European Monitoring Centre
for Drugs and Drug Addiction

News release

from the EU drugs agency in Lisbon

NEW STUDY ON WASTEWATER TESTING UNCOVERS CITY DRUG-USE HABITS IN EUROPE

Latest wastewater data from 88 European cities reveal cocaine detections on the rise

(20.03.2024, LISBON) **EMBARGO 00.01 WET/Lisbon 01.01 CET**) The latest findings from the largest European project in the science of wastewater analysis are released today in **Wastewater analysis and drugs — a European multi-city study**, published by the Europe-wide SCORE group, in association with the **EU drugs agency** (EMCDDA). The rise in cocaine detections across around 50 European cities takes centre stage in this year's study, continuing the upward trend observed since 2016. For the first time, international data (e.g. from Brazil, New Zealand, United States) are presented and comparisons made with European study locations.

The project analysed wastewater in **88 European cities** from **24 countries** (23 EU + Türkiye) to explore the drug-taking behaviours of their inhabitants. The study analysed daily wastewater samples in the catchment areas of wastewater treatment plants over a one-week period between March and May 2023. Wastewater samples from some **55.6 million** people were analysed for traces of **five stimulant drugs** (cocaine, amphetamine, methamphetamine, MDMA/ecstasy and ketamine) as well as **cannabis**.

Along with the persistent rise in cocaine detections, the **latest results** show a new rise in MDMA detections, following a mixed picture in the previous analysis. For amphetamine and cannabis, diverging patterns are seen, while for methamphetamine, over half of the cities report a decrease in detections. Despite results varying considerably across the study locations, it is noteworthy that all six illicit drugs investigated were found in almost every participating city. Compared with earlier analyses, less divergence is seen in drug-taking habits between large and small cities for some drugs (see 'City variations' below).

The **SCORE group** has been conducting annual wastewater monitoring campaigns since 2011, when 19 cities from 10 countries participated and four stimulant drugs were studied. Seventy-three cities have participated in at least five of the annual wastewater monitoring campaigns since 2011, allowing for time trend analyses.

Key findings

• **Cocaine ↑:** Cocaine residues in wastewater remain highest in western and southern European cities (particularly in Belgium, the Netherlands and Spain), but traces were also found in the majority of the eastern European cities, where some increases continue to be observed. Of the **72** cities which had data for 2022 and 2023, **49** reported an **increase**, while 13 cities reported no change and 10 cities a decrease. When compared to study locations outside the EU, cities in Brazil, Switzerland and in the United States show similar levels of use to European cities with the highest loads.

Methamphetamine ↓: Traditionally concentrated in Czechia and Slovakia, this drug is now also present in Belgium, the east of Germany, Spain, Cyprus, the Netherlands and Turkey and several northern European countries (e.g. Denmark, Lithuania, Finland and Norway). Of the 67 cities with data for 2022 and 2023, over half (39) reported a **decrease** in residues, 15 an increase and 13 a stable situation. Elsewhere, methamphetamine loads were very low to negligible, although some increases were reported in central European cities (e.g in Austria and Slovenia). The two cities with the highest loads were situated in Czechia, followed by cities in Germany, Slovakia and Turkey.

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• **Amphetamine ↑↓:** The level of amphetamine residues **varied** considerably, with the highest loads reported in cities in the north and east of Europe (Belgium, Germany, the Netherlands, Finland and Sweden). Much lower levels were found in cities in the south, although the most recent data show some slight increases in Spain and. Cyprus. Of the 65 cities with data on amphetamine residues for 2022 and 2023, 26 reported an increase, 26 a decrease and 13 a stable situation.

• **MDMA ↑:** Of the 69 cities with data for 2022 and 2023, 42 reported an **increase** in MDMA detections (mostly in northern Europe), 16 a decrease (mostly in cities in southern and central Europe) and 11 a stable situation. The highest mass loads of MDMA were found in wastewater in cities in Belgium, Germany, Spain, France and the Netherlands.

• **Ketamine ↑:** The 2023 data revealed relatively low levels of ketamine residues in municipal wastewater reported by 49 cities, but with signs of **increases** in more than half of the cities with available data. Of the 22 cities that have data on ketamine residues for 2022 and 2023, 12 reported an increase, 8 a stable situation and 2 a decrease. The highest mass loads of ketamine were found in wastewater in cities in Belgium, Spain, France and the Netherlands. Ketamine was included in this study for the first time in 2022, following signs of increased availability and use of ketamine in Europe (EDR 2022, EDR 2023).

• **Cannabis ↑↓:** The highest loads of the cannabis metabolite THC-COOH were found in western and southern European cities, particularly in Czechia, Spain, the Netherlands and Slovenia. In 2023, **diverging trends** were seen, with 20 cities out of 51 reporting an increase since 2022 and 15 a decrease.

• **City variations**: For cocaine, methamphetamine and MDMA, unlike in previous years, no marked differences were seen when comparing results from large and small cities. This suggests that, in some cases, ‘urban’ patterns of drug use may be spreading to smaller towns. For the remaining three substances analysed, disparities persisted, consistent with findings from previous years.

• **Weekly patterns:** Wastewater analysis can detect fluctuations in weekly patterns of illicit drug use. More than three-quarters of the cities showed higher residues of drugs often associated with recreational patterns of use (cocaine, ketamine, amphetamine and MDMA) at the weekend (Friday–Monday). In contrast, residues of cannabis and methamphetamine were distributed more evenly throughout the week.

Alexis Goosdeel, EMCDDA Director says: 'Wastewater monitoring is a valuable leading-edge indicator, offering early warning of emerging health threats and shifting trends. Reinforcing the view that drugs are everywhere, today’s study detected all six analysed substances in almost all 88 locations. It also found growing similarities in drug habits between large and small cities. Wastewater surveillance now provides us with increasing insight into the dynamics of drug use and supply and is a powerful tool for boosting preparedness in the face of evolving challenges. As we transition to becoming a new agency with a stronger mandate in July, we look forward to further developing our wastewater analyses in the EU, and, with our partners, improving coverage in the Member States'.

Interactive features

Today’s study includes an innovative interactive map allowing the user to look at geographical and temporal patterns and to zoom in on results by city and by drug. This interactive feature has been designed to be accessible and user-friendly and to perform better on mobile and desktop devices. In line with the **EMCDDA**’s commitment to open data, all of the source tables behind the tool can be easily downloaded by researchers, data journalists or anyone interested in using the data in their work.

For more on wastewater analysis, see motion graphic, FAQs, guidelines and topic page.