any level, including pilot projects, is included.

Figure 13.2. Interventions to prevent opioid-related deaths, by intended aim and evidence of benefit



Note: Interventions where there is evidence of benefit and where we can have high or reasonable confidence in the available evidence are highlighted in a bolder frame. Much of the current evidence on interventions listed in this figure is either emerging or deemed insufficient, in part because of the practical and methodological difficulties of conducting research, especially in developing randomised controlled trials (see Spotlight on... Understanding and using evidence) and also because service delivery models often differ considerably.

In some countries, there are drug checking facilities, which have been established with the aim of enabling people to understand better what substances the illicit drugs they have bought contain. Tablets, for example, purchased as MDMA, may also contain adulterants and other drugs, such as synthetic cathinones. With many synthetic stimulants and new psychoactive substances now available on the illicit market in similar looking powders or pills, consumers may be increasingly at risk of being unaware of what particular stimulant or mixture of substances they may be consuming.

The increasing integration of the markets for new psychoactive substances and illicit drugs is creating new public health challenges, such as herbal cannabis mixed with synthetic cannabinoids, stimulants mixed with cathinones and ketamine or new synthetic opioids mixed with or mis-sold as heroin. As poisoning events can evolve rapidly, understanding what constitutes the delivery of effective of risk communication has become more important. Although the range of services provided may differ, all drug checking services undertake some form of health risk communication activity, often by issuing alerts on analysed drug products and sharing data with other stakeholders. The aim is to prevent or reduce harm at the level of the individual (the person submitting the substance for checking) and of the population (others who may be exposed to the same substance). Future steps in this field may include moves towards harmonisation and the building of consensus among European drug checking services on the determination of criteria and thresholds for when and how to issue alerts, as well as the adoption of evidence-based standard operating procedures for health risk communication. These issues are explored in a recent manual developed by the EMCDDA and the Trans-European Drug Information project on health risk communication strategies .

Some of these interventions remain controversial for reasons that include their legal status and the evolving nature of their evidence base. Coverage of these newer interventions therefore remains uneven within and between countries, and where they do exist, they are often most commonly found only in large cities. Overall, coverage and access to harm reduction services more generally, including those service models that are long-established and relatively well evidenced, varies considerably between EU countries, and in some countries remains inadequate in comparison to estimated needs.

Increasing preparedness to reduce the harm from potent synthetic drugs and unintentional consumption

Potent synthetic substances have a growing potential to cause drug-related harms in Europe, as inadvertent consumption of these substances in powders or mixtures sold as other drugs can lead to poisonings and deaths. This, together with more complex patterns of polydrug consumption, adds to the already considerable challenges of developing effective responses to reduce drug overdose deaths and drug-related poisonings. An example of this growing complexity, albeit currently on a relatively small scale, was seen in Estonia in 2022, where mixtures were identified containing new synthetic opioids and new benzodiazepines and also the tranquilliser xylazine. Known respectively as 'benzo-dope' and 'tranq-dope', these sorts of mixtures have been linked to increases in overdose deaths and other negative health-related outcomes in the United States and Canada. More recently, the highly potent benzimidazole opioids (nitazenes), which are more potent than fentanyl, have also been involved in localised poisoning outbreaks in parts of Europe (see also New psychoactive substances – the current situation in Europe).

During a recent outbreak in Ireland, a rapid risk communication exercise was undertaken, with the support of low-threshold services, which included leaflet drops to open drug scenes and distribution of information on social media and news platforms. This is an example of how services may need to respond both more rapidly and more intensively to outbreaks of drug poisoning than in the past (Figure 13.3). The presence of such mixtures and mis-sold substances on the market highlights the need to review current approaches to the delivery of some harm reduction interventions. For example, the distribution and administration of the opioid antagonist naloxone may need to be reviewed in the context of these mixtures and mis-sold substances.

Figure 13.3. Example of a rapid risk communication issued in Ireland, 2024

More generally, given possible developments in the synthetic opioid market, it would be prudent to review current plans to prepare for and respond to any possible increase in the availability and use of synthetic opioids or in the harm associated with these substances. This could include enhancing toxicological analysis capabilities, alert messaging and frontline responder preparedness. Where drug consumption rooms are operational, the possible benefits and risks from also providing drug checking services may be an issue for consideration. Most drug consumption rooms in Canada, for example, offer drug checking for fentanyl. This is currently uncommon in the European Union, but a consumption room in Copenhagen has recently started providing this service, and other pilot projects are reported to be in development elsewhere in Europe.

Stimulant-related harms linked to different patterns of use

Reducing the risks associated with injecting drug use has always been an important target for harm reduction interventions, and the service models are relatively well developed and evidenced. However, even in this area, changes in drug consumption are creating new challenges for effective service delivery. In the last decade, there have been HIV outbreaks associated with the injection of illicit synthetic stimulants in 7 European cities, across 6 EU countries. A potentially increased

frequency of injection is associated with stimulant use compared with heroin use, while crushing and dissolving crack cocaine and other tablets for injection also brings with it additional health risks. These consumption patterns raise questions regarding, for example, the type and adequacy of needles and syringes provided to people in street-based open drug scenes, which now are typically characterised by polydrug use. An additional concern exists that service restrictions during COVID-19 lockdowns adversely impacted on testing for drug-related infections, such as HIV and HCV, and on conduits to care among more vulnerable and marginalised populations of people who use drugs, including those experiencing homelessness.

Synthetic stimulants and various other substances are consumed to facilitate and enhance sex in the context of sexualised drug use by various groups, but mainly among men who have sex with men, when it is known as 'chemsex'. While this definition is imprecise, it is usually used to refer to settings or events where both high-risk drug taking and high-risk sexual behaviour may occur. The drugs involved can range from stimulants, such as methamphetamine, cocaine and synthetic cathinones, to alcohol, depressants such as GHB/GBL and dissociatives such as ketamine. While it is difficult to estimate the prevalence of chemsex, information from research studies suggests it is an issue that is present, albeit at a small scale and among specific subgroups of people who use drugs, across Europe. Engaging with and providing effective harm reduction responses for people engaged in these forms of high-risk behaviours remains a challenge, and the development of tailored harm-reduction interventions is likely to be needed. Also likely to be needed in this area are strong multi-agency partnerships between those providing sexual health services and those services providing drug-related harm reduction.

New challenges and opportunities to reduce harm

Despite cannabis being Europe's most commonly consumed illicit drug, an argument can be made that it is also an area in which harm reduction advice and interventions are often lacking. Cannabis users in Europe commonly smoke the drug with tobacco, and an undeveloped area for the development of harm reduction approaches is the consideration of what might constitute effective inventions to reduce smoking-related harm in this group. More generally, as the types and forms of cannabis products available in Europe continue to change, so too have considerations about the implications this has for harm reduction responses. Overall, cannabis products, both resin and herbal, are now of a higher potency – they contain more THC – than they were historically, and high-potency cannabis products are associated with more acute and chronic harms. In addition, the diversity of product types has expanded, with edibles, e-liquids and extracts all now available. These changes create new potential challenges to identify what constitutes effective harm reduction interventions and opportunities to implement them to reduce harm.

Cannabis is not the only area in which harm reduction approaches have the potential to play a greater role. As noted elsewhere in this year's European Drug Report, there are also signs of increasing consumer interest in less commonly known substances, including dissociative drugs and psychedelics such as nitrous oxide and ketamine. These substances do have the potential to cause possible harm, and some patterns of use are likely to increase the risk of adverse consequences occurring, creating potential opportunities for harm reduction approaches.

While some harm reduction responses remain controversial in some countries in Europe, the overall concept that evidence-based measures to reduce harm are an important component of balanced drug policies is largely accepted. The contexts within which harm reduction services operate, the evidence base that supports them, and what constitutes standards for quality of care in this area therefore remain key areas for further development and policy consideration. Looking forward, the evolving threats to public health arising from Europe's dynamic illicit drugs markets highlight the

growing need to evaluate new and evolving models of service provision that may be needed to protect the health of people at risk of adverse outcomes arising from more complex consumption patterns, new substances and mixtures, or associated with particular subgroups or settings.

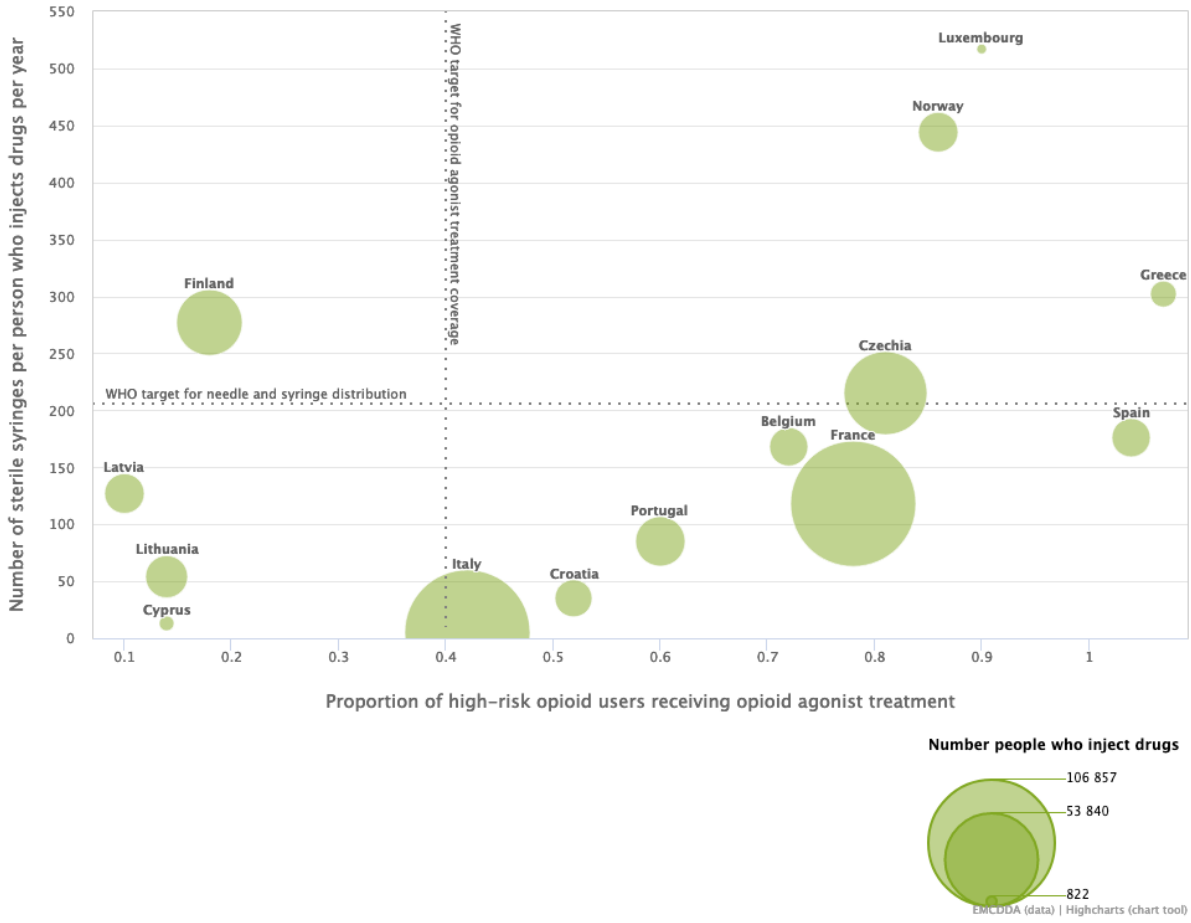
The EMCDDA's Health and Social Responses to Drug Problems: A European Guide contains detailed information for those wanting to find out more about the evidence that exists for the relative effectiveness of harm reduction and other forms of intervention.

Key data and trends

Needle and syringe programmes

- Needle and syringe programmes are also a widely available and standard component of harm reduction services. In 2022, all EU Member States and Norway had needle and syringe programmes in place. Needle and syringe coverage and access remain a challenge, with only 5 of the 17 EU countries with available data reaching the WHO service provision targets in 2022 (Figure 13.4).

Figure 13.4. Needle and syringe distribution and opioid agonist treatment coverage in relation to WHO 2020 targets, 2022 or latest available estimate



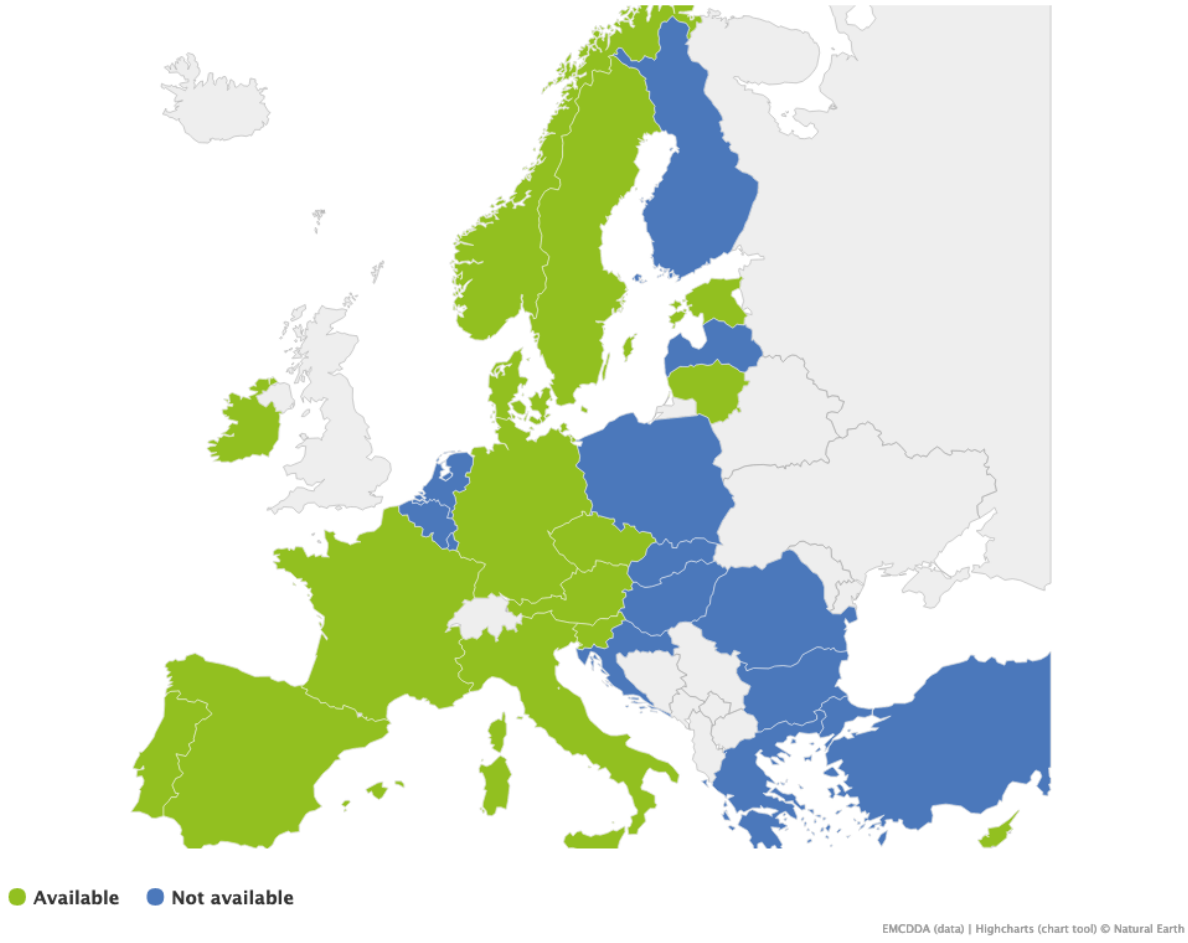
Opioid agonist treatment

- Opioid agonist treatment can be considered as an effective form of drug treatment and also as a service delivery model that addresses some harm reduction objectives. Opioid agonist treatment is a well-established intervention that is implemented in all European countries and is acknowledged as a protective factor against overdose deaths. A range of opioid agonist medications are prescribed in treatment clinics in Europe, but methadone is the most widely used, with about 56 % of opioid agonist clients receiving it, while another 35 % are treated with buprenorphine-based medications.

Take-home naloxone programmes

- Up to 2022, 16 European countries have reported the implementation of take-home naloxone programmes, which includes pilot projects, to prevent overdose deaths and 10 countries report having opened at least one drug consumption room, intended to facilitate safer use and prevent various health problems (Figure 13.5).

Figure 13.5. Availability of take-home naloxone in Europe



Data for EU Member States, Türkiye and Norway in 2023 or most recent year.

Drug checking services

- Twelve European countries report the existence of some type of drug checking service. These services aim to prevent harms by allowing people to find out what chemicals are in the illicit substances they have bought, and, in some cases, provide access to counselling or brief interventions. The analytical techniques used by services range from sophisticated technology that can provide information on strength and content of a wide variety of substances, to methods that simply show the presence or absence of a particular drug (Figure 13.6).

Figure 13.6. An illustration of the range of drug checking technologies available and their relative accuracy and reliability

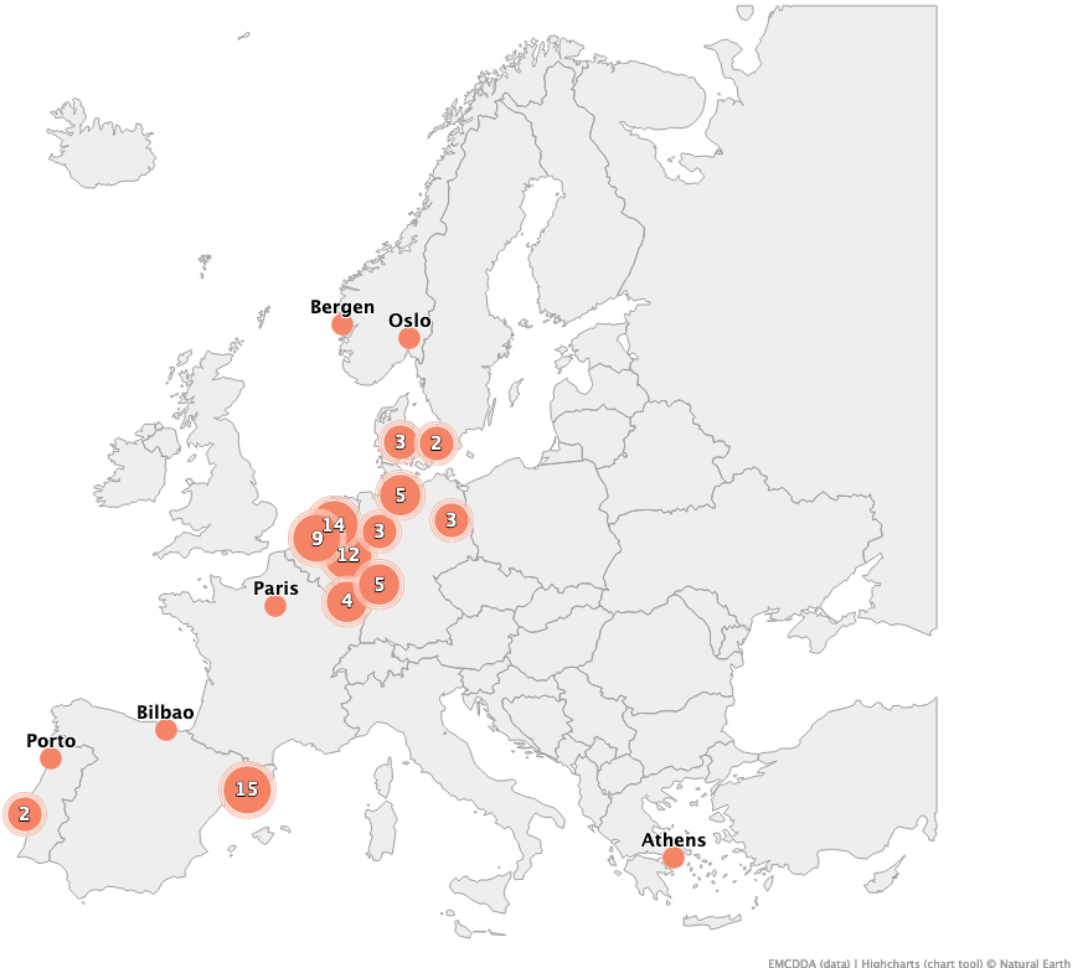
Drug checking technologies ranked in order of increasing accuracy and reliability of results:

- Multiple methods(most accurate and reliable)
- High-performance liquid chromatography
- Fourier transform spectroscopy
- Thin-layer chromatography
- Reagent test kit(least accurate and reliable)

Drug consumption rooms

- While drug consumption rooms have become a more accepted harm reduction response, establishing them remains problematic in some countries. In 2023, 10 EU countries and Norway had operational facilities (Figure 13.7). Where multicultural and new immigrant populations are present, increased own-language harm reduction messaging is desirable for people engaged in high-risk drug use.

Figure 13.7. Location and number of drug consumption facilities throughout Europe, 2023



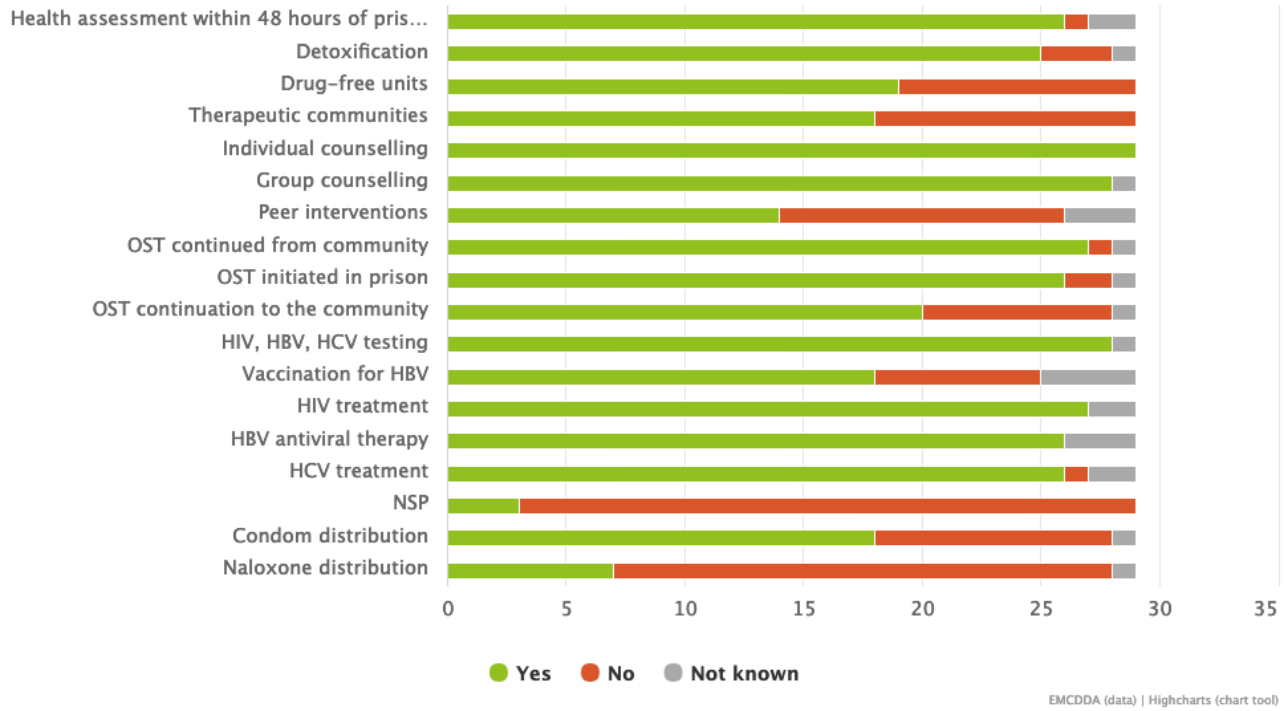
Source: European Network of Drug Consumption Rooms (ENDCR) and Correlation – European Harm Reduction Network (C-EHRN).

Please note that all geographical coordinates used here are approximate only.

Interventions in prisons

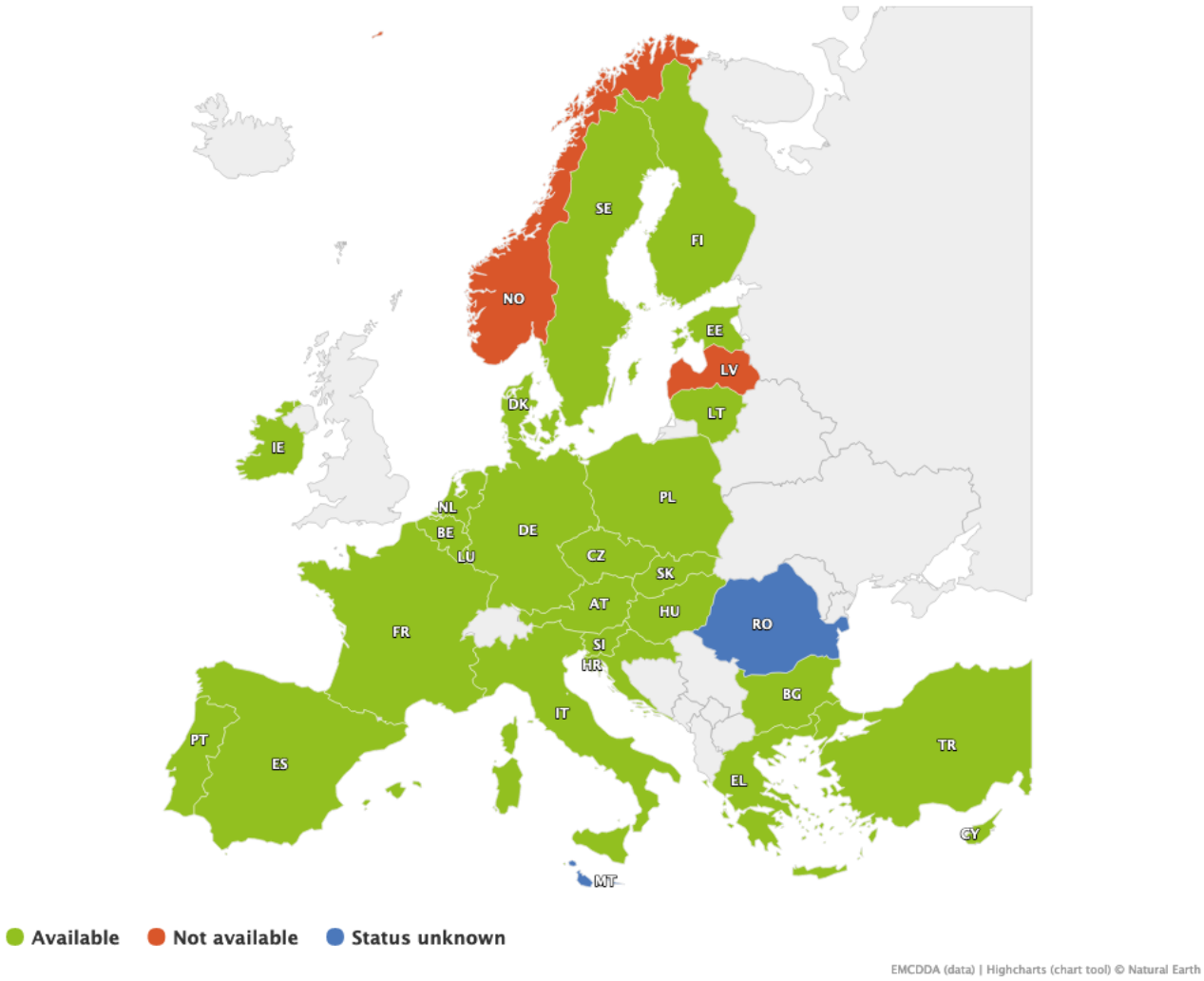
- EMCDDA data on harm reduction and treatment interventions available in prisons in 2022 show that continuity of opioid agonist treatment was available in all EU Member States, apart from Slovakia, as well as in Türkiye. Initiation of opioid agonist treatment in prison was not allowed in 2 countries (Bulgaria, Slovakia). Needle and syringe programmes were available in prisons in 3 countries: in all prisons in Spain and Luxembourg (2 prisons), and in one female prison in Germany. Take-home naloxone was available in 7 countries (Germany, Estonia, Ireland, France, Italy, Lithuania, Norway) (Figure 13.8).

Figure 13.8. Availability of drug-related and other health and social care interventions targeting people who use drugs and are in prison, Europe, 2022
Number of countries reporting the formal availability of interventions in prison



European situation by type of intervention in prison

Select an intervention from the dropdown list below
Availability of interventions in prison settings



Source: Prison and drugs in Europe: current and future challenges (EMCDDA, 2021), updated with recent data from 2023 prison workbooks, EMCDDA national focal points

Source data

The data used to generate infographics and charts on this page may be found below.

List of figures (European Drug Report 2024)

This page contains a full list of all figures and graphical elements available in the European Drug Report 2024. Note that, if viewing this page as part of a PDF, links will go to the online pages, not the corresponding figures in the PDF. Links are organised below according to the chapter in which they appear.

This page is part of the **European Drug Report 2024**, the EMCDDA's annual overview of the drug situation in Europe.

Last update: 11 June 2024

List of figures by chapter