



# Synthetic stimulants – the current situation in Europe (European Drug Report 2023)

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

This page is part of the [European Drug Report 2023](#), the EMCDDA's annual overview of the drug situation in Europe.  
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## Diversity increasing in the availability and use of stimulants in Europe

Amphetamine, methamphetamine and, more recently, synthetic cathinones are all synthetic central nervous system stimulants available on the drug market in Europe. Historically, amphetamine use has always been the most common, with the availability of methamphetamine and synthetic cathinones being more limited in most countries. There are, however, increasing signals that synthetic stimulants are now contributing more significantly to Europe's overall stimulant problem. This could have important implications. Synthetic drug production trends can be extremely dynamic, and consumers may view different stimulants as functionally equivalent and be amenable to trying new products based on their availability in the market. There are 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 developed to track trends in use or related problems associated with changing patterns of synthetic stimulant use. Improving our ability to monitor and respond more rapidly to developments in this area is therefore likely to be a growing priority for the future.

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 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, and these drugs can also be found in tablets marketed as MDMA. This means that forensic and toxicological analysis is

particularly important for understanding both consumption trends and 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 pose high risks to health and mortality, which 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, six large European cities, across five countries, have reported localised HIV outbreaks associated with stimulant injecting, mainly among marginalised people who inject drugs involved in open drug scenes. Syringe residue analysis conducted by the ESCAPE network between 2021 and 2022 confirm the presence of stimulants, such as amphetamine and synthetic cathinones, in many injecting drug scenes. Reports from the Euro-DEN Plus sentinel hospital emergency network in 2022 highlight the role that synthetic stimulants can play in acute drug toxicity presentations to emergency departments.

While methamphetamine is less commonly used and is less visible in available data sources, there are growing signals that the production of the drug is increasing in Europe and that the drug is diffusing to more countries. Historically, the use of this drug has been most commonly observed in Czechia and Slovakia and, more recently, some neighbouring countries. While not representative of the general population, data from wastewater analysis indicate that two thirds of the 59 European cities with data for 2021 and 2022 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. While the number of dismantled amphetamine production laboratories in Europe remained constant at about 100 between 2020 and 2021, the quantity of the drug seized in Europe fell by two thirds in 2021. It has been suggested that this fall in seizures may be indicative of a decline in production, possibly resulting from producers switching to other stimulants, such as methamphetamine, that can be highly profitable when trafficked to non-EU markets. In the most recent data, a decline was also observed in the quantity of methamphetamine seized in Europe, alongside a relatively stable number of drug production sites being detected, which included medium- and large-scale sites operating at a capacity that suggests production for export markets. Overall, however, data availability issues as well as the likely impact of the pandemic on both market developments and reporting 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.

The information available does suggest, however, 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, which accounted for 14 of the 15 laboratories dismantled in 2021. 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, which group amphetamine and methamphetamine together, conducted by 25 EU countries between 2016 and 2022 suggest that 1.3 million young adults (15 to 34) used amphetamines during the last year (1.3 % of this age group). Of the 11 European countries that have conducted surveys since 2020 and provided confidence intervals, 1 reported higher estimates than their previous comparable survey, 9 reported a stable trend and 1 a lower estimate (see the [Prevalence of amphetamines use in Europe](#) dashboard, below).
- 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.

## Dashboard. Prevalence of amphetamines use in Europe

### Recall period

Last month

Last year

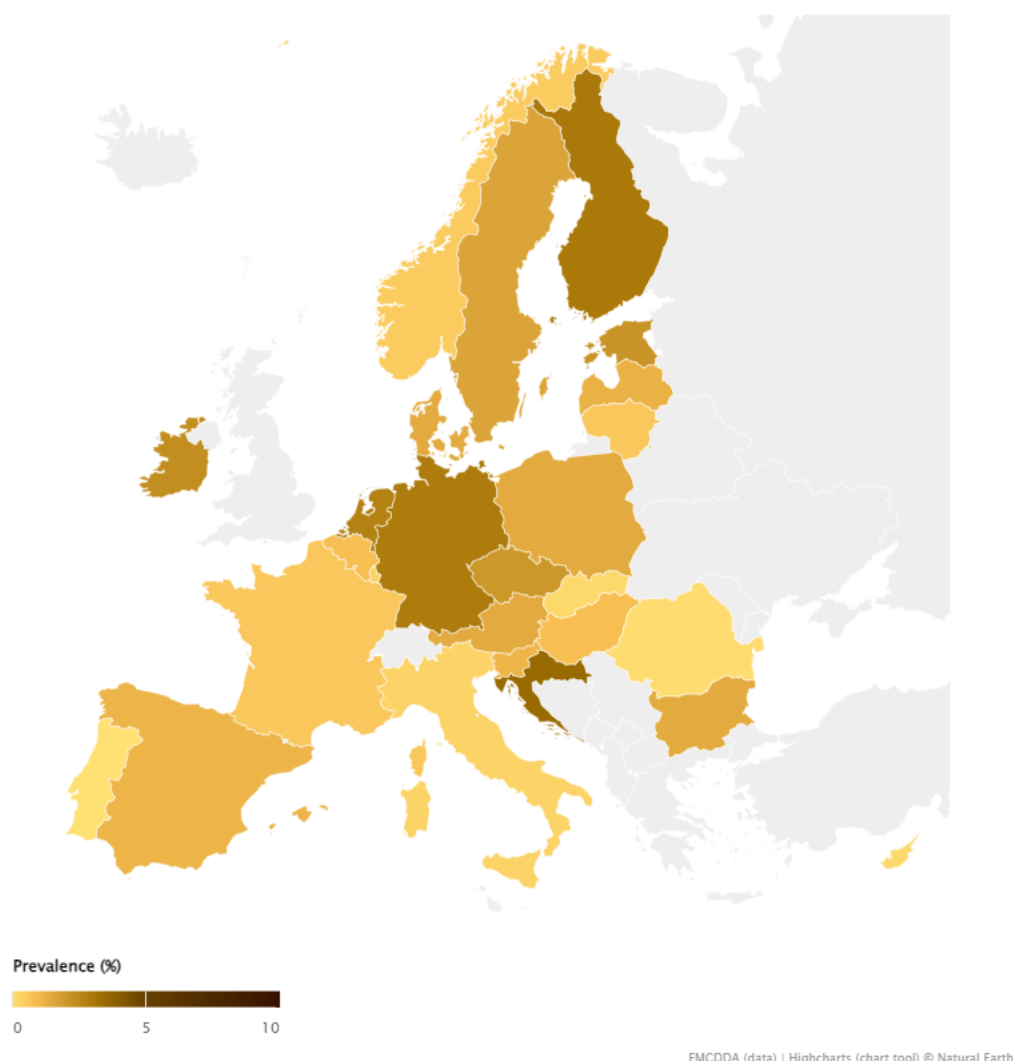
Lifetime

### Age

Young adults (15-34)

Adults (15-64)

### Country



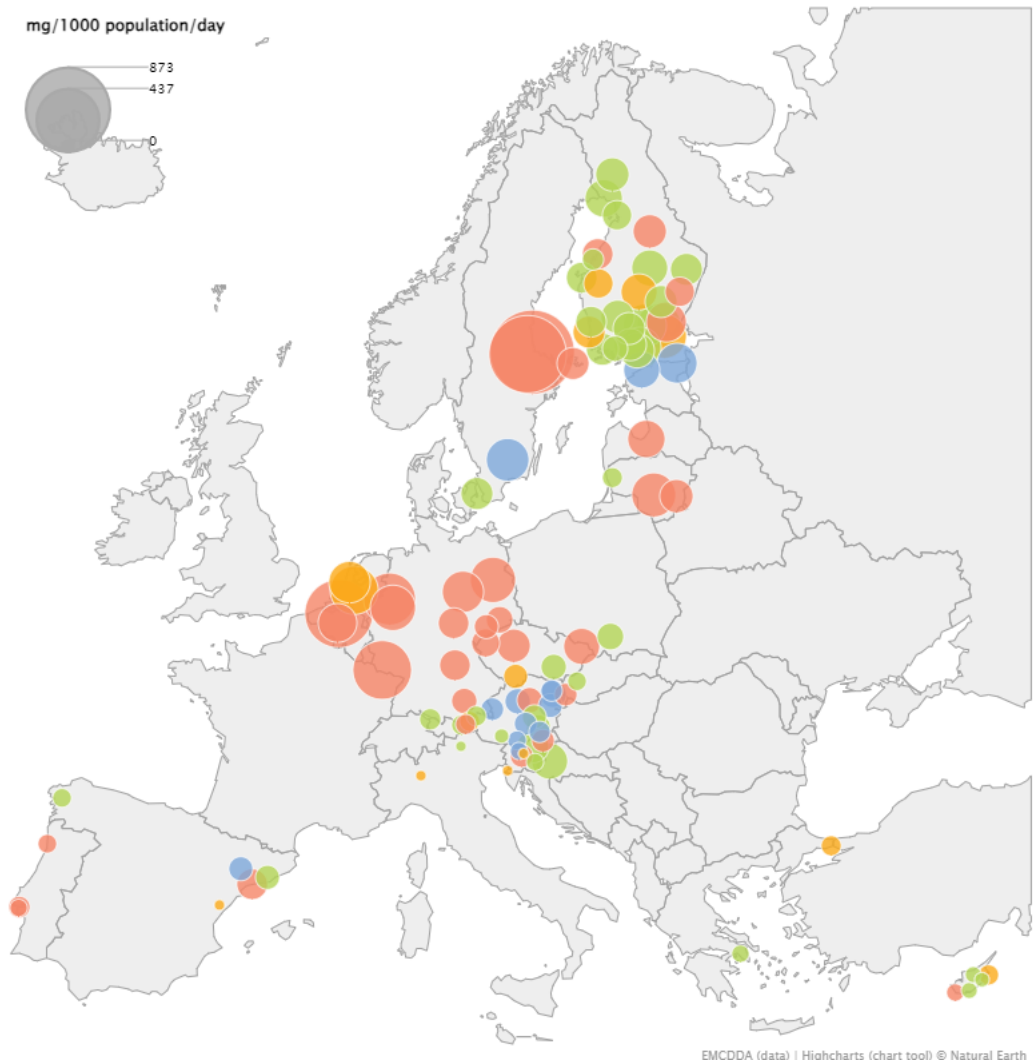
Prevalence data presented here are based on general population surveys submitted to the EMCDDA by national focal points. For the latest data and detailed methodological information please see the [Statistical Bulletin 2023: Prevalence of drug use](#). Graphics showing the most recent data for a country are based on studies carried out between 2013 and 2022. Age ranges are 16–34 for Denmark, Estonia and Norway; 17–34 for Sweden; 18–34 for Germany, Greece, France and Hungary.

- Of the 54 cities with data on amphetamine residues in municipal wastewater for 2021 and 2022, 20 reported an increase, 9 a stable situation and 25 a decrease.
- Of the 59 cities that have data on methamphetamine residues in municipal wastewater for 2021 and 2022, 39 reported an increase, 6 a stable situation and 14 a decrease.

**Figure. Amphetamine and methamphetamine residues in wastewater in selected European cities: changes between 2021 and 2022**

**Substance**

amphetamine methamphetamine



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

Mean daily amounts of amphetamine and methamphetamine in milligrams per 1000 population. Sampling was carried out over a week in March and April 2022. 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).

## Treatment entry for use of synthetic stimulants

- More than 10 000 clients are estimated to have entered specialised drug treatment in Europe in 2021 reporting amphetamine as their primary drug, half of them (5 000) being first-time clients (see the [Amphetamine and methamphetamine users entering treatment in Europe](#) infographic, below).
- In 2021 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.
- 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 10 800 methamphetamine clients entering treatment in 2021, 5 200 of whom were first-time clients. Increased methamphetamine production in Europe and increased trafficking of the drug from Afghanistan may have contributed to increased use and treatment entries in these countries. 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.

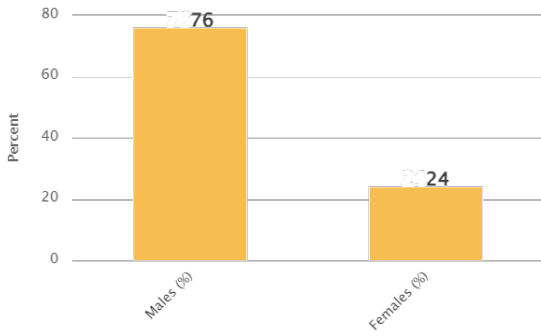
# Infographic. Amphetamine and methamphetamine users entering treatment in Europe

## Substance

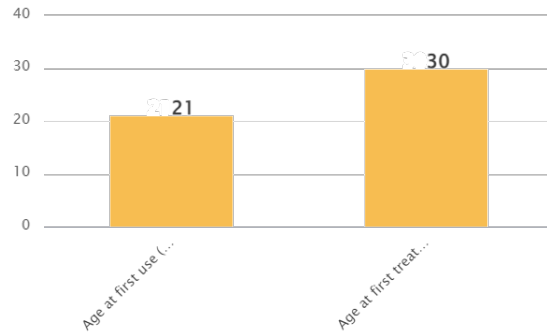
Amphetamine

Methamphetamine

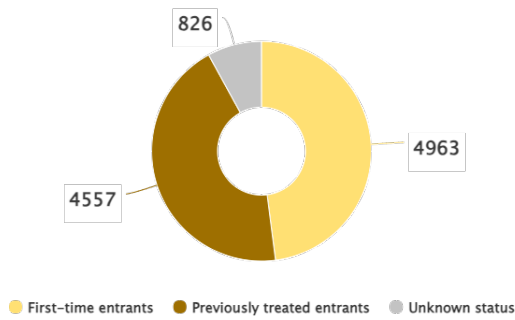
**Gender breakdown: all treatment entrants**



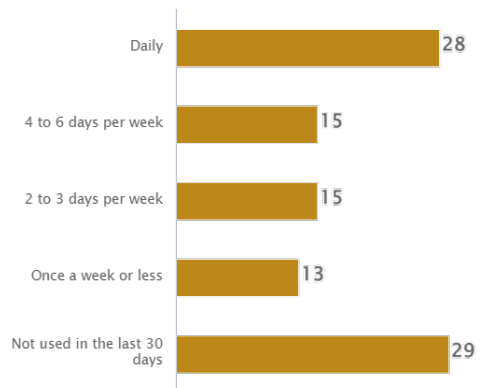
**Mean age: all treatment entrants**

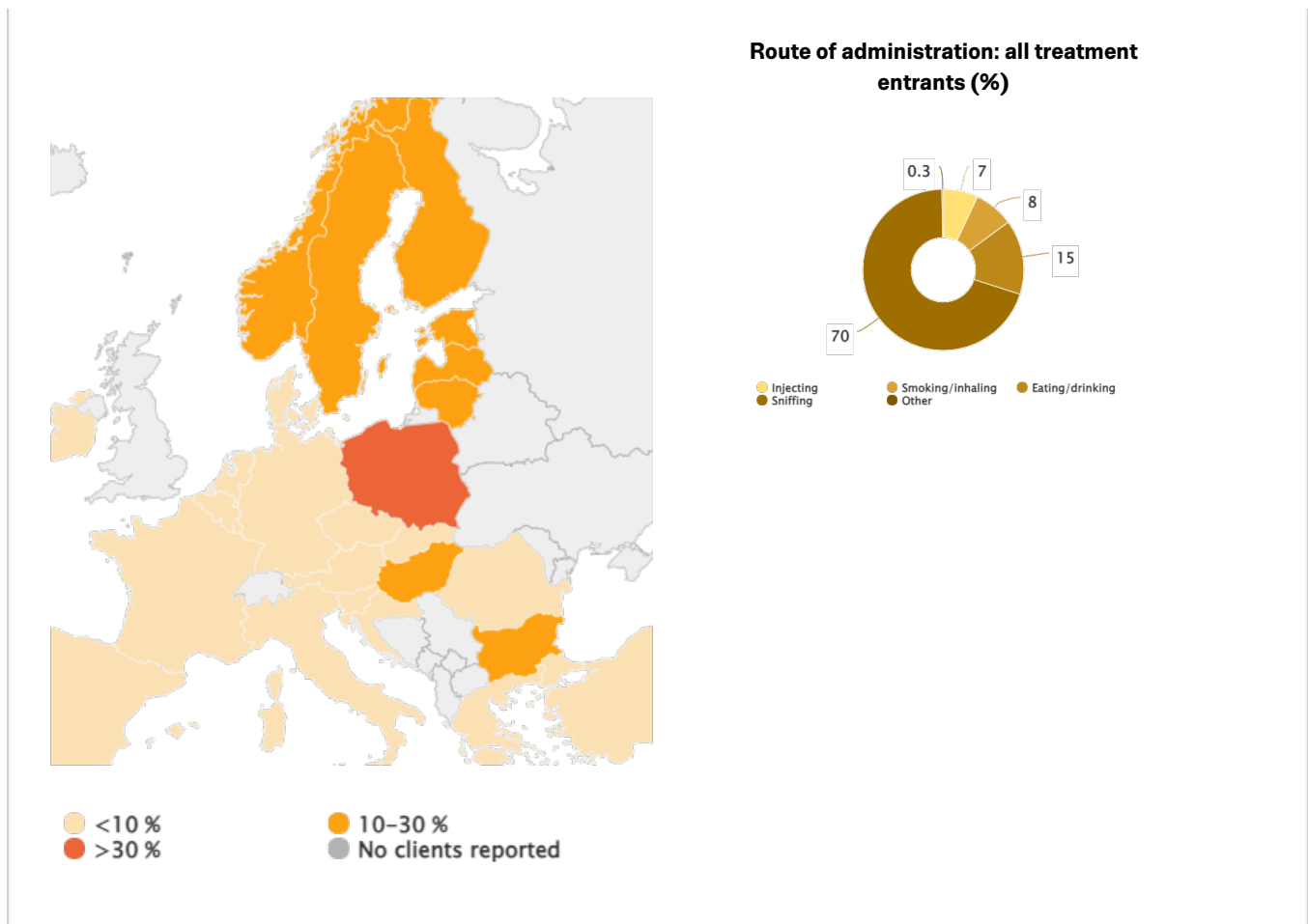


**Client status — number of clients**



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





Apart from the map, data are for all treatment entrants with amphetamine or methamphetamine as the primary drug – 2021 or the most recent year available.

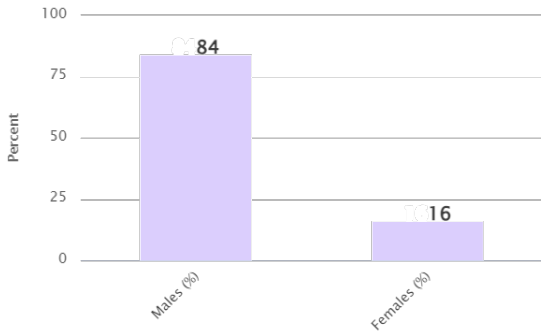
Data in the map are for 2021 or the most recent year available: Czechia, Spain, France, 2020; Netherlands, 2015. For amphetamine, data for Sweden and Norway relate to clients citing stimulants other than cocaine as primary drug.

- Available data from countries that report treatment entrants for synthetic cathinones show an increase from 437 clients in 2016 to 686 clients in 2021, 83 % of whom are accounted for by France (220 clients), Poland (245 clients) and Spain (104 clients). The share of synthetic cathinones entrants among all treatment entrants with stimulants other than cocaine as their primary drug increased to 3 % in 2021 from 1.7 % in 2016.

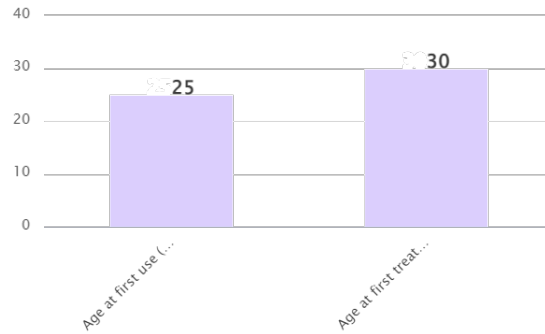


## Infographic. Synthetic cathinone users entering treatment in Europe

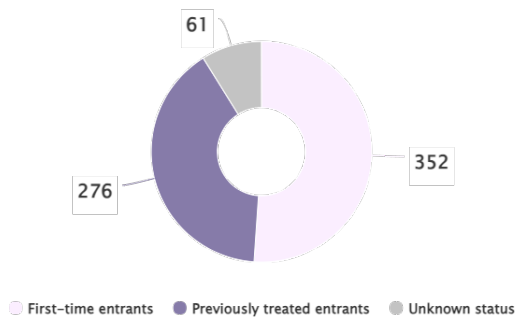
### Gender breakdown: all treatment entrants



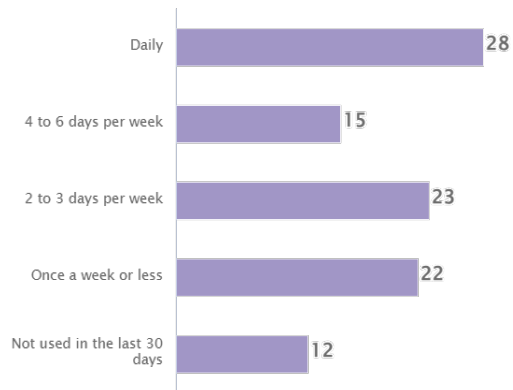
### Mean age: all treatment entrants



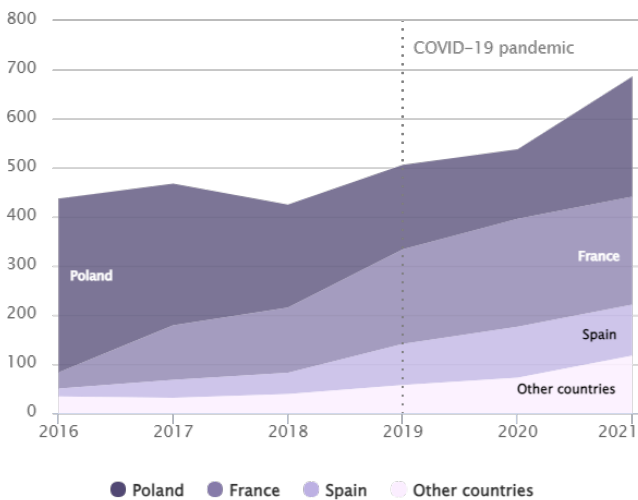
### Client status — number of clients



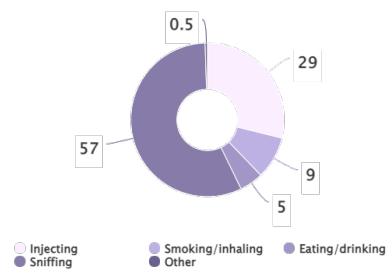
### Frequency of use in the last month (%): all treatment entrants Mean use 3.3 days per week



### Trends in all treatment entrants



### Route of administration: all treatment entrants (%)



Data on entrants into treatment are for 2021 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 (2021) and Germany (2019). Because of disruptions to services due to COVID-19, data for 2020 and 2021 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 Estonia (86 %), Finland (78 %), Norway (73 %), Sweden (57 %) and Latvia (54 %).
- About 7 % of amphetamine clients entering drug treatment in Europe in 2021, or the most recent year available, reported injecting as the main route of administration, while 70 % reported sniffing, 8 % reported smoking and 15 % reported oral consumption of the drug. Three countries, Belgium, Germany and Poland, accounted for 62 % 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 2021, amphetamine was the fifth most common substance reported by 22 Euro-DEN Plus hospitals located in 16 EU countries and Norway. It was present in 11 % (596) of acute drug toxicity presentations.
- Methamphetamine was the twelfth most common substance reported by 22 Euro-DEN Plus hospitals in 2021, present in 2.5 % (142) of acute drug toxicity presentations (2 % in 2020).
- In 2021, the cathinone 3-MMC was involved in 68 acute drug toxicity presentations in 5 Euro-DEN Plus hospitals, with increases in Paris (17 to 33 cases) and in Amsterdam (6 to 18 cases).
- In 2021, 18 countries reported 687 drug-induced deaths caused by amphetamines – post-mortem findings group amphetamine and methamphetamine together.
- In the 7 EU countries reporting data for both years, drug-induced deaths involving synthetic cathinones increased from 14 cases in 2020 to 26 cases in 2021. France reported an additional 11 synthetic cathinone-related deaths in 2020.

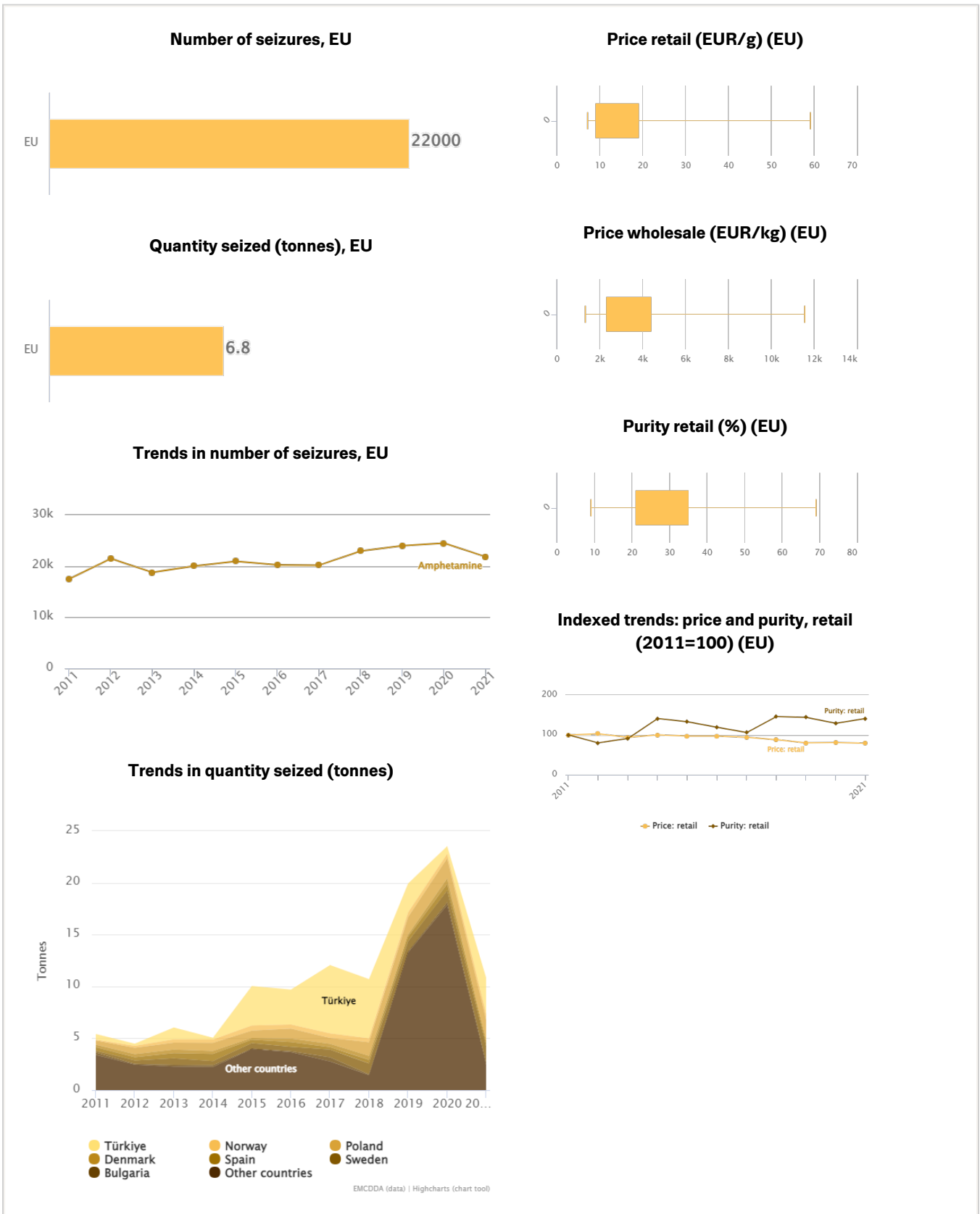
## Synthetic stimulants market data

- In 2021, EU Member States reported 22 000 seizures of amphetamine, amounting to 7 tonnes (22.3 tonnes in 2020) (see the [Amphetamine market in Europe](#) infographic, below). Türkiye seized 3.5 tonnes (0.7 tonnes in 2020), including 13.8 million tablets described as ‘captagon’ (2.9 million in 2020). The average purity of amphetamine at retail level has increased markedly over the past decade (41 %), while the price has remained relatively stable.

# Infographic. 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 7 000 seizures of methamphetamine amounting to 1.2 tonnes in 2021 (2.3 tonnes in 2020) (see the [Methamphetamine market in Europe](#) infographic, below) Türkiye reported 58 000 seizures of methamphetamine in 2021, amounting to 5.5 tonnes (4.2 tonnes in 2020). This increase may indicate that methamphetamine is being trafficked along established heroin trafficking routes to Europe from Afghanistan via Türkiye. The average purity of methamphetamine has increased over the past decade, mostly since 2019 when large-scale European crystal methamphetamine production appeared to become more common, while the price has remained relatively stable, declining slightly in recent years.

# Infographic. Methamphetamine market in Europe

## Geographical coverage (selected graphs)

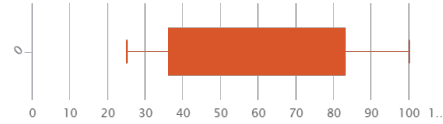
EU EU+2

Methamphetamine

Number of seizures, EU



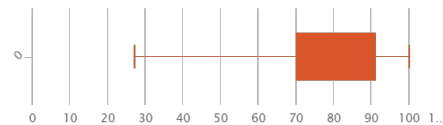
Price retail (EUR/g) (EU)



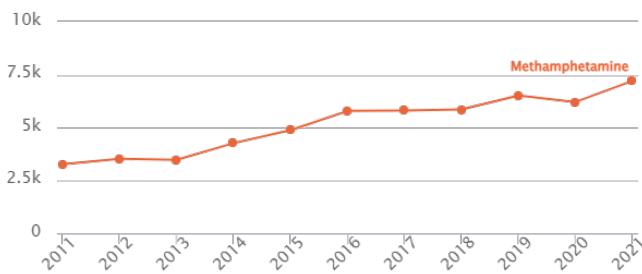
Quantity seized (tonnes), EU



Purity retail (%) (EU)

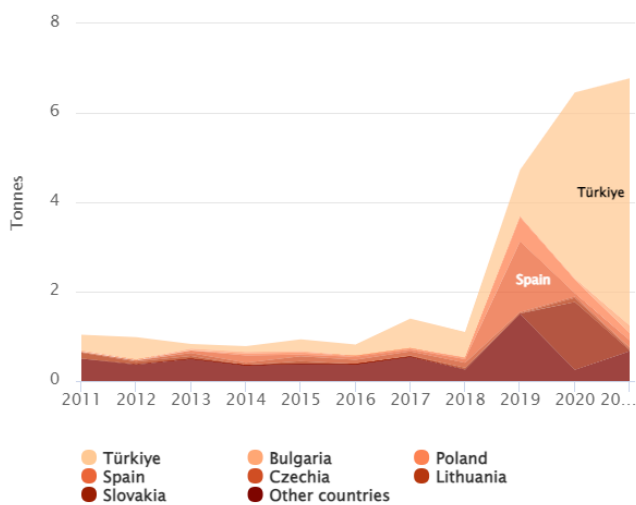


Trends in number of seizures, EU



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

Trends in quantity seized (tonnes)



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