# Estimating the size of the main illicit retail drug markets in Europe: an update

## Executive summary

The first market size estimates for cannabis, cocaine, MDMA, amphetamines and heroin were published in the EMCDDA-Europol 2016 European Drug Markets Report, covering 2013. The challenges in obtaining such estimates were recognised at that time, though the need to assist policymakers in prioritising interventions by providing information on the scale, relative importance and changes in the markets for different drugs outweighed these concerns. The project was seen as a process, where the estimates would be improved in subsequent rounds by addressing data issues and developing the methodology. Since 2016 additional and different data sources have become available and where appropriate the methodology has been changed, though the basic underlying method remains as it was.

Developments for the estimates published in this report include:
- data on the amounts of drugs used by various types of user have been extended and updated, using information from the European Web Survey on Drugs (EWSD);
- routinely monitored data from the Member States have been updated, improving estimates of the number of users and drug prices. For example, 24 of the EU countries have reported a more recent general population survey than that available when the initial estimates were made;
- crack use by high-risk opioid users has been included in the cocaine market size estimates;
- data on patterns of use for cannabis herb and resin, separately obtained from the EWSD, have been used to estimate the contribution of these different forms of cannabis to the overall cannabis market. In the previous estimates, numbers of seizures were used in the absence of suitable information about use of these products.

The hidden nature of the topic, the limitations inherent in some of the available data and the need for simplifying assumptions contribute to uncertainty around the estimates. Alternative methods of estimation were considered and are mentioned in the report, though each has its own data issues and weaknesses. The demand-side approach remains the favoured method, though it is recognised that the estimates are the outcome of the approach adopted, and alternative approaches will generate different values.

Some key principles underpinning the approach taken are:
- wherever possible, the data used came from routine data collections held by the EMCDDA to facilitate the planned process of improving and updating over time;
- European estimates were obtained by summing individual country estimates;
- where imputation of missing data was necessary, as far as possible, this was based on other related data;
- Every effort has been made to note all imputations and assumptions made within the estimation process, so that the limitations are clear.

As with the initial estimates, the 2017 figures are likely to underestimate the market; given the available data from which they were constructed, and despite their substantial size, these estimates should be considered as minimum values. Country estimates have not been produced, given issues

of comparability in the data, the focus remaining on obtaining EU estimates of the quantity and value of the market for cannabis, cocaine, MDMA, amphetamines and opioids. A consequence of this process is that the 2013 and 2017 estimates are not directly comparable and should not be interpreted as a trend.

The basic model used in the estimation process can be expressed in simple form:

**Total annual consumption** (quantity) = Number of last year users * Amount used per year
**Market value** (per year) = Total annual consumption * Price

The basic model is developed for each of the drugs to account for factors influencing consumption. For cannabis, cocaine, MDMA and amphetamines, the number of users was generated on the basis of prevalence data from general population surveys and categorised according to frequency of use. Additional estimates were generated to account for use of these drugs among high-risk drug users where possible. Estimates were generated separately for resin and herb cannabis and for opioid users in and out of treatment.

The overall estimates from this process are as follows.

| Estimates of the size of the European illicit drug market, 2017 | | | | | | |
|---|---|---|---|---|---|---|
| | EU | | | EU, Norway and Turkey | | |
| | Amount (tonnes) | | | Amount (tonnes) | | |
| | Mid | Low | High | Mid | Low | High |
| **Cannabis** | 1 550.97 | 1 405.73 | 1 710.33 | 1 597.30 | 1 450.25 | 1 758.47 |
| **Cocaine** | 118.56 | 99.65 | 137.46 | 120.40 | 101.32 | 139.47 |
| **Amphetamines** | 61.99 | 50.99 | 81.18 | 63.55 | 52.71 | 83.29 |
| **MDMA*** | 59.73 | 49.70 | 69.76 | 63.09 | 52.85 | 73.33 |
| **Heroin** | 148.86 | 126.81 | 181.17 | 153.09 | 130.83 | 185.60 |
| | Value (EUR millions) | | | Value (EUR millions) | | |
| | Mid | Low | High | Mid | Low | High |
| **Cannabis** | 11 635.04 | 10 533.99 | 12 823.34 | 12 070.56 | 10 949.11 | 13 279.25 |
| **Cocaine** | 9 068.96 | 7 635.30 | 10 502.60 | 9 237.40 | 7 788.91 | 10 685.87 |
| **Amphetamines** | 1 007.69 | 830.88 | 1 283.50 | 1 054.41 | 869.73 | 1 346.11 |
| **MDMA** | 528.63 | 437.33 | 619.94 | 582.48 | 487.83 | 677.14 |
| **Heroin** | 7 440.86 | 6 394.04 | 9 119.55 | 7 694.40 | 6 635.18 | 9 385.49 |
| **Total** | 29 681.19 | 25 831.54 | 34 348.93 | 30 639.25 | 26 730.76 | 35 373.86 |

* Except for MDMA which is in million pills.

Certain limitations of the method must be considered when interpreting the results.
- **Under-reporting of use**. With the number of users and frequency of use relying primarily on self-reported data from general population surveys, there is potential for under-reporting and so under-estimation, though the extent and nature of the under-reporting is difficult to quantify and is likely to vary according to a range of factors including drug and country.
- **Under-coverage**. General population surveys have formed the basis for most of the estimates of numbers of users, but it is known that these may under-represent some sub-groups in the population who may have significant levels of drug use, particularly some marginalised groups. Despite, where possible, using estimates of high-risk drug users to identify and include use by some of these groups, gaps in coverage are likely to remain. It should also be noted that the numbers of high-risk users are estimated using a variety of indirect statistical methods, such as capture-recapture or treatment multiplier studies, and come with a high degree of uncertainty.
- **Knowledge gaps**. Though improvements have been made in the availability of data, many data gaps remain, necessitating assumptions to justify imputing data.