



News release

from the EU drugs agency in Lisbon

NEW STUDY ON WASTEWATER ANALYSIS PUTS CITY DRUG USE IN THE SPOTLIGHT

Latest wastewater data reveal drug-taking habits in 75 European cities in a record 25 countries — increases in detections of most drugs studied

(17.03.2022, LISBON) The 2021 findings from the largest European project in the science of wastewater analysis are revealed 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)** ⁽¹⁾⁽²⁾. The project analysed wastewater in **75 European cities** from **25 countries** (23 EU + TR and NO) to explore the drug-taking behaviours of their inhabitants. This is the highest number of countries participating to date, despite continued COVID-19 disruption in the study period concerned. The **SCORE group** has been conducting annual wastewater monitoring campaigns since 2011, when 19 cities participated from 10 countries.

From **Barcelona** to **Limassol** and **Oslo** to **Porto**, the study analysed daily wastewater samples in the catchment areas of wastewater treatment plants over a one-week period between March and May 2021. Wastewater from some **45 million** people was analysed for traces of four illicit stimulant drugs (cocaine, amphetamine, methamphetamine, MDMA/ecstasy) as well as cannabis.

The 2021 study points to an overall rise in detections of four of the five drugs studied. MDMA was the only drug where decreases were recorded in the majority of the cities investigated. Noteworthy in this latest data-collection round is the fact the drugs were reported more evenly across the study locations, with all five substances found in almost all of the participating cities. This differs from previous years when more diverse geographical patterns were observed. The latest data show that cocaine, while still most prominent in western and southern European cities, is increasingly found in eastern European cities. Likewise, methamphetamine, historically concentrated in Czechia and Slovakia, is now found in cities across Europe.

Alexis Goosdeel, EMCDDA Director says: 'Today's findings provide us with a valuable snapshot of drug use in 75 cities, offering valuable insights into emerging trends. The results show both a rise and spread for most of the substances studied, reflecting a drugs problem that is both pervasive and complex. Over the past decade, wastewater analysis has progressed from an experimental technique to an established tool for monitoring illicit drug use in Europe. This latest study explores the future potential for wastewater research, from identifying new psychoactive substances and evaluating interventions to targeting public health programmes and boosting preparedness and response'.

Key findings 2021

- **Cocaine:** Cocaine residues in wastewater remained highest in western and southern European cities (particularly in Belgium, the Netherlands and Spain), but traces were also found in the majority of eastern European cities, where some increases were observed. Overall, in 2021, over half of the cities recorded increases in cocaine residues compared with 2020 data (32 of the 58 cities with data for both years). A recent European project on wastewater (**EUSEME**) also found crack cocaine residues in all of its 13 European cities, with the highest loads in Amsterdam and Antwerp.
- **Methamphetamine:** Traditionally concentrated in Czechia and Slovakia, this drug is now present in Belgium, Cyprus, the east of Germany, Spain, Turkey and several northern European countries (e.g.

Denmark, Lithuania, Finland, Norway). Of the 58 cities with data for 2021 and 2020, around a half (27) reported an increase in residues. (Unlike the other three stimulants, residues were very low to negligible in most locations).

- **Amphetamine:** The level of amphetamine residues still varied across the cities, with the highest loads reported in cities in the north and east of Europe (Sweden, Belgium, the Netherlands and Finland) and much lower levels in cities in the south. But again, of the cities with data for 2021 and 2020, over a half (28 out of 55) reported an increase in residues.
- **Cannabis:** The highest loads of the cannabis metabolite (THC-COOH) were found in western and southern European cities, particularly Croatia, Czechia, Spain, the Netherlands, Slovenia and Portugal. Use appears to have been less affected by COVID-19 lockdowns than other drugs. In 2021, nearly half of the cities which analysed cannabis metabolites (13 out of 31) reported an increase in cannabis loads.
- **MDMA:** This was the only drug where residues decreased in the majority of the cities studied. Almost two thirds of the cities with data for 2021 and 2020 (38 out of 58) reported a decrease in loads in 2021, possibly due to the closure of nightlife venues during the COVID-19 pandemic, where this drug is often consumed. The highest loads of MDMA were found in cities in Belgium, Germany, the Netherlands, Sweden and Norway.
- **City variations:** The study revealed differences between cities in the same country, which may be partly explained by their different social and demographic characteristics (age distribution, universities, nightlife). In most countries with multiple study sites, residues were higher in large cities compared to smaller locations for three of the stimulants. No such differences were detected for amphetamine and cannabis. Seventeen of the countries participating in the data collection in 2021 included two or more study locations.
- **Weekly patterns:** Wastewater analysis can detect fluctuations in weekly patterns of drug use. More than three-quarters of the cities showed higher residues of the typically recreational drugs, cocaine and MDMA, at the weekend (Friday–Monday) than on weekdays, despite much of the night-time economy still being closed in Europe in 2021. In contrast, residues of the other three drugs were distributed more evenly throughout the week.

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 per city and per 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.

Samples in 2021 may have been collected during COVID-19 restrictions, which could have impacted on drug availability and patterns of use.

(¹) Study: https://www.emcdda.europa.eu/topics/pods/waste-water-analysis_en

Motion graphic (wastewater methodology): <https://youtu.be/SbdiuEL2r4k>

FAQs: https://www.emcdda.europa.eu/publications/topic-overviews/content/wastewater-faq_en

Guidelines: <https://www.emcdda.europa.eu/publications/html/manuals-and-guidelines/communicating-the-results-of-wastewater-based-epidemiology>

Topics page: https://www.emcdda.europa.eu/topics/wastewater_en

(²) The Sewage analysis CORE group — Europe (SCORE) <https://score-network.eu/>