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# NATIONAL DRUG REPORT 2025

## THE DRUG PHENOMENON IN THE GRAND DUCHY OF LUXEMBOURG: TRENDS AND DEVELOPMENTS

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THE DRUG PHENOMENON IN THE GRAND DUCHY OF LUXEMBOURG: TRENDS AND DEVELOPMENTS - 2025

**PFLAD** **POINT FOCAL LUXEMBOURGEOIS**
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SUR LES DROGUES

## THE DRUG PHENOMENON IN THE GRAND DUCHY OF LUXEMBOURG: TRENDS AND DEVELOPMENTS

### 2025

## June 2025

This report presents an overview of the drug phenomenon in Luxembourg, covering drug policy, drug supply and demand, prevalence and patterns in drug use, drug use in prison, health consequences and responses, as well as drug markets and crime. The statistical data and analysis presented in this report refer to 2023 or the most recent year for which data are available and were provided to the Luxembourg Focal Point of the EUDA (PFLAD) from routine monitoring by the RELIS network, unless stated otherwise.

# 1.

# DRUG POLICY

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## 1.1. NATIONAL DRUG STRATEGY

The 5th National Drug Strategy and Action Plan 2020-2024[1], relying on the governmental programme 2018-2023, was presented by the Ministry of Health[2] and the National Drug Coordinator in 2020 and adopted by the Government Council on 9 October 2020 (Ministère de la Santé, 2020). The National Strategy is based on a holistic approach and addresses illicit drugs, alcohol, tobacco, psychotropic drugs and behavioural addictions. The Action Plan 2020-2024 builds upon the two pillars of drug demand and drug supply reduction, and four transversal themes: (1) harm reduction, (2) research and information, (3) international cooperation, and (4) coordination. Its overall objective is to contribute to achieve a high level of protection in terms of public health, public security and social cohesion.

The Grand Duchy of Luxembourg evaluates its drug policy and strategy by means of routine indicators' monitoring and specific research projects and evaluations. An external mixed-methods evaluation of the 4th National Drug Strategy and Action Plan was conducted by the Trimbos Institute of the Netherlands in 2019, showing that the majority of the objectives outlined in the 2015-2019 action plan were met and proven to be effective, recommending to pursue the adopted approach and underlying principles of evidence-based policies, with a balanced approach and focus on health and human rights (Kools, van der Gouwe & Strada, 2019). The recommendations of the external evaluation contributed to the elaboration of the current 2020-2024 National Drug Strategy and Action Plan. The current National Drug Strategy and Action Plan entitled "Stratégie nationale en matière d'addictions et plan d'action gouvernemental 2020–2024 en matière de drogues d'acquisition illicite et de leurs corollaires" (National addiction strategy and 2020-2024 government action plan on illicitly acquired drugs and their corollaries) is transversal and multidimensional, while its elaboration also involves stakeholders and experts from different fields at both national and international levels.

The current National Drug Strategy and Action Plan reflects the priorities set by the government:

> To provide objective and reliable information on psychoactive substances and the effects and potential consequences of their use;
> To prevent and reduce the initiation to drug use and addictive behaviours;
> To ensure decentralised, diversified and high-quality offers of treatment and harm reduction for people suffering from addiction;
> To reduce the prevalence of drug use and addictive behaviours in the general population, as well as health and social damage generated by illicit drug use;
> To reduce damage caused by drug trafficking;
> To contribute to better housing and rehabilitation offers;
> To enhance collaboration with law enforcement agencies at the national and international level.

The Action Plan 2020-2024 lists around 80 separate actions developed in close collaboration with stakeholders and ministries that were approved by the "Groupe Interministériel Toxicomanie". The domains of action include universal, indicated and selective prevention with a focus on young people; diversity and high-quality treatment and care offers; socio-professional reintegration; reduction of risks and harms, especially among high-risk groups and expansion of substitution treatment offers; research, evaluation and information; supply reduction; coordination and international relations.

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1   Presentation of the « Plan d'action national drogues illicites 2020-2024 »: https://gouvernement.lu/fr/actualites/toutes_actualites/communiques/2020/10-octobre/12-plan-action-drogues.html
2   Please note that in October 2023, the Ministry of Health and the Ministry of Social Security were merged into the Ministry of Health and Social Security. The new terminology "Ministry of Health and Social Security" applies to the governmental period of October 2023-2028.

Special focus is also given to regionalisation and decentralisation, and thereby to the diversification and improvement of the accessibility of treatment offers. In terms of integration and rehabilitation, the objectives to be achieved are the extension of the existing offers of accommodation and supervised housing, adapted to the situations and needs of (ex-) drug users, and low-threshold socio-professional reinsertion measures. Finally, research in the field of illicit drugs and addictions and the evaluation of specialised offers should be further promoted and supported. The selection of specific actions, projects or programmes is based upon a 6-criteria matrix including pertinence, opportunity, feasibility, cost–benefit/quality factors, quality assurance mechanisms and measurement of results/impact. Like previous action plans, the 2020-2024 National Drug Strategy and Action Plan will be subject to a final evaluation at the end of its implementation, while the outcomes of the evaluation will flow into the elaboration of the new Drug Strategy and Action Plan. An external evaluation is currently prepared and equally foreseen in 2025/2026 in order to prepare the new Drug Strategy and Action Plan. Continuous progress monitoring is performed by the National Drug Coordinators' office to ensure the best possible implementation outcome of national drug action plans.

## 1.2.   NATIONAL ACTION PLAN ON MENTAL HEALTH

Luxembourg has developed a national action plan on mental health ("Plan national santé mentale") for the period 2024-2028, approved by the Government Council on 14 July 2023. The main objectives of the national action plan are to strengthen and improve the mental health and well-being of the population in Luxembourg, to prevent psychological disorders, to guarantee access to quality treatment and to facilitate the social integration of people with a mental disorder, focusing particularly on vulnerable populations. Moreover, the national action plan aims to improve the care of people suffering from mental health disorders, reduce stigma and develop training for professionals.

The plan has been in line with the objectives of the 2018-2023 government coalition agreement and follows the principles of recovery, empowerment and social inclusion. It is linked to the European Commission's strategic approach to mental health, published in June 2023, which includes 20 initiatives and aims to prioritise mental health at the same level as physical health and to guarantee a new trans-sectoral and global approach. The 2023-2028 governmental coalition agreement states that mental health is a fundamental pillar of a fulfilling and healthy life, and that the government will give an important place to mental health and will carry out the expansion of mental health care.

Important measures outlined in the national action plan on mental health linked to addictions are, amongst others:

> the prevention of addiction-related disorders (with or without substance use) among children and adolescents, for example by developing and implementing selective prevention programmes with regard to cannabis use;

> the expansion and development of health care services and facilities for addictive disorders (with or without substance use) among adults, adolescents, and children, taking into account measures already included in other national plans, for example by increasing the capacity of inpatient settings for withdrawal treatment for people with drug addiction; and

> the adaptation of mental health care services to meet the needs of people suffering from comorbidities related to psychological disorders and substance use.

The national action plan on mental health is the result of a collective effort by numerous national stakeholders in the mental health sector. The plan integrates a total of 26 objectives, each including associated measures and actions which fall within the following six specific fields of areas: governance, information system and research, human resources and qualification, health promotion and prevention, provision of and access to mental health care, and vulnerable populations. The national action plan represents a significant step forward to improve mental health care in Luxembourg (Ministère de la Santé, 2023a).

## 1.3.   DRUG POLICY COORDINATION AND PUBLIC EXPENDITURE

The national drug policy coordination primarily involves five ministries: The Ministry of Health and Social Security, the Ministry of Justice, the Ministry of Home Affairs, Ministry of Family Affairs, Solidarity, Living together and Reception of Refugees and the Ministry of Foreign and European Affairs. The Ministry of Health and Social Security is in charge of drug-related demand and harm reduction, the Ministry of Justice and the Ministry of Home Affairs are responsible for supply reduction, the Ministry of Family Affairs, Solidarity, Living together and Reception of Refugees is competent in the field of homelessness and related integration measures, and the Ministry of Foreign and European Affairs deals with international cooperation.

The Ministry of Health and Social Security plays a central role as the National Drug Coordinator chairs the ICD (Inter-ministerial Committee on Drugs). This committee is composed of senior delegates from all ministerial departments involved in the drug field, directors of specialised NGOs and invited experts from civil society. Its main purpose is to organise and follow-up the implementation and effectiveness of the National Drug Strategy and Action Plan, as well as to assess the needs and elaborate national recommendations. A more restricted group, including NGOs, is responsible for drafting action plans and national strategies, to be validated by the ICD and approved by the Government council.

The global budget of the Ministry of Health and Social Security granted to drug demand reduction related services and programmes went up from EUR 13,994,013.- in 2018 to EUR 21,759,094.- in 2021, EUR 28,109,136.- in 2022 and EUR 34,033,178.- in 2023. Comparing the budget exclusively allocated to drug demand activities from 2022 to 2023, a progression rate of 21.1% has been witnessed. In reference to the year 2012, with a global budget of drug demand reduction related services and programmes by the Ministry of Health of EUR 16,231,609.-, the progression rate to 2023 is 109.7%. Overall public expenditures in the field of drug demand and drug supply reduction per year have previously been estimated at EUR 38,500,000.- (Origer, 2010).
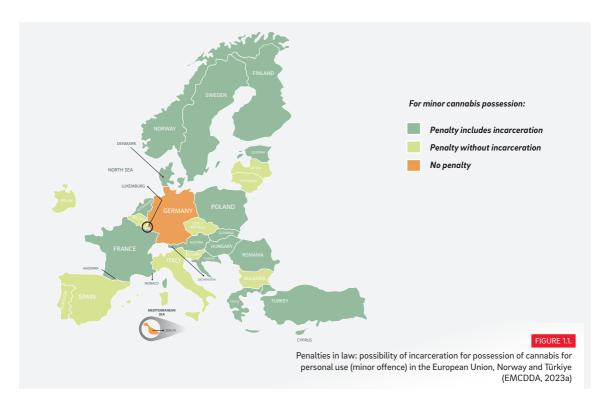
## 1.4.   LEGAL PENALTIES FOR DRUG LAW OFFENCES
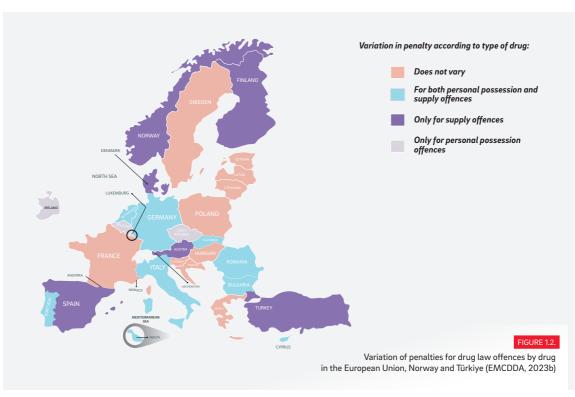
The national reference law on drugs dates from 19 February 1973 and addresses the selling of pharmaceuticals and the fight against drugs and drug addiction. The 1973 basic national drug law regulates both, the selling of controlled medicines and the fight against drug addiction. This law prohibits the illicit use, transportation and selling of drugs (Ministère d'Etat, 1974). It has been amended by the law of 27 April 2001 and again in 2018 and 2023 (Ministère d'Etat, 2001; 2018a; 2023a).

In 2001, the respective law of 27 April introduced the following amendments: cannabis use and possession for personal use were decriminalised at the national level and were punishable only by a fine (ranging between EUR 251.- and EUR 2,500.-). Prison sentences were foreseen in case of aggravating circumstances (e.g. transportation of large amounts of substances, use in schools or in the presence of minors). In fact, possession of cannabis for personal use is treated as an offence by all EU Member States, while over one third of the countries - including Luxembourg - do not allow prison sentences for minor offences (see Fig. 1.1.). The national law in Luxembourg further introduced alleviation of penalties for simple drug use, and an enhanced overall differentiation of penalties according to the type of drug offences and the nature of controlled substances involved. Penalties for possession and use of controlled substances other than cannabis include imprisonment between 8 days and 6 months and/or a fine. Prosecution may be halted or penalties reduced if a drug user has taken steps to seek specialised help (see Fig. 1.2.).

The national legislation does not differentiate between small- and large-scale drug deals or distribution. Sentences for both currently range from one to 5 years' imprisonment and/or a fine, while a prison sentence of 5 to 10 years can be imposed if the distributed drug has caused severe damage to health. If the drug has fatal consequences for the user, punishment for the provider can be increased to 15-20 years' imprisonment. New psychoactive substances (NPS) are regulated and controlled by the same legal instruments as other controlled substances. Controlled narcotic, psychotropic and toxic substances are listed by means of various Grand Ducal Decrees.

For minor cannabis possession:

- Penalty includes incarceration
- Penalty without incarceration
- No penalty

FIGURE 1.1.

Penalties in law: possibility of incarceration for possession of cannabis for personal use (minor offence) in the European Union, Norway and Türkiye (EMCDDA, 2023a)



Variation in penalty according to type of drug:

- Does not vary
- For both personal possession and supply offences
- Only for supply offences
- Only for personal possession offences

FIGURE 1.2.

Variation of penalties for drug law offences by drug in the European Union, Norway and Türkiye (EMCDDA, 2023b)

The law of 27 April 2001 further foresees a legal framework for a series of treatment and harm reduction measures, including drug substitution treatment accredited by the state, needle and syringe exchange, supervised drug consumption rooms, and Heroin Assisted Treatment (HAT) launched as a pilot programme in June 2017 (Ministère d'Etat, 2001). Following a first assessment in 2022, it was decided to continue and to consolidate the offer in Luxembourg City, and to launch a second HAT offer in the South of the country (Esch/Alzette).

## 1.5.   CANNABIS FOR MEDICAL PURPOSES

Legal access to cannabis for medical purposes has been regulated in the Grand Duchy of Luxembourg in 2018 as part of a public health mission in order to ensure access to the best possible care for every patient. The respective law was modified and entered into force on 05 August 2018 (« Loi du 20 juillet 2018 modifiant la loi modifiée du 19 février 1973 concernant la vente de substances médicamenteuses et la lutte contre la toxicomanie »). The Grand-Ducal Decree (« Règlement grand-ducal du 21 août 2018 déterminant les modalités de prescription et d'accès à l'usage de cannabis à des fins médicales, ainsi que le contenu et la durée de la formation spéciale pour les médecins-spécialistes ») defining the medical prescriptions modalities and respective conditions, as well as the training to be pursued by medical doctors, entered into force on 28 September 2018 (Ministère d'Etat, 2018b).

The law from 20 July 2018 allows the medical use of cannabis in exceptional and limited cases for the benefit of specific health indications, including chronic pain, nausea or vomiting caused by chemotherapy, or muscle spasms related to multiple sclerosis. This is an important step in efforts to reduce pain and suffering for patients in cases where standard treatments do not or no longer allow it.

From 01 January 2025 only flowering tops rich in cannabidiol (known as "CBD-dominant") and low in delta-9-tetrahydrocannabinol (THC), as well as flowering tops known as THC/CBD, are available. Indeed, these flowering tops, with a lower THC content, are said to induce fewer adverse effects and risks of addiction or even misuse.

## 1.6.   CANNABIS FOR NON-MEDICAL PURPOSES

PACKAGE OF MEASURES TO ADDRESS THE PROBLEM OF DRUG-RELATED CRIME IN LUXEMBOURG

On 22 October 2021, the government announced a range of measures regarding the problem of drug-related crime and agreed on a step-by-step approach with an initial phase focusing on the drug-related crime prevention component. The coordinated package was presented by the Ministers of Home Affairs, Justice, Health, National Education, Children and Youth, and Foreign and European Affairs. This included an update on the progress towards a national regulation on controlled cannabis production and supply to adult residents as featured in the governmental coalition agreement of 2018. The package is a follow-up to the interministerial note on the fight against drug-related crimes and brings together a range of measures and responses identified during parliamentary debates.

An interministerial monitoring group identified short- and medium-term measures, as well as long term strategies which, directly or indirectly, aim to address the drug problem as a whole and to combat drug-related crime in a joint effort. The catalogue, which measures are structured around preventive and repressive aspects, focuses on new developments and initiatives that will complement the projects and measures already in place. The Customs Administration, also concerned by the topic, joined the working group as an active member, while the Ministry of Home Affairs remains informed of the work.

On 26 October 2022, as requested by the Government Council, the results of the work carried out by the monitoring group were presented to the Parliament. Since the adoption of the package by the government in October 2021, a range of projects and measures as outlined in the catalogue have been initiated or implemented. Measures include an increased presence and visibility of the National Judicial Police on the ground, the elaboration and implementation of a concept for preventing and reducing drug use in high schools, the development of a strategy to promote the well-being of children, adolescents and young people, the implementation of a national residential therapy offer for minors with drug addiction disorders, and the continuation of the national decentralisation of support services for drug users. In total, half of the measures presented in the package have been or are in the process of being implemented, with other measures being in the development, planning or deployment phase (Ministère de la Justice, 2024).

In an approach to reduce health risks and prevent drug-related crime, on 28 June 2023, a bill was passed adopting a new legal framework regarding recreational cannabis use in the Grand Duchy of Luxembourg. The law was published in the official journal on 10 July 2023 and came into force on 21 July 2023. It revises the amended law of 19 February 1973 on the trade of pharmaceuticals and the fight against drugs. The amended law authorises the cultivation of up to four cannabis plants from seeds per domestic community exclusively by adult residents. The place of cultivation must either be at home or at the habitual residence, and under the condition the cannabis plants are not visible to the public. As a corollary, the personal consumption of cannabis in the private sphere is authorised for people aged 18 years and above outside the view or presence of minors. The cannabis seeds that are purchased by growers must be labelled with the producer's contact details, the number of seeds and a health warning defined by a Grand-Ducal decree.

At the same time, the law states a reduction of criminal sanctions and a simplified criminal procedure for the consumption, possession, transport and acquisition of small quantities of cannabis in public by adults. In the public sphere, prohibition still applies for public consumption of cannabis, consumption by minors, as well as sale and trafficking of cannabis. However, the law introduced a reduced criminal fine for those who use cannabis in any place other than their home or habitual residence, or those who illegally transport, possess or acquire a quantity of three grams or less of cannabis products, solely for their own personal use. The fine, previously ranging from EUR 251.- to EUR 2,500.-, has been reduced (EUR 25.- to EUR 500.-) and the possibility has been introduced of issuing a warning taxed at EUR 145.- if the three grams threshold is not exceeded. If paid immediately, the fine with no criminal record - similar to a speeding ticket - of EUR 145.- can be applied. In case the quantity for personal use exceeds three grams, a fine of EUR 251.- to EUR 2,500.- is applied - with no option for the reduced EUR 145.- ticket - and a possible prison sentence ranging between eight days and six months may be imposed. As mentioned above, for minors, the cannabis possession, use, and cultivation remain prohibited under any circumstances.

In sum, criminal sanctions, including prison terms and/or fines, may be imposed for cannabis-related offences including, in particular, possession of more than four cannabis plants per domestic community, failure to respect the place of cultivation which is meant to be the official residence, transporting, acquiring and illegally possessing quantities exceeding three grams of cannabis for personal use, facilitating use by others and offering or using cannabis with or in the presence of minors, or at educational establishments or workplaces. Under the adapted law, there are no changes concerning the rules on driving under the influence of narcotics. Further details of the main amendments can be found in the respective law, while only the legislation published in the Official Journal of the Grand Duchy of Luxembourg is deemed legally binding (Ministère d'Etat, 2023a).

The Grand-Ducal decree from 14 July 2023[3] regarding the list of narcotics, modifying the Grand-Ducal decree from 26 March 1974, further updates the list of controlled narcotic drugs as a result of the amended law on cannabis. In sum, the Grand-Ducal decree from 14 July 2023 on the list of controlled narcotic drugs still includes cannabis plants and its derivatives, with the exception of the four cannabis plants referred to in the amended law of 19 February 1973 on the trade of pharmaceuticals and the fight against drugs and products derived from these plants. Further excluded from the list are cannabis seeds intended for the cultivation of cannabis plants, under the condition that the plants are consumed or used for recreational purposes and the seeds are labelled (e.g. contact details of the producer of the cannabis seeds; quantity of seeds; "THC" level and a health warning; information that the seeds are not intended for agricultural or ornamental use). Another exception applies to varieties of hemp eligible for a support scheme under the common agricultural policy under the condition that their THC content in relation to the weight of a sample taken at constant weight is less than 1%. For further information on this matter, please consult the Grand-Ducal decree from 14 July 2023 (Ministère d'Etat, 2023b).

The Grand-Ducal decree from 04 June 2024 defining the working code for the Luxembourg Federation of Bus and Coach Operators, the Luxembourg Christian Trade Union Confederation and the Independent Trade Union Confederation of Luxembourg, states the provisions relating to the consumption of substances likely to impair an employee's alertness, concentration and behaviour. It is mentioned that no employee may start work or perform their duties under the

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3    Règlement grand-ducal du 14 juillet 2023 modifiant le règlement grand-ducal modifié du 26 mars 1974 établissant la liste des stupéfiants, Mémorial A no 432 de 2023.

influence of psychoactive substances such as drugs and narcotics or other substances as alcohol likely to impair their alertness, concentration or behaviour. No tolerance is granted in this respect (Ministère d'Etat, 2024).

The current coalition agreement 2023-2028 of the government states that the cultivation of cannabis for personal use as it has been legally regulated will be maintained. Moreover, the government will observe the position of the three neighbouring countries regarding the legalisation of cannabis for recreational purposes (Belgium, France, Germany) (Ministère d'Etat, 2023c).

## 1.7. EVALUATION OF THE AMENDED NATIONAL CANNABIS LAW REFORM

BACKGROUND AND METHODOLOGY

A scientifically independent evaluation of the amended cannabis law is essential to determine the impact of the proposed government initiative as part of the experimental scheme, and the extent to which its objectives are achieved. Shortly after the law passed, the Luxembourg Focal Point of the EUDA (PFLAD) conducted a cross-sectional study to enhance the understanding of the situation and establish an initial assessment regarding recreational cannabis use and homegrowing. The data collection was carried out between 4 September and 2 October 2023 by the national market research institute ILRES SA and analysed by the PFLAD in collaboration with ILRES SA. Based on predefined selection criteria to reach a representative sample, Luxembourg residents being member of the national "MyPanel"[4] from ILRES SA were invited to participate in an anonymous online survey. Residents of the Grand Duchy of Luxembourg aged between 18 and 64 years old were eligible to participate. As the survey involved the collection of sensitive health-related data, minors were excluded. Email invitations containing a unique link to the questionnaire, available in English, Luxembourgish and French, were sent to a sample of eligible panellists. The sample was selected by applying the variables of age, gender, region of residence, nationality, and professional activity and by distributing the invitations in a way these variables among the respondents were as close as possible to those of residents according to official statistics from STATEC (National Institute of Statistics and Economic Studies of the Grand Duchy of Luxembourg). The invitations were sent out daily so that the sample structure corresponded to that of the general population throughout the survey area. The survey was based on scientific indicators and assessed, amongst others, recreational use and cultivation of cannabis, acquisition and consumption habits, psychosocial correlates towards cannabis use and homegrowing, current engagement and future intentions towards homegrowing, cannabis dependency, and several mental health indicators. The data collection consisted of a main survey and a boost component targeting exclusively cannabis users. By integrating the two parts, 3115 residents participated in the study (31% response rate) of whom 507 were recreational cannabis users.

RESULTS AND CONCLUSION

The initial results, summarised in two factsheets published in March 2025, show that among respondents, 46.3% reported to have used cannabis during their lifetime, 14.2% during the past year, and 7.8% during the past month (weighted percentages). A majority of 'past year' cannabis users were below the age of 35 years (24.8%) and male (17.7%). Almost all users reported using herbal cannabis (89.6%) with a median frequency ranging between 5 days per month for 'past year' users to once a day for 'past month' users. Almost half (46.5%) of the 'past year' users buy cannabis, while a large proportion (40.4%) indicated obtaining it for free. Among 'past month' users, 32.6% indicated being aware about the THC level of their products, 37.3% usually consume products with high THC levels, and 34.5% have a strong risk of dependency according to the Cannabis Abuse Screening Test. Most of the respondents (81.4%) were aware of the cannabis policy change. In total, 6.5% of the non-users indicated an increased likelihood to try cannabis, while 15.9% of 'past year' cannabis users tried cannabis for the first time and only 4.5% increased their use since the law change.

At the time the survey was conducted, 11.5% of the 'past year' users were growing cannabis at home. While most of the growers (68.5%) started to do so after the law change, 31.5% of the non-growers indicated an increased likelihood to start growing in the future. According to growers, seeds are mainly obtained from the internet (51.0%) or a national

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4    For further information, please consult https://mypanel.lu/fr/accueil/

growshop (25.7%). Among 'past year' and 'past month' cannabis users, the main perceived advantages for homegrowing are to avoid contact with the illegal market (63.1%), to obtain a product potentially less harmful than from other (illegal) sources (54.8%), and to spend less money (52.7%). The main perceived disadvantages differ substantially among cannabis users versus non-users. Among non-users, the top three disadvantages are that homegrowing increases the exposure of minors/children to cannabis and associated risks (48.1%), the risk to increase the intensity of use (e.g. frequency and/or quantity used) (47.0%) and to normalise the use of cannabis (42.6%). Among cannabis users, the main perceived advantages are that it is too complicated and/or it requires too much effort (33.0%), that it takes too long to harvest (28.7%), and that it needs to much space to grow (25.6%). Substantial differences in perceived advantages and disadvantages of using cannabis, perceived social acceptability of using cannabis, motivations of using, as well as perceived mental health between cannabis users and non-users have also been observed through the results of the study. Results have been published and can be obtained online on the dedicated PFLAD page on the website from the Directorate of Health (Ministère de la Santé et de la Sécurité Sociale, 2025a; 2025b).

Although this study provides a first and relevant initial assessment of the drug-related policy changes in Luxembourg, the results need to be interpreted in the light of several limitations. First, the data collection was conducted shortly after the law was amended, making it too early to assess the effects of this change. Self-selection bias among members of the panel may have resulted into the observation of higher cannabis prevalence rates than observed during general population surveys, where different recruitment methods are applied. Moreover, post-policy change data may be more reflective of truthful reporting, and social desirability bias may have played a less important role than before the law change.

Nevertheless, the study results complement existing national and international data and provide new insight to identify priorities for future prevention and public health interventions. The evaluation will continue with a post-implementation assessment planned for 2026 to measure changes in the indicators and a potential impact of the implemented scheme. This monitoring approach will help to ensure informed decision- and policy making guided by objective data to place cannabis regulation within a framework of continuous evaluation.

# 2.

# PREVALENCE, PATTERNS AND DEVELOPMENTS IN DRUG USE AMONG THE GENERAL POPULATION

# 2. PREVALENCE, PATTERNS AND DEVELOPMENTS IN DRUG USE AMONG THE GENERAL POPULATION

## 2.1. EUROPEAN HEALTH INTERVIEW SURVEY

Drug use among the general population in Luxembourg is assessed by means of the cross-sectional population-based survey "European Health Interview Survey" (EHIS). The EHIS is implemented in all European Union (EU) Member States and is conducted every six years according to the Regulation 1338/2008 on Community statistics on public health and health and safety at work. Since 2014, the EUDA Luxembourg Focal Point (PFLAD) has contributed to the survey with an additional module specifically addressing the use of illicit and new psychoactive substances (NPS). This national module assesses the lifetime prevalence[5], the last year prevalence[6] as well as the last month[7] prevalence of use of several illicit drugs. The latest EHIS wave in Luxembourg took place in 2019, while the fourth wave is currently ongoing.

The data presented in this chapter are based on the 2014 and 2019 EHIS waves (second and third wave, respectively). The EHIS measures drugs and NPS' use among the general population aged 15 years and above without any upper age range. However, the analysis was conducted among respondents aged 15 to 64 years, yielding a total of 3,514 valid questionnaires in 2019, with 1,052 valid questionnaires from respondents aged 15 to 34 years, and 165 valid questionnaires from respondents aged 15 to 18 years.

CANNABIS

Cannabis stands out as the most commonly used drug at national level. Figure 2.1. compares lifetime, last year and last month prevalence of cannabis use across three distinct age groups. Even though, overall data are suggestive of an increase in cannabis use across all age groups between 2014 and 2019, these differences lack statistical significance:

> Lifetime use – Experimental use of cannabis is highest among young adults (15-34 years) with a proportion of 31.5% in 2014 increasing to 32.7% in 2019. Among youngsters (15-18 years), the proportion of lifetime use raised from 16.6% in 2014 to 18.2% in 2019.

> Last year use – Recent use of cannabis among the general population (15-64 years) showed an increase since 2014 (2019: 5.4%; 2014: 4.8%). This rise is also observed among young adults aged 15 to 34 years (2019: 12%; 2014: 9.8%) and among youngsters aged 15 to 18 years (2019: 15.2%; 2014: 11.2%). Recent use of cannabis among young adults (15-34 years) in Luxembourg, as assessed in 2019, remains below the EU average – 12.0% in Luxembourg compared to 15.0% EU average as reported in the latest European Drug Report (EMCDDA, 2024).

> Last month use – Current use of cannabis increased between 2014 and 2019, notably among the youngest users (15-18 years) – 4.7% in 2014 and 7.3% in 2019 (see Fig. 2.1.).

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5    Lifetime prevalence refers to experimental use.
6    Last year prevalence refers to recent use.
7    Last month prevalence refers to current use.
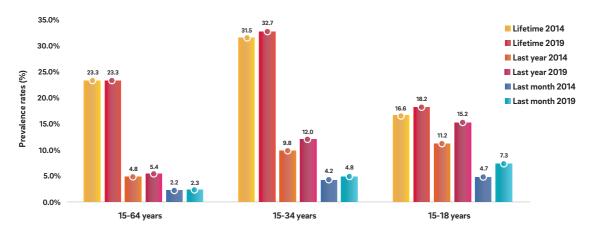
Lifetime, last year and last month prevalence rates of cannabis use across different age groups: comparison of 2014 and 2019 data (EHIS, 2014, 2019)

Gender differences – Gender disparities warrant attention in cannabis usage trends. In both 2014 and 2019, a higher proportion of men reported using the drug compared to women (in lifetime, as well as last year and last month):

> More men reported recent cannabis use (7.0% of the male respondents aged 15 to 64 years and 16.5% of male young adults aged 15 to 34 years) compared to women (4.0% of all female respondents aged 15 to 64 years and 9.3% of young women aged 15 to 34 years).

> Regarding current use, the proportion of young male adults who reported having used cannabis is more than double the proportion of young female adults both in 2014 (6.7% of men and 2.1% of women) and in 2019 (7.9% of men and 3.0% of women) (see Fig. 2.2.).
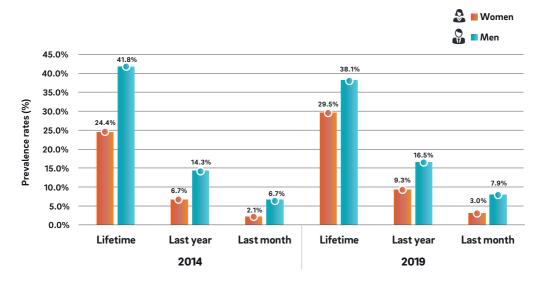
Lifetime, last year and last month prevalence rates of cannabis use among male and female young adults (15-34y): comparison of 2014 and 2019 data (EHIS, 2014, 2019)

The analysis of the 2014 and 2019 EHIS waves unveils stimulants as the second most commonly used drugs among the general population, following cannabis:

> Lifetime use – In 2019, a marginally higher proportion of young adults (15-34 years) reported experimental use of MDMA/ecstasy (XTC)[8], cocaine and LSD compared to 2014. On the contrary, use of hallucinogenic mushrooms and NPS decreased slightly. However, these differences are not statistically significant (see Fig. 2.3.).

> Last year use – Data from 2019 suggest an increase in the use of MDMA/XTC, amphetamines, cocaine, mushrooms and LSD among young adults (15-34 years), as well as a rise in recent MDMA/XTC and cocaine use when considering the entire population (15-64 years) compared to 2014 data. These differences are statistically non-significant though. Furthermore, recent stimulant use among young adults in 2019 falls below the EU average (EUDA, 2024) - MDMA (0.9% in Luxembourg compared to 2.2% EU average), amphetamines (0.3% in Luxembourg compared to 1.5% EU average), and cocaine (0.9 % in Luxembourg compared to 2.5% EU average) (see Fig. 2.4.).



| | Age group 15-18 | | Age group 15-34 | | Age group 15-64 | |
|---|---|---|---|---|---|---|
| | EHIS 2014 | EHIS 2019 | EHIS 2014 | EHIS 2019 | EHIS 2014 | EHIS 2019 |
| XTC/MDMA | 0.0% | 0.0% | 2.2% | 2.8% | 2.2% | 2.0% |
| ATS | 0.0% | 0.0% | 1.0% | 1.0% | 1.6% | 1.3% |
| Cocaine | 0.0% | 0.0% | 2.1% | 2.7% | 2.5% | 2.9% |
| Heroin | 0.0% | 0.6% | 0.3% | 0.3% | 0.7% | 0.5% |
| Mushrooms | 0.6% | 0.6% | 2.3% | 1.6% | 2.2% | 1.8% |
| LSD | 0.6% | 0.0% | 0.9% | 1.0% | 1.5% | 1.5% |
| Solvents/inhalants | 0.0% | 0.0% | 0.5% | 0.7% | 0.7% | 0.7% |
| NPS | 0.0% | 0.0% | 0.7% | 0.3% | 0.5% | 0.2% |

**FIGURE 2.3.**

Lifetime prevalence rates of illicit drugs' use across different age groups: comparison of 2014 and 2019 data (EHIS, 2014, 2019)

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8   Unless specified otherwise, 'MDMA' exclusively refers to the psychoactive compound 3,4-Methylenedioxymethamphetamine and does not encompass physical forms, such as crystals, powders or ecstasy (XTC) pills.
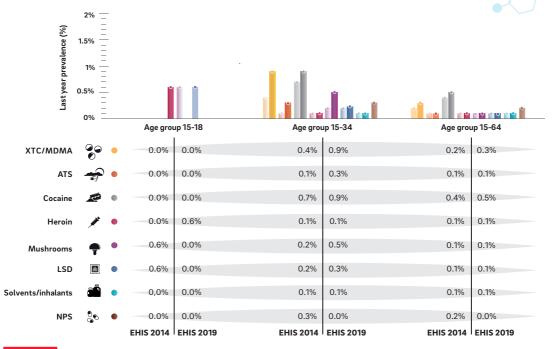
FIGURE 2.4.

Last year prevalence rates of illicit drugs' use across different age groups: comparison of 2014 and 2019 data (EHIS, 2014, 2019)

> Last month use – As far as current use is concerned, EHIS data suggest a decline in prevalence rates for the majority of drugs. Nonetheless, it is crucial to highlight that in Luxembourg, due to its relatively small population size, the subsamples of specific age groups (e.g., 15-18 years) targeted by questions on recent and current usage are small. Consequently, the differences in prevalence rates are attributed to minimal discrepancies in the number of effective cases (see Fig. 2.5.).
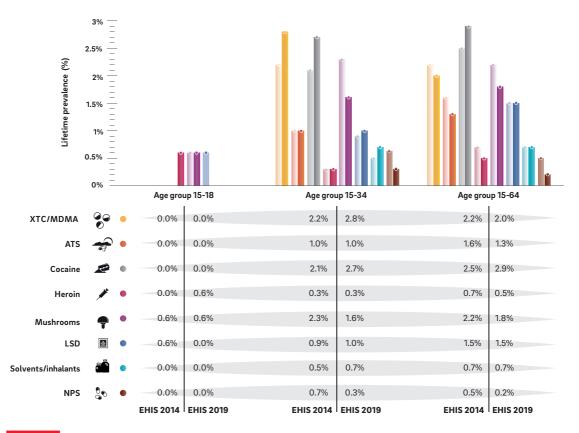


FIGURE 2.5.

Last month prevalence rates of illicit drugs' use across different age groups: comparison of 2014 and 2019 data (EHIS, 2014, 2019)

> Average age of first use – Cannabis and solvents emerge as the substances with the youngest age of first use (cannabis: 19 years; solvents: 17 years) (EHIS, 2019). Conversely, the initiation of using other drugs such as MDMA/XTC (on average at 22 years), LSD (on average at 21 years), and NPS (on average at 30 years) appears to occur at a later stage. Noteworthy is the observation that the average age of first use of heroin (2019: 19 years; 2014: 23 years) alongside the average age of first use of amphetamines displays a decline (2019: 20 years; 2014: 21 years in).

> Gender differences – EHIS data from both 2014 and 2019 indicate that, on average, women tend to initiate drug use at the same age or later than their male counterparts, except for heroin, hallucinogenic mushrooms and solvents.

## 2.2. HEALTH BEHAVIOUR IN SCHOOL-AGED CHILDREN

Drug use among young scholars is assessed using the representative cross-sectional survey "Health Behaviour in School-Aged Children (HBSC)". Conducted every four years, the HBSC scrutinises various health behaviours among students aged 11 to 18 years, in both primary and secondary schools. A specific module targeting illicit drug use is only administered to secondary school attendees/students. The University of Luxembourg scientifically coordinates the HBSC survey in Luxembourg. To date, five waves of the survey have been conducted, with the inaugural wave dating back to 2006 and the latest in 2022. The following wave is planned for 2026. In 2025, the Grand Duchy of Luxembourg will conduct for the first time a pilot study among a selected number of schools and implement the European School Survey Project on Alcohol and Other Drugs (ESPAD). ESPAD is a collaborative effort of independent research teams and a cross-national research project with the overall aim to repeatedly collect comparable data on substance use and addictive behaviours among 15- to 16-year-old students in as many European countries as possible[9].

Throughout the different HBSC waves, adjustments have been made to drug-related questions and methodological approaches to address the unique challenges associated with collecting data from school-aged children. Across all five waves, adolescents in secondary schools were consistently asked if they had ever used cannabis in their life (lifetime prevalence) and/or in the past 30 days (last month prevalence). Notably, questions regarding the use of other illicit substances were omitted in the 2018 wave. Hence, results related to use of cannabis and use of other illicit substances are reported separately.

Even though the cannabis questions were presented to all secondary students, only the results for the students aged 15 to 18 years are presented in the current report. This methodological decision stems from the presence of younger students (below 15 years old) in both primary and secondary schools. Given that the drug module of the HBSC survey exclusively targets secondary schools, prevalence rates for these younger age groups would lack general representativeness, applying solely to those attending secondary schools.

The evolution of lifetime and last month prevalence of cannabis use between 2006 and 2022 are presented here and have previously been published in the HBSC Luxembourg trends report (Heinz et al., 2020), the HBSC Luxembourg Dashboard (Université du Luxembourg, 2024) and the HBSC Risk Behaviours report (Catunda et al., 2024).

Besides cannabis use, the consumption of other substances also contributes significantly to understanding the comprehensive landscape of drug use within this demographic/population. Analyses of these data adhere to different methodological criteria and are reported for scholars aged 13 to 18 years, spanning the period from 2006 to 2022.

9    For more information about ESPAD, please consult http://www.espad.org/

CANNABIS

> While lifetime use has remained stable (around 30%), last month use has been following an increasing trend since 2006 (2022: 15.0%; 2006: 11.1%) (Fig. 2.6.). Current use of cannabis holds a greater significance than experimental use of cannabis as it covers both lifetime and last month consumption patterns. In particular, findings from the HBSC study indicate an overall rise of the proportion of young scholars (boys and girls) reporting using cannabis during the last month.

| | 2006 | 2010 | 2014 | 2018 | 2022 |
|---|---|---|---|---|---|
| Last month prevalence | 11.1% | 11.2% | 13.0% | 13.3% | 15.0% |
| Lifetime prevalence | 29.6% | 29.2% | 29.0% | 27.1% | 29.7% |
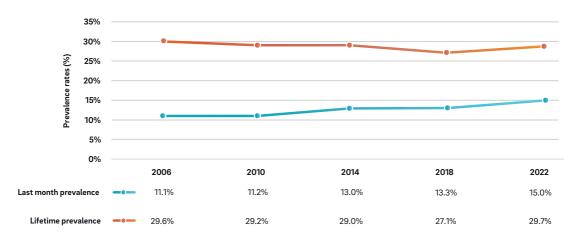
FIGURE 2.6.

Lifetime and last month prevalence rates of cannabis use among scholars (15-18 years old) (valid %) (Université du Luxembourg, 2024)

Type of class – Analysis of lifetime prevalence rates of cannabis use suggests distinct patterns across different educational settings (see Fig. 2.7.):

> Notably, respondents in lower classes of classic secondary education exhibit the lowest lifetime prevalence rates, with only 6.9% reporting cannabis use. In comparison, students in lower classes in general secondary education demonstrate higher rates, at 16.1%, surpassing those in the guidance route of lower classes of general secondary education, where prevalence stands at 12.0%.

> Results further reveal that lifetime prevalence of cannabis use is most elevated among respondents in vocational training, reaching 40.9%. Compared to lower-class students, the disparity between classic and general secondary education appears less pronounced in upper-class students. Specifically, the lifetime prevalence rates among students in upper classes show marginal differences between classic (34.5%) and general (33.7%) secondary education.
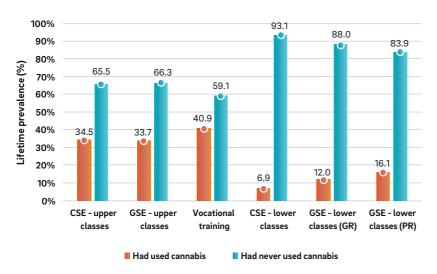
Lifetime prevalence rates of cannabis use among young scholars (15-18 years old) across different classes (valid %) (Catunda et al., 2024)

*Note:* CSE stands for classic secondary education; GSE stands for general secondary education.

> Family structure – There appears to be a clear difference of experimental cannabis use across various family structures (Fig. 2.8.):

  o The lowest prevalence is observed in students residing with both of their parents, at 18.5%. More elevated rates are noted among students living with a single parent (27%) or within a stepfamily arrangement (28.4%). The highest rate prevalence is recorded among students residing with their grand-parents or in a foster home, where the rate reaches 37.5%.
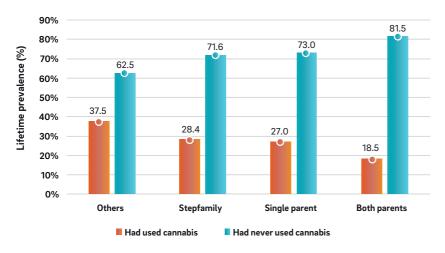
Lifetime prevalence rates of cannabis use among young scholars (15-18 years old) across different family structures (valid %) (Catunda et al., 2024)

> Gender differences – A closer look into gender disparities reveals a slightly higher proportion of experimental and current cannabis use among boys compared to girls (Fig. 2.9.):

    o   Both genders have witnessed an increase in current cannabis use between 2006 and 2022, with figures rising from 8% to 14% for girls and from 14% to 17% for boys over the same period.

    o   The proportion of boys with an experimental use of cannabis has fluctuated between 30% and 35% across the past HBSC waves (2022: 31%; 2006: 34%), whereas the range of their female counterparts has been situating between 23% and 29% (2022: 29%; 2006: 25%). A marginal increase is noticeable among girls between 2018 and 2022 (2022: 29%; 2018: 24%).

| | 2006 | 2010 | 2014 | 2018 | 2022 |
|---|---|---|---|---|---|
| Lifetime Prevalence boys | 34% | 35% | 33% | 30% | 31% |
| Lifetime Prevalence girls | 25% | 23% | 25% | 24% | 29% |
| Last month Prevalence boys | 14% | 14% | 17% | 16% | 17% |
| Last month Prevalence girls | 8% | 8% | 10% | 10% | 14% |
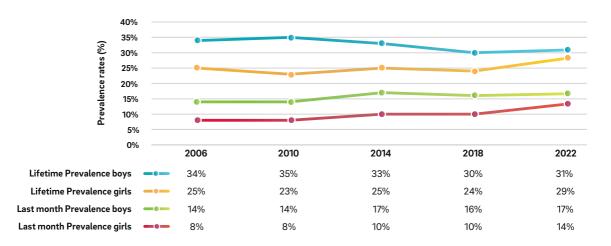
FIGURE 2.9.

Lifetime and last month prevalence of cannabis use among young scholars (boys and girls) (15-18 years old) (valid %)
(Université du Luxembourg, 2006 – 2022)

> Age differences – In general, prevalence rates of cannabis use are higher among the older age groups (17-18 years) compared to younger age groups (15-16 years).

    o   Among boys, current cannabis use has been slightly decreasing among the youngest (15 years old), while displaying fluctuations among the older scholars (16-18 years old). Most recent data (2022) demonstrate a decrease in current use among the oldest boys (18 years old) and an increase among 16-year-old students (Fig. 2.10.).

    o   On the contrary, among girls, current cannabis use appears to be rising across all age groups except for 18-year-old girls, whose consumption has remained stable compared to 2018 (Fig. 2.11.) (Université du Luxembourg, 2024).
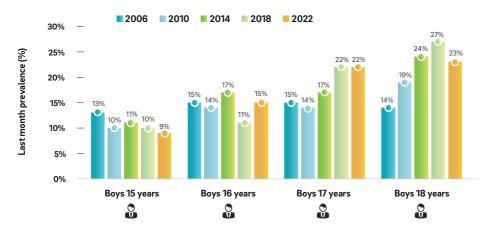
Last month prevalence of cannabis use among boys across different ages (valid %) (Université du Luxembourg, 2006-2022)
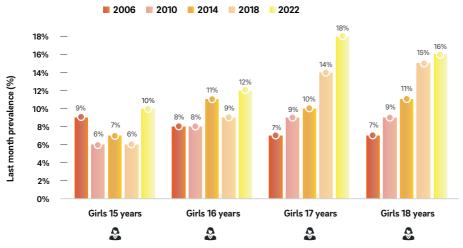
Last month prevalence of cannabis use among girls across different ages (valid %) (Université du Luxembourg, 2006-2022)

> Near daily use – In examining near daily cannabis consumption across age groups, a noteworthy disparity can be observed between genders. Please note that the PFLAD has used a different methodological approach compared as to presented in the online HBSC dashboard in order to respond to the EUDA methodological guidelines, for which figures presented in the following sections may slightly differ:

o As depicted in Figure 2.12., girls exhibit a significantly lower proportion of near daily use compared to boys. A clear trend can be observed with increasing age: both boys and girls demonstrate higher proportions of near daily use as they advance in age. However, the escalation in near daily use is more pronounced among boys than girls.

o  Among the youngest group (aged 15 years), the proportion of boys engaging in near daily use reaches 2.2%, while for girls, it reaches 1.5%. This gender discrepancy persists across all age groups, with the highest prevalence among the oldest males (18 years: 5.8%). The reported rate for their female counterparts is only 2.5%.

o  While near daily consumption rates increases with age in both genders, among females, the 18-year-olds report a lower rate than the 17-year-olds (2.9% vs 2.5%).



| | 15y | 16y | 17y | 18y |
|---|---|---|---|---|
| Boys | 2.2% | 3.3% | 5.1% | 5.8% |
| Girls | 1.5% | 2.0% | 2.9% | 2.5% |
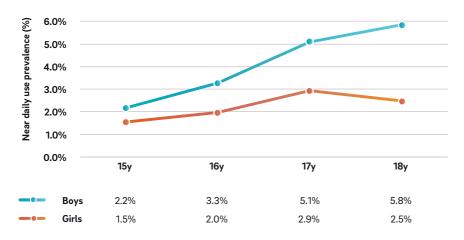
FIGURE 2.12.

Near daily use prevalence of cannabis use among young scholars (boys and girls) across different ages (valid %) (HBSC, 2022)

>  Age of initiation – As an additional question in the 2022 wave, the students were queried regarding their age at which they first used cannabis. To prevent potential inflation of earlier consumption patterns, only participants aged 17 to 18 years were included in the analysis. Thus, these rates can be used solely to draw conclusions concerning this particular age group. Individuals who reported never having used the drug were excluded from the analysis.

o  Overall, 25.1% of those who had previously used cannabis indicated trying the drug for the first time at 14 years or at a younger age (Fig. 2.13.).

o  An in-depth analysis of family structures reveals that the highest proportion of individuals (51.2%) who reported trying cannabis for the first time at 14 years of age or younger is observed among those living with their grandparents or in a foster home. Approximately one third of respondents living in a stepfamily report their initial cannabis use at 14 years of age or younger (34.7%). The lowest percentage of students who report initiating cannabis use at 14 years of age or younger was found in households where they reside with either a single parent (21.7%) or both parents (21.4%).
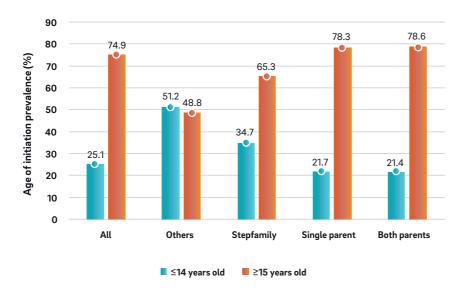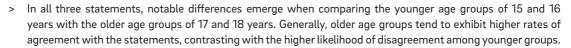
**FIGURE 2.13.**

Age of initiation of cannabis use across different family structures (valid %) (Catunda et al., 2024)


SOCIAL ACCEPTABILITY

To evaluate acceptability of cannabis use concerning the participants, as well as their perception of friends' and parents' social acceptability regarding cannabis use, respondents were asked to indicate their level of agreement or disagreement with certain statements. These statements entailed that they themselves, their friends or their parents think "it's okay to use cannabis". The results were differentiated by age groups (15, 16, 17 and 18 years) and further divided into distinct user groups. Unlike other sections in this report, these findings are not compared to previous years as these specific elements were not included in previous HBSC waves.

> In all three statements, notable differences emerge when comparing the younger age groups of 15 and 16 years with the older age groups of 17 and 18 years. Generally, older age groups tend to exhibit higher rates of agreement with the statements, contrasting with the higher likelihood of disagreement among younger groups.

  o Personal acceptance – When asked whether participants themselves think it's okay to use cannabis (Fig. 2.14.), younger participants aged 15 and 16 years reveal to be most inclined to strongly disagree (50.9% and 39.6%, respectively). Conversely, older age groups (17-18 years old) display lower rates of disagreement, ranging between 29.3% and 30.4%. Essentially strong agreement with the statement increases steadily with age, with proportions rising from 3.9% among 15-year-old students to 11.8% among 18-year-old students.

  o Further examination across user groups (Fig. 2.15.) reveals distinct patterns, with non-users being more likely to strongly disagree (60.9%) compared to near-daily users, who tend to strongly agree (53.2%). Last month users show the highest proportion in agreement (37.7%), while lifetime users remain largely neutral (37.9%). Hence, inherent acceptability towards cannabis use seems to increase the more regularly individuals use the drug.

| | 15y | 16y | 17y | 18y |
|---|---|---|---|---|
| Strongly agree | 3.9% | 8.6% | 8.8% | 11.8% |
| Agree | 12.2% | 14.6% | 18.4% | 18.2% |
| Neither agree nor disagree | 20.1% | 22.8% | 27.4% | 27.7% |
| Disagree | 12.9% | 14.4% | 16.1% | 11.9% |
| Strongly disagree | 50.9% | 39.6% | 29.3% | 30.4% |

FIGURE 2.14.

Personal acceptability to use cannabis across students aged 15 to 18 years (valid %) (HBSC, 2022)
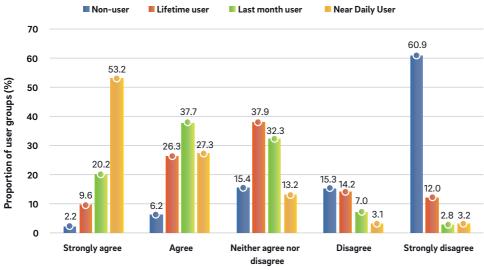


FIGURE 2.15.

Personal acceptability among different cannabis user groups (valid %) (HBSC, 2022)

> Peer acceptance – When asked about whether their friends think it's okay to use cannabis (Fig. 2.16.), the oldest participants (18 years old) reveal to be most likely to strongly agree (16.1%). The proportion of those who strongly agree gradually increases with age (17y: 14.2%; 16y: 11.4%; 15y 6.5%). A similar trend can be observed, among respondents agreeing with the statement, a gradual increase from youngest to oldest can be observed ranging from 16.0% to 30.1%.

o    Furthermore, the highest proportion of strong disagreement can be observed among 15-year-old students (40.8%), followed by a gradual decrease among older students (16y: 25.9%; 17y: 19.8%; 18y: 20.6%).

o    A correlation coefficient of 0.67 implies that there may be a high positive relation between friends' acceptability towards the use of cannabis and the students' personal acceptability.

o    Once again, near daily cannabis users are most likely to strongly agree (44.0%) with their friends' acceptance, in contrast to non-users who are most likely to strongly disagree (47.5%) (Fig. 2.17.). Similar to the rates of personal acceptance towards cannabis use, the highest proportion agreeing with the statement is observed among last month users (40.9%), followed by lifetime users (35.1%).



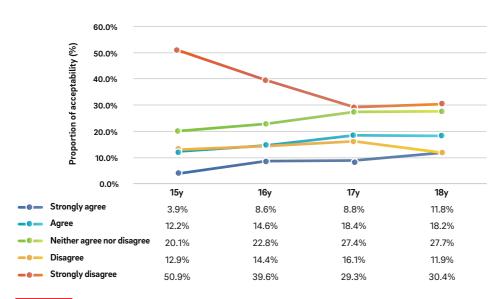|  | 15y | 16y | 17y | 18y |
|---|---|---|---|---|
| Strongly agree | 6.5% | 11.4% | 14.2% | 16.1% |
| Agree | 16.0% | 21.3% | 26.0% | 30.1% |
| Neither agree nor disagree | 22.0% | 25.4% | 26.2% | 21.7% |
| Disagree | 14.8% | 16.1% | 13.8% | 11.6% |
| Strongly disagree | 40.8% | 25.9% | 19.8% | 20.6% |
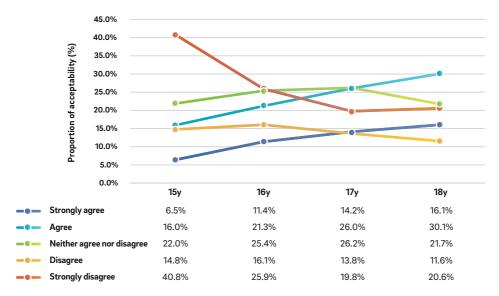
FIGURE 2.16.
Peer acceptability (friends) to use cannabis across students aged 15 to 18 years (valid %) (HBSC, 2022)
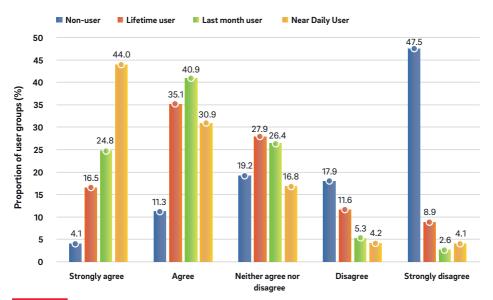


FIGURE 2.17.
Peer acceptability (friends) across different cannabis user groups (valid %) (HBSC, 2022)

> Parental acceptance – In contrast to personal and peer acceptance, a majority across all age groups strongly disagree that their parents think it's okay to use cannabis. Thus, 77.4% of 15-year-old students indicate strong disagreement with proportions gradually decreasing with age (16y: 71.4%; 17y: 63.7%; 18y: 61.2%) (Fig. 2.18.). The proportion of participants that strongly agree remains low with little variances across all age groups, ranging between 0.9% to 1.2%. Moreover, a slight almost gradual increase from the youngest age group to oldest can be observed among those who agree with the statement, ranging from 2.4% to 6.0%.

  o A correlation coefficient of 0.49 suggests a moderate positive relation between parental acceptance and self-acceptability. Nevertheless, this correlation is still inferior to friends' acceptability which indicates a stronger peer influence on the students' own attitudes towards cannabis use.

  o Regardless of user group, the majority of students strongly disagree with the statement that their parents accept cannabis use (Fig. 2.19.), with non-users exhibiting the highest proportion (81.0%). The proportion of students that report strong disagreement decreases gradually with higher consumption frequencies (lifetime users: 60.7%; last month users: 48.9%; near daily users: 40.9%). Nonetheless, disregarding the user groups, cannabis use acceptance among parents seems substantially lower compared to peer- or self-acceptance.



| | 15y | 16y | 17y | 18y |
|---|---|---|---|---|
| Strongly agree | 1.0% | 1.0% | 0.9% | 1.2% |
| Agree | 2.7% | 2.4% | 4.0% | 6.3% |
| Neither agree nor disagree | 5.4% | 8.9% | 14.0% | 14.2% |
| Disagree | 13.5% | 16.3% | 17.5% | 17.0% |
| Strongly disagree | 77.4% | 71.4% | 63.7% | 61.2% |
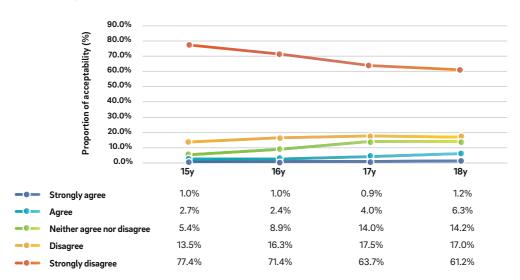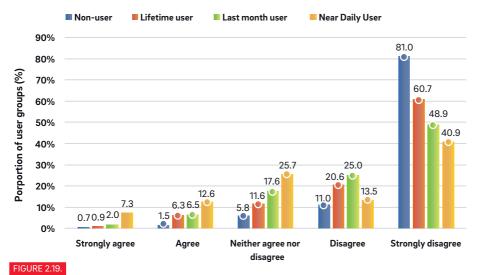
FIGURE 2.18.

Parental acceptability of cannabis use across different ages (valid %) (HBSC 2022)

FIGURE 2.19.

Parental acceptability across different cannabis user groups (valid %) (HBSC 2022)

OTHER ILLICIT DRUGS

After other illicit drugs have not been measured in the HBSC wave of 2018, the latest wave (2022) introduced some changes to the questionnaire concerning those substances. Questions regarding opioids, solvents and mushrooms were excluded and LSD and hallucinogenic mushrooms were fused into a single question, encompassing hallucinogens. Consequently, the 2022 results for these substances cannot be compared to previous years. Hence, the findings were depicted in two different graphs. In Figure 2.20., the previously mentioned drugs are compared across the years of 2006, 2010 and 2014, while Figure 2.21. displays the prevalence of MDMA, amphetamines and cocaine across the same years, supplemented with data from 2022.

> Lifetime use – Experimental use of illicit drugs among young scholars (13-18 years) decreased between 2006 and 2014 for several substances, including opioids (2014: 0.8%, 2006: 0.9%) solvents (2014: 1.2%; 2006: 1.8%) and hallucinogenic mushrooms (2014: 1.4%; 2006: 2.1%) (Origer et al., 2008, 2012).

   o However, during the same period, increases were noted in lifetime prevalence rates of LSD (2014: 0.9%; 2006: 0.7%) and "abuse of medication to get high" (2014: 2.5%; 2006: 1.9%).
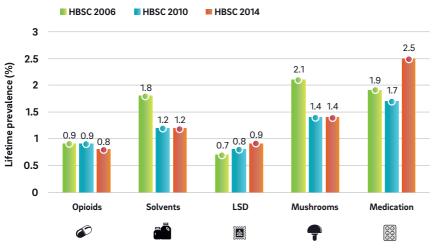


FIGURE 2.20.

Lifetime prevalence rates of illicit drug use (aged 13-18 years) (HBSC, 2006-2014)

o Moreover, between 2006 and 2022, the lifetime prevalence rates of amphetamine type stimulants (ATS) (2022: 0.9%; 2006: 1.6%) and cocaine (2022: 1.2%; 2006: 2.1%) experienced their lowest scores in 2022. Conversely, the lifetime prevalence rate for MDMA (2022: 1.9%; 2006: 1.7%) witnessed an increase, reaching an all-time high.



**FIGURE 2.21.**
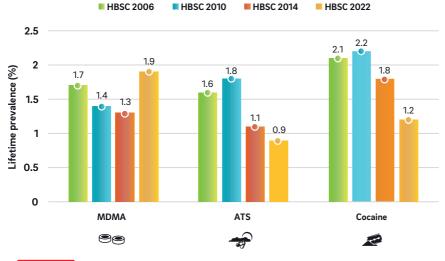
Lifetime prevalence rates of illicit stimulants use (aged 13-18 years) (HBSC, 2006-2022)

> Last year use - Regarding recent use of other illicit drugs, the data available are from the 2006 and 2010 HBSC waves:

o Cocaine emerged as the most prevalent drug used by young scholars (13-18 years), following cannabis, with a usage rate of 2.1% in 2006 and by 1.7% in 2010. ATS, hallucinogens (such as magic mushrooms and LSD), MDMA/XCT, solvents and opioids were also present, although with lower prevalence (see Fig. 2.22.).
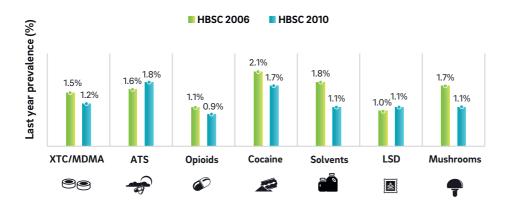


**FIGURE 2.22.**

Last year prevalence of illicit drug use among youngsters aged 13 to 18 years of age (HBSC, 2006, 2010)

> Last month use – Use of illicit substances was analysed among boys and girls across different ages. Results should be interpreted with caution as the sample size and differences are very small:

  o Boys reveal a rise in the last month prevalence rates of using hallucinogens, such as magic mushrooms, LSD, and ketamine, from 13 years of age to 16 years of age. Girls show variations until the age of 17 years before a notable increase at the age of 18 years. In a similar vein, for MDMA, male usage rates are rising with age, whereas female rates fluctuate until the age of 18, when they surpass male rates.

  o On the other hand, girls' last-month prevalence rates of cocaine usage vary by age group, and boys' rates peak between the ages of 14 years and 16 years. Boys start using amphetamines at the age of 16 years, whereas girls do not start using them until the age of 18 years. Please beware that these results should be interpreted with caution due to small response rates.

## 2.3. WASTEWATER AND DRUGS

The origins of wastewater studies can be traced back to the 1930s in the United States, where initial efforts focused on monitoring polio outbreaks. By the 1990s, the introduction of Polymerase Chain Reaction (PCR)[10] technique drastically enhanced wastewater studies, allowing for precise pathogen detection. In 2001, the contamination of wastewater by human-excreted pharmaceuticals was investigated for the first time (Daughton, 2001a) and it was suggested that wastewaster could be applied to the study of illicit drugs in the sewage system (Daughton, 2001b). These findings paved the way for studies that measured the levels of excreted illicit drugs in wastewater (Zuccato et al., 2008). Wastewater research has since become a rapidly developing discipline in the field of drug monitoring. One of its strengths is the ability to collect continuous long-term data, unlike the punctual nature of survey research or data collected through registries in targeted settings, allowing for identification of temporal and geographical trends.

In 2018, the Analytical Chemistry Service (SCAN) of the Luxembourg National Health Laboratory (LNS), in collaboration with the Luxembourg Institute of Science and Technologies (LIST), conducted the first pilot study[11] on drug residues in national wastewater. This project was the start of systematic drug monitoring in wastewaters in the Grand-Duchy of Luxembourg:

> Since 2023, the SCAN analyses drugs and drug metabolites from different wastewater treatment plants (WWTPs) on a weekly basis: Mersch (Beringen), Mamer, and Boevange-Attert. In 2024, the plants of Beggen and Hesperange were added.

> In parallel, the SCAN participates in a European monitoring campaign (Sewage analysis CORe group — Europe (SCORE)), collecting and measuring drug residues each day during one week in April in selected WWTPs. The SCORE network implemented its first wastewater study in 19 European cities in 2011 in order to monitor local drug loads in wastewater, thereby creating a tool to estimate drug consumption among different communities (Thomas et al., 2012). The SCORE network expanded gradually, reaching 88 European cities from 24 countries (23 EU + Turkey) in 2023[12].

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10  The polymerase chain reaction (PCR) is a laboratory technique used to amplify DNA sequences. It involves repeated cycles of heating and cooling to denature DNA, anneal primers, and extend new DNA strands. This process allows for the detection and analysis of specific genetic material.

11   Retrieved from: https://www.science.lu/sites/default/files/2019-10/Drugs%20in%20Wastewater.pdf

12  Detailed information about the participating countries can be downloaded from the EUDA website: https://www.euda.europa.eu/publications/html/pods/waste-water-analysis_en
The data used in this report can be downloaded from the EUDA website: https://www.euda.europa.eu/data/repository/drugs-municipal-wastewater-europe-source-data-2025_en

Wastewater analyses rely on a simple principle to calculate the loads of drug metabolites found in the samples. After drug consumption, the drug is absorbed by the body and metabolised. The metabolites are excreted and discharged in the sewage system, where they can be collected and measured in the wastewater. Since the daily influent flow rate at the respective WWTPs is linked to the number of inhabitants connected to the respective station, the quantity of metabolic residues of (illicit) drugs is calculated by considering the number of inhabitants connected to the WWTP, the metabolite concentration per litre and lastly, the daily influent flow rate. The loads of drug metabolites presented in this report are therefore expressed as milligrams per 1000 inhabitants per day[13] (see Figure 2.23).

### 1. Sample collection and analysis
Determination of drug metabolite in the water (ng/L)

### 2. Flow rate (L/day)
Amount of drug metabolite (mg/L/day)

### 3. Population data
Load of drug metabolite (mg/1000 persons/day)
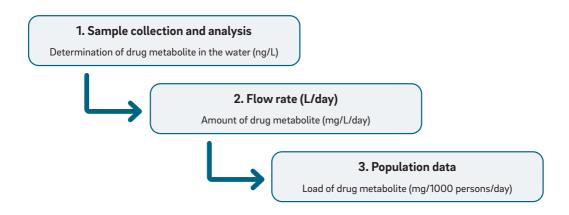
FIGURE 2.23.

Back calculation for measuring drug metabolite loads in wastewater

The sampling method is designed to collect a sub portion of wastewater each hour of the day, in order to obtain a representative sample for the whole day (24h composite sample). The sample is stored at -20°C before transfer to a laboratory for analysis. All substances are extracted and up concentrated using the "solid phase extraction" technique and dosage is carried out using Liquid Chromatography-Quadrupole Time-of-Flight Mass Spectrometry (LC-QToF; for THC-COOH) or Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS; for all other drugs and drug metabolites).

In line with the methodological guidelines from the SCORE study, the national samples were taken on a daily basis from WWTPs in Beringen/Mersch, Boevange and Mamer from the 19th to 24th of April 2023. In order to be able to compare the data from the three WWTPs at national level, as well as the findings from the SCORE study in association with the EUDA, the data have not been adjusted by a correction factor to account for the metabolisation rate.

---

13   Knowing the metabolisation rate and the number of people linked to the WWTP, it is possible to do a back calculation to estimate the quantity of drugs consumed. However, the data presented here did not apply any correction factor for metabolisation rates, due to a lack of scientific consensus and significant variations reported (Gracia-Lor et al., 2016). The omission of any correction factor allowed to compare the national data with data published by the SCORE network, in association with the EUDA.

The following table depicts the drugs, or drug metabolites, that were assessed from the samples included in the study:

Substances monitored in the national wastewater analysis programme

| | |
|---|---|
| 🦎 | Amphetamine |
| 🎾 | 3,4-Methylenedioxymethamphetamine  (Ecstasy/MDMA) |
| 🍃 | Methamphetamine |
| 💉 | Monoacetylmorphine (heroin metabolite) |
| 🧴 | Ketamine |
| ⌬ | Mephedrone |
| 🚬 | Benzoylecgonine (cocaine metabolite) |
| 🍁 | THC-COOH (cannabis metabolite) |
| 🚬 | Cotinine (nicotine metabolite)[14] |
| 🍷 | Ethyl sulfate (alcohol metabolite)[10] |

## RESULTS
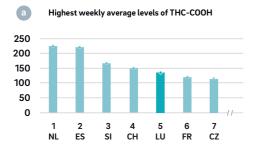
### COMPARISON WITH SCORE

The results in the figures below show the findings of the samples collected by the three WWTPs in the Grand-Duchy of Luxembourg compared to the main results obtained from 89 cities across 29 participating countries[15], including the EU, Norway, Switzerland, the United Kingdom and Iceland through SCORE.

Cannabis: The highest weekly average loads of cannabis were reported in cities within the Netherlands (225.36), Spain (220.63), Slovenia (167.48), Switzerland (150.01), Luxembourg (133.98), and France (119.10). This placed Luxembourg at the fifth rank compared to 17 other countries. When looking at the national level of average weekly cannabis metabolite loads, Luxembourg ranked at the fourth place (116.18), just below Spain (118.43), France (119.10), and the Netherlands (183.04).

---

14    Cotinine (nicotine metabolite) and ethyl sulfate (alcohol metabolite) will be included in the national wastewater analysis starting in 2025.
15    In 2023, wastewater measurements were collected by just one city for the following countries: Croatia, Denmark, France, Greece, Hungary, Iceland, Latvia, Poland, Romania and the United Kingdom.

**a**   **Highest weekly average levels of THC-COOH**

| | 1 NL | 2 ES | 3 SI | 4 CH | 5 LU | 6 FR | 7 CZ |

**b**   **National weekly average THC-COOH levels**

| | 1 NL | 2 FR | 3 ES | 4 LU | 5 PT | 6 CH | 7 SI |
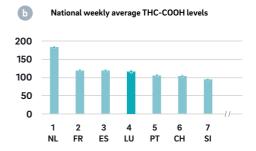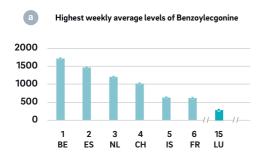
**FIGURE 2.24.**

Comparison of THC-COOH (cannabis) loads.

**a** Highest weekly average loads found in cities in 2023, ranked by country.

**b** National weekly average loads, representing all participating cities in a country (EUDA, 2024).

Cocaine: The highest weekly average loads of cocaine were reported in cities from Belgium (1721.58), Spain (1463.91), the Netherlands (1209.96), Switzerland (1022.61), Iceland (638.45) and France (616.48) (see Figure 2.25a). Cities from Luxembourg (284.40) ranked at position 15 out of 26 countries. When comparing the national average weekly detection levels, Luxembourg ranked 15th as well (220.58) (see Figure 2.25b).

**a**   **Highest weekly average levels of Benzoylecgonine**

| | 1 BE | 2 ES | 3 NL | 4 CH | 5 IS | 6 FR | 15 LU |

**b**   **National weekly average Benzoylecgonine levels**

| | 1 BE | 2 NL | 3 CH | 4 ES | 5 IS | 6 FR | 15 LU |
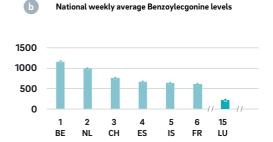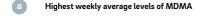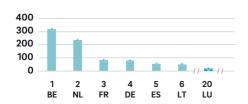
**FIGURE 2.25.**

Comparison of Benzoylecgonine (cocaine) loads.

**a** Highest weekly average loads found in cities in 2023, ranked by country.

**b** National weekly average loads, representing all participating cities in a country (EUDA, 2024).

MDMA: The highest weekly average levels of MDMA were found in the wastewater of cities in Belgium (318.23), the Netherlands (236.71), France (83.04), and Germany (77.18), followed by Spain (54.82), and Lithuania (51.13). The highest weekly average MDMA detection by one of the three WWTPs in Luxembourg was 14.04 mg per 1000 inhabitants per day, placing Luxembourg at the 20th rank out of 26 countries (Fig. 2.26a). When comparing the weekly average MDMA detection from all WWTPs in a country, Luxembourg ranked 18th (13.27) (Fig. 2.26b).

**a** Highest weekly average levels of MDMA

**b** National weekly average MDMA levels
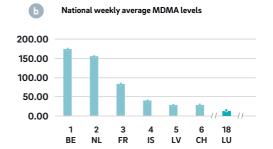
FIGURE 2.26.

Comparison of MDMA loads.

**a** Highest weekly average loads found in cities in 2023, ranked by country (EUDA, 2024).

**b** National weekly average loads, representing all participating cities in a country (EUDA, 2024).

Other substances: Regarding amphetamine, methamphetamine and ketamine, national averages measured by local wastewater treatment plants from Luxembourg were low compared to the mean values of those from other countries participating in SCORE. In the case of ketamine, Luxembourg (2.00) was positioned 16th out of 22 countries. National average ketamine residues were highest in one participating WWTP from the United Kingdom (149.71), followed by averages from WWTPs in Belgium (56.77) and the Netherlands (51.22). For amphetamine, Luxembourg (7.58) was positioned 21st out of 25 countries, and for methamphetamine, 23rd out of 26 countries with only marginal detection levels (0.85).

Comparison with neighbouring cities: The data from the three WWTPs from Luxembourg were compared to the measurements from nearby WWTPs from neighbouring countries (Antwerp (BE), Brussels (BE) and Sarrebrücken (DE)). Results revealed that cocaine residues in Luxembourg (regrouping the results from the sample analysis from the three national WWTPs) were below those of nearby WWTPs in Belgium and Germany. The same observation is seen for MDMA, amphetamine, ketamine and methamphetamine. Cannabis metabolite levels were not reported by neighbouring WWTPs due to complex identification procedures of the main cannabis metabolite (THC-COOH).

### NATIONAL WASTEWATER ANALYSES 2023

Detection frequency: Wastewater samples were collected throughout the whole year of 2023 on a weekly basis from January 2nd to December 18th. Among all valid samples, laboratory analyses revealed that cocaine- and cannabis metabolites were detected in all wastewater samples. MDMA and ketamine were detected in 90% or more of all samples, followed by amphetamine and heroin metabolites. The least detected substances were methamphetamine and mephedrone (see Figure 2.27.).

**cocaine** — 100%

**cannabis** — 100%

**MDMA** — 5%, 95%

**ketamine** — 10%, 90%

**amphetamine** — 24%, 76%

**heroin** — 28%, 72%

**methamphetamine** — 42%, 58%

**mephedrone** — 10%, 90%

■ detected in % of samples
■ not detected in % of samples
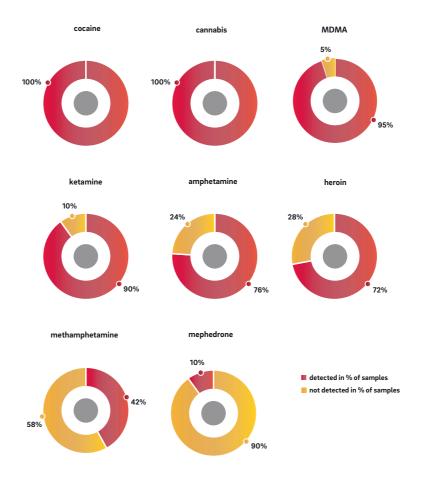
Presence of drugs and drug metabolites among valid samples (National Health Laboratory, 2024)

Weekday vs. weekend: To estimate drug metabolite levels on weekdays and compare them with weekend levels, the EUDA's grouping method was applied to categorise the data.

> Weekday: Samples collected on Tuesdays, Wednesdays and Thursdays
> Weekend: Samples collected on Fridays, Saturdays, Sundays and Mondays

The analysis encompassed a total of 99 (58%) weekday samples and 72 (42%) weekend samples. When comparing the loads of drug metabolites between weekdays and weekends, the loads of MDMA were higher on weekends (M= 15.89, SD = 14.03) compared to weekdays (M = 8.12, SD = 9.72); $p < 0.001$[16]. On the other hand, the loads of the cannabis metabolite THC-COOH appeared higher on weekdays (M = 104.21, SD = 54.97) compared to weekends (M = 88.29, SD = 43.17). However, these differences were not statistically significant (p = 0.054[17]). Cocaine loads were slightly higher on weekends (M = 298.11, SD = 134.14) compared to weekdays (M = 281.38, SD = 117.95), although the difference was also not statistically significant (p = 0.394) (see Figure 2.28.).

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16    Levene's Test for Homogeneity of Variance: p = 0.085, Two Sample t-test assuming equal variances.
17    Levene's Test for Homogeneity of Variance: p = 0.941, Two Sample t-test assuming equal variances.

MDMA                    Cannabis                  Cocaine
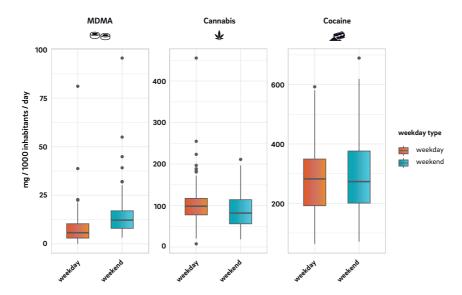
Weekday vs. weekend comparison of MDMA, cannabis (THC-COOH) and cocaine (benzoylecgonine) loads (National Health Laboratory, 2024)

Annual and seasonal trends: No clear annual or seasonal trend regarding the detected compounds could be observed. As presented in Figure 2.29., the loads of the cannabis metabolite THC-COOH revealed slightly elevated values during the spring months (March, April and May) only. Moreover, July was the month during which loads were highest for most substances. Regarding the cocaine metabolite benzoylecgonine, high amounts were detected in the beginning of the year (January and February) and during the months June, July and August. Similar observations were made for MDMA



2023
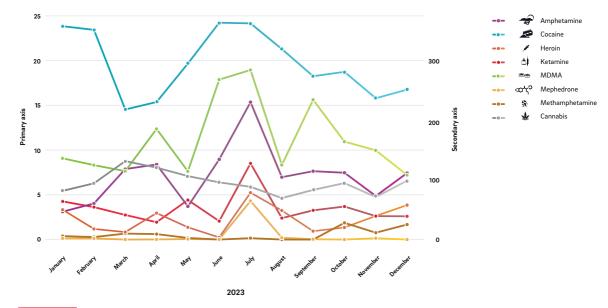
National patterns and temporal trends of drug loads found in wastewater. The data is represented as mg/1000 inhabitants/day (National Health Laboratory, 2024).

Note: Values for benzoylecgonine (cocaine metabolite) and THC-COOH (cannabis metabolite) are plotted on the secondary axis.

and amphetamine: detection levels were higher during June and July compared to the other months. A closer look at the data revealed that this spike was caused by a single sample collected from one WWTP. This sample showed higher loads compared to the mean values from the same WWTP of multiple substances.

**DISCUSSION OF MAIN FINDINGS**

Wastewater studies have shown to be effective as an objective tool to assess the presence of drugs, thereby providing an indication of their potential use at the population level. The findings from the 2023 study highlight that cocaine and cannabis were the most prominent substances detected by analysis of samples derived from three wastewater treatment plants in the Grand Duchy of Luxembourg. The high cocaine levels on the national level are in line with the observations found among other Western European countries. The cocaine residues revealed higher average values on the weekend than during the week, although this difference was not statistically significant. The opposite observation was found for cannabis. The statistical evaluations for both cocaine and cannabis therefore suggest that cocaine and cannabis are consumed as much on weekday as on weekends. The high detection rates of MDMA and ketamine suggest frequent presence of these substances on the national level. MDMA is typically associated with recreational use in social settings, whereas outcomes for ketamine might also result from medical administration. Findings demonstrated that MDMA residues are higher during weekends, aligning with the temporal patterns of festive events and social activities. Moderate detection rates of other substances, such as amphetamine and heroin, suggest that these substances are present to a lesser extent. The lower detection rates for methamphetamine and mephedrone also suggest that these substances are less commonly consumed in Luxembourg, though higher concentrations of these substances were detected among Eastern European countries. These results are in line with previous observations from wastewater studies, which indicate that – in the European context – estimated methamphetamine consumption is higher in Eastern Europe than in Western Europe (Czech Republic, Slovakia, followed by Germany). The highest average methamphetamine loads were detected on the west coast of the United States, also participating in SCORE, which aligns with the record numbers of methamphetamine-related drug-induced deaths (Shader & Jones, 2024).

The 2023 study findings revealed no substantial differences among the three WWTPs, however, seasonal differences could be identified regarding the presence of substances. For better evaluation of trends in the presence and seasonal variation of substance residues in wastewater, data should be collected continuously in the future. Concerning the detected loads of the cocaine metabolite benzoylecgonine and MDMA, comparative analysis with data cycles from subsequent years could reveal whether the elevated levels observed at the beginning of the year and during summer 2023 were unique to that year or if this is a confirmed phenomenon. Similarly, this could allow to determine if the increased loads of cannabis during springtime will be detected again.

**LIMITATIONS AND STRENGTHS**

While wastewater studies provide valuable insights, they are subject to various limitations. Caution should be taken when interpreting the results, especially when reporting the findings as an estimation of drug use. First of all, as the number of drug users in the analysed samples are unknown, the results do not offer information on the prevalence of drug use within the population. Furthermore, no conclusions can be drawn regarding the purity of the drugs and the presence of impurities, nor the frequence of use and user profiles. Higher drug purity and the mode of consumption could, however, influence the detected loads. There is also a risk that NPS are not identified, while low dosage substances may also not be detected due to too low residue levels in the wastewater. It is also important to bear in mind that some substances are more difficult to identify than others, particularly unstable substances such as cannabis metabolites. Other important limitations relate to the population size used to assess the total loads of drugs present in the samples, the environmental factors involved in the biodegradation of the metabolites, as well as the medical application of the same substances as those included in the study. Some specific explanations for these limitations:

> the metabolite concentrations resulting from a wastewater analysis are linked to the number of inhabitants connected to the WWTP. In the context of Luxembourg in particular, there are two important factors that are difficult to estimate: Cross-border commuters leading to an increase of people during weekdays and tourism increasing the number of people during holiday seasons.

> temperature levels have an impact on biodegradation, which is different during warm-weather periods compared to cold-weather periods.

> heavy rainfall can dilute the samples if the retention basins are overfilled.
> individual events might distort and disproportionally increase the average residue levels that are measured. For our study, this was particularly the case for the month of July for amphetamine, MDMA, heroin, mephedrone and ketamine.

Wastewater analyses offer substantial strengths worth highlighting. First and foremost, wastewater studies provide almost real-time insights into drug consumption of a whole community, which are unaffected by response bias and nonresponse bias. Second, laboratory analyses allow for the targeted analysis of specific substances (in case of available corresponding reference standards), facilitating the rapid detection of new drugs or potentially harmful adulterants, should they be suspected of circulating within the country. Third, the ability to rapidly identify new substances can aid in targeting public health programmes and policy initiatives towards specific groups of people and the various drugs they are using. Fourth, there are financial factors that contribute to the benefits of incorporating wastewater analyses into the epidemiological toolkit. Since the costs of the analyses are relatively moderate, expanding the coverage of wastewater analyses to other municipalities appears promising. Starting in 2024, the national wastewater study in Luxembourg expanded further to include two additional WWTPs, thereby broadening the scope of analysis. This will allow further understanding of the drug phenomenon and provide insights into how drug loads vary over time (weekdays, weekends, months, years) and across different geographical areas, offering a clearer picture of both the existence of drug residues and their quantities. Beginning in 2025, cotinine (a nicotine metabolite) and ethyl sulfate (an alcohol metabolite) have been included by the LNS to achieve a more thorough understanding of nicotine and alcohol consumption prevalence in the Grand Duchy of Luxembourg.

In conclusion, wastewater-based studies are both promising and sensitive in nature, since they may reveal information about the drug-taking behaviour of sampled municipalities. Ethical considerations require a careful interpretation of the results, particularly to avoid stigmatising residents in municipalities with higher drug metabolite loads.

# 3.

## PREVALENCE, PATTERNS AND DEVELOPMENTS IN DRUG USE

# 3. PREVALENCE, PATTERNS AND DEVELOPMENTS IN DRUG USE AMONG TARGET GROUPS

## 3.1. HIGH-RISK DRUG USE

Among people who use drugs (PWUD), some develop more severe patterns of use, classified by the EUDA as 'high-risk drug use'. High-risk drug users (HRDUs) are defined as individuals whose recurrent drug use poses a significant risk or causes harm to themselves, including dependence and physical, psychological, or social issues (EMCDDA, 2019). According to the definition applied on the national level, HRDU is associated with a high likelihood of requiring intervention or the involvement of third parties, such as law enforcement or treatment demand services. Data on HRDUs are collected through the national drug information system RELIS[18], which integrates information from both treatment institutions and law enforcement agencies.

**NATIONAL ESTIMATION OF THE NUMBER OF HRDUs**

> The annual number of person contacts with HRDUs recorded by national institutions (treatment demand and law enforcement) amounted to 5,554 in 2023, with multiple contacts per individual included (2022: 5,297; 2021: 5,237; 2020: 4,914; 2019: 5,548).

> The most recent HRDU estimates were based on 2019 RELIS data and calculated using the Incremental OAT Multiplier Method (IOMM) (Origer et al., 2017; Berndt et al., 2019; Seixas et al., 2021):

  o According to 2019 estimates, the national prevalence of HRDUs is approximately 2,162 persons (prevalence rate: 5.06 per 1,000 inhabitants aged 15-64 years), remaining relatively stable compared to the 2018 estimate (2018: 2,100 persons; prevalence rate: 5.02 per 1,000 inhabitants aged 15-64 years).

  o Among HRDUs, an estimated 1,427 were classified as high-risk opioid users (OU), corresponding to a prevalence rate of 3.34 per 1,000 inhabitants aged 15 to 64 years (2018: 1,470 OU; prevalence rate: 3.51 per 1,000 inhabitants aged 15-64 years).

  o Approximately 822 individuals were identified as people who inject drugs (PWID), corresponding to a prevalence rate of 1.93 per 1,000 inhabitants aged 15 to 64 years (2018: 800 PWIDs; prevalence rate: 1.91 per 1,000 inhabitants aged 15-64 years) in Luxembourg.

  o While prevalence rates for HRDUs, OU, and PWID remain relatively stable, certain indicators suggest an increasing marginalisation of specific user groups. As a result, some HRDUs may not be in contact with treatment centres, low-threshold facilities, or law enforcement agencies.

**CHARACTERISTICS AND PATTERNS OF DRUG USE AMONG HRDUs: RELIS - NATIONAL MONITORING SYSTEM**

The data presented in this section are based on self-reported information collected through the national RELIS monitoring system.

> Over the past 15 years, the average age of HRDUs in Luxembourg has ranged between 30 and 40 years. In 2023, the average age was 36 years (2022: 36 years; 2021: 38 years; 2020: 37 years). While fluctuations have been observed year to year, the data suggest a gradual aging of this population over the past decade, reflecting changes in the demographic profile of HRDUs.

> The majority of the indexed HRDUs were male in 2023 (80.2%), consistent with previous years (2022: 82.7%; 2021: 78.8%; 2020: 79.9%). The proportion of female HRDUs has fluctuated over the past years (2023: 19.8%; 2022: 17.3%; 2021: 21.2%; 2020: 20.1%).

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18    RELIS = Réseau Luxembourgeois d'Information sur les Stupéfiants et les Toxicomanies (RELIS)

> The majority of the HRDUs reported a stable residence over the last years, with more than half (59.7%) maintaining such conditions in 2023 (2022: 59.4%; 2021: 50.2%; 2020: 50.2%). Meanwhile, the proportion of HRDUs reporting homelessness has varied, reaching 20.5% in 2023 (2022: 17.8%; 2021: 21.0%; 2020: 24.5%). Similarly, reports of unstable living situations have fluctuated, with 12% in 2023 (2022: 13.1%; 2021: 17.7%; 2020: 16.0%). These patterns reflect the variability and complexity of housing situations among this population.

> In 2023, 60.9% of HRDUs were economically inactive, consistent with previous years (2022: 60.2%; 2021: 65.1%; 2020: 57.0%). Among these, almost one-third (31.6%) relied on social aids (2022: 27.4%; 2021: 26.0%; 2020: 31.4%). By contrast, smaller proportions of HRDUs reported stable employment (2023: 9.5%; 2022: 10.8%; 2021: 14.0%; 2020: 12.3%) or unstable employment (2023: 2%; 2022: 7.6%; 2021: 6.4%; 2020: 5.5%). Additionally, a notable share reported studying (2023: 22.4%; 2022: 17.2%; 2021: 6.8%; 2020: 10.2%).

> In 2023, more than half of HRDUs (65.4%) were born in Luxembourg (2022: 57.8%; 2021: 65.4%; 2020: 64.1%), followed by 16.1% born in Portugal (2022: 19.3%; 2021: 13.1%; 2020: 13.9%), and 5.4% in France (2022: 4.7%; 2021: 4.2%; 2020: 5.1%). Those born in other countries accounted for smaller proportions overall.

> When considering the entire HRDU sample (i.e., individuals in contact with all drug treatment centres across the country, including young treatment demanders in contact with the centre 'Impuls'), a comparison of 2022 and 2023 data suggest a decrease in primary opioid use and an increase in primary cocaine use. More specifically:

  o The primary use of opioids shows a fluctuating decrease among HRDUs since 2010, falling from 80.6% in 2010 to 26.6% in 2023. This trend contrasts with a fluctuating increase in the primary use of cocaine (2023: 31.5%; 2022: 25.1%; 2021: 33.2%; 2020: 26.4%).

  o When 'Impuls' treatment demanders are excluded from the analysis, the trends remain consistent: the primary use of opioids continues to decline, and cocaine use is on the rise. However, both trends exhibit year-to-year fluctuations, reflecting variability in substance use patterns (see Fig. 3.1.).



| | | 2010 | 2012 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Opioids (excluding Impuls) | 80.6 | 55.8 | 53.8 | 55.9 | 46.1 | 61.0 | 50.0 | 57.7 | 54.9 | 43.1 | 41.7 | 36.6 |
| | Opioids | 80.6 | 55.8 | 53.8 | 55.9 | 46.1 | 61.0 | 50.0 | 45.9 | 49.4 | 40.2 | 32.5 | 26.6 |
| | Cocaine (excluding Impuls) | 9.5 | 12.2 | 19.9 | 19.0 | 17.0 | 22.0 | 19.2 | 26.1 | 29.6 | 35.6 | 31.1 | 42.9 |
| | Cocaine | 9.5 | 12.2 | 19.9 | 19.0 | 17.0 | 22.0 | 19.2 | 20.7 | 26.4 | 33.2 | 25.1 | 31.5 |
| | Polydrug use (excluding Impuls) | 76.0 | 54.0 | 54.0 | 61.0 | 54.0 | 76.0 | 58.2 | 62.9 | 63.8 | 62.3 | 58.7 | 62.4 |
| | Polydrug use | 76.0 | 54.0 | 54.0 | 61.0 | 54.0 | 76.0 | 58.2 | 50.2 | 59.1 | 58.3 | 48.6 | 49.3 |

FIGURE 3.1.

Trends in primary drug use among HRDUs since 2010 (self-reported) (RELIS, 2023)

> Although polydrug use is highly prevalent among HRDUs, it has shown a fluctuating decrease in recent years — a pattern that has remained relatively consistent over time. In 2023, half (49.3%) of HRDUs reported polydrug use (2022: 48.6%; 2021: 58.3%; 2020: 59.1%). When excluding high-risk cannabis users that are common clients at the centre 'Impuls' (to reach sample comparable to previous years), the proportion of polydrug users increases to 62.4% in 2023 (2022: 58.7%; 2021: 62.3%; 2020: 63.8%) (RELIS, 2023).

<span style="background:red;color:white">CHARACTERISTICS AND PATTERNS OF DRUG USE AMONG HRDUs: HARM REDUCTION CENTRE DATA</span>

The data presented in this section are based on information collected through national harm reduction centres.

> During the last years, an overall decrease in heroin use, and an increase in the use of cocaine and cocktails (mixtures of heroin and cocaine) has also been observed at the main harm reduction centre in Luxembourg City including two supervised drug consumption rooms (Abrigado CNDS):

   o   While in 2013 heroin was used in 93% of the consumption episodes, in 2023, this substance was only used in 49% of the consumptions.

   o   On the contrary, in 2013 only 4% of the consumption episodes involved cocaine and 3% cocktails, while in 2023 cocaine was used in 31% and cocktails in 20% of the consumption episodes (see Fig. 3.2.).

   o   In 2023, compared to the previous year, the proportion of consumption episodes involving cocaine use increased slightly, while those involving cocktails and heroin decreased.



| | | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| —•— | 💉 | Heroin (Abrigado) | 93 | 89 | 79 | 78 | 67 | 60 | 60 | 58 | 61 | 51 | 49 |
| —•— | 🗞 | Cocaine (Abrigado) | 4 | 6 | 13 | 15 | 23 | 29 | 26 | 25 | 18 | 28 | 31 |
| —•— | 💉+🗞 | Cocktail (Abrigado) | 3 | 5 | 9 | 7 | 10 | 11 | 14 | 17 | 21 | 21 | 20 |
| – – – | 💉 | Heroin (Contact-Esch) | | | | | | | 40 | 79.2 | 64.6 | 69.3 | 77.4 |
| – – – | 🗞 | Cocaine (Contact-Esch) | | | | | | | 50 | 16.7 | 31 | 27.4 | 13.9 |
| – – – | 💉+🗞 | Cocktail (Contact-Esch) | | | | | | | 10 | 4.1 | 4.5 | 3.3 | 8.7 |
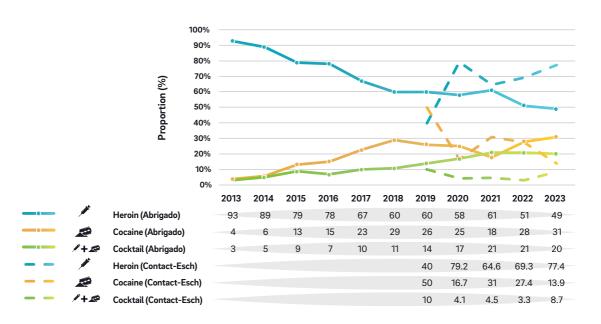
<span style="background:red;color:white">FIGURE 3.2.</span>

Trends in the proportion of heroin, cocaine and cocktails consumption episodes at the national drug consumption rooms (%)
(Abrigado CNDS, 2023; Annual Statistics JDH, 2023)

> A different pattern has been observed by the harm reduction centre 'Contact-Esch' in the south of the country, which also includes two supervised drug consumption rooms. Over the past four years, heroin has been the substance most commonly reported to be used in these facilities, with 77.4% of clients using it in 2023. Cocaine ranked second, used by 13.9% of clients in 2023, marking a significant decline compared to previous years (see Figure 3.2.). Consumption episodes involving cocktails ranked third with 8.7%, showing an increase in 2023 compared to previous years (Annual statistics JDH, 2023).

> Inhalation (chasing/blowing/smoking) is the most common route of drug administration at the supervised drug consumption rooms at both Abrigado and Contact-Esch in recent years (see Fig. 3.3.). At Abrigado, it accounted for 58% of consumption episodes in 2023, while at Contact-Esch, it reached 82% in the same year. Injection has been decreasing as an administration route at both locations, though with some fluctuations. In 2023, injection represented 41% of consumption episodes at Abrigado and dropped to 14% at Contact-Esch. The intra-nasal route (sniffing) remains the least common method of drug use at both sites, maintaining a relatively stable trend. In 2023, it accounted for 1% of episodes at Abrigado and 3% at Contact-Esch (Abrigado CNDS, 2023; Annual statistics JDH, 2023).
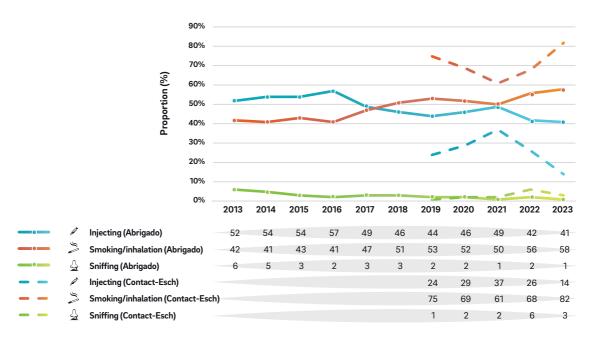


| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Injecting (Abrigado) | 52 | 54 | 54 | 57 | 49 | 46 | 44 | 46 | 49 | 42 | 41 |
| Smoking/inhalation (Abrigado) | 42 | 41 | 43 | 41 | 47 | 51 | 53 | 52 | 50 | 56 | 58 |
| Sniffing (Abrigado) | 6 | 5 | 3 | 2 | 3 | 3 | 2 | 2 | 1 | 2 | 1 |
| Injecting (Contact-Esch) | | | | | | | 24 | 29 | 37 | 26 | 14 |
| Smoking/inhalation (Contact-Esch) | | | | | | | 75 | 69 | 61 | 68 | 82 |
| Sniffing (Contact-Esch) | | | | | | | 1 | 2 | 2 | 6 | 3 |

Trends in the proportion of consumption episodes according to their routes of administration at national drug consumption rooms (%)
(Abrigado CNDS, 2023; Annual statistics JDH, 2023)

## 3.2.  DRUG USE IN THE WORKPLACE

The Quality of Work Index Luxembourg has been conducting a survey since 2014 to examine key aspects of employees' working conditions. Led by the Chamber of Employees in collaboration with the University of Luxembourg and an independent social research institute, the survey provides valuable insights into subjects such as job satisfaction, work-life balance, and overall well-being (Chambre des salariés Luxembourg, 2024).

In 2024, the survey was conducted between June and September, while data was collected from a representative sample of 2,931 employees, including residents of Luxembourg and cross-border workers from Belgium, France, and Germany. The survey focused on individuals aged 16 to 64 with regular employment of at least 10 hours per week. The 2024 survey particularly examined employees' mental health, substance use, and workplace prevention measures, reflecting the growing importance of these issues in today's professional environment.

<span style="background-color:red;color:white">SUBSTANCE USE IN THE WORKPLACE</span>

> In the context of substance use, the survey asked employees about their awareness of substance use by colleagues, followed by questions about their own consumption (see Fig. 3.4. and 3.5.). The results show that alcohol is the most commonly used substance at work, with 17% of employees noting that they had seen colleagues using it. In total, 14% of the respondents reported using substances themselves. Among those who had consumed alcohol at work, 71% reported doing so rarely (once a week or less), while 9.2% reported consuming it once or twice a week.

> After alcohol, the non-medical use of prescription drugs was the second most commonly reported substance use in the workplace. The Chamber of Employees' survey found that 8% of employees observed use among their coworkers, and 5% reported having used these substances themselves. Among those who used prescription drugs for non-medical purposes at work, 47.4% did so rarely, while 22.4% used it once or twice per week.

> Next, results of the study revealed that cannabis use among colleagues was reported by 5% of employees, with 0.5% admitting to personal use. Of those who reported using cannabis at work, 49.3% indicated doing so rarely, while 39.1% reported not having used it recently.

> For other drugs (no details provided on the type), 2% of the respondents reported having observed colleagues using them, with 0.3% reporting self-consumption. Among employees who indicated having used other drugs at work, 78.7% had not used them recently, while 8.6% used them almost daily.

> A notable finding is the gap between observed and self-reported use of cannabis and other drugs, suggesting that these substances are frequently observed among colleagues at the workplace, but employees are less likely to admit to personal consumption.
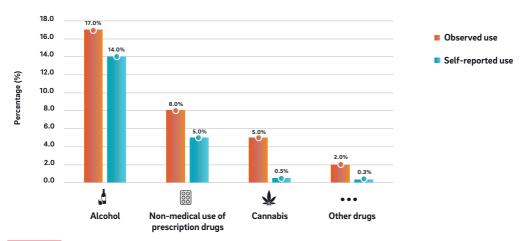
Substance use at work: Observed use among colleagues vs. self-reported use (Quality of Work Index 2024, Chambre des Salariés Luxembourg, 2024)

**Rarely (Once a week or less)** ■ **1 to 2 times a week** ■ **Not used recently**
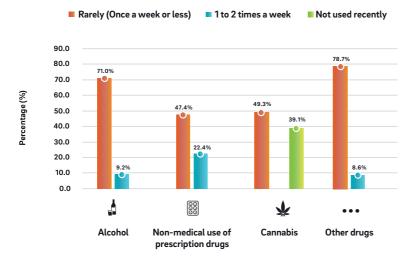
Frequency of substance use in the workplace based on self-reported data (Quality of Work Index 2024, Chambre des Salariés Luxembourg, 2024))

## 3.3. DRUG USE IN RECREATIONAL SETTINGS

PIPAPO

Drug use in festive and nightlife settings is annually analysed by the 'Pipapo' project from 4motion asbl. This initiative involves a rapid assessment survey implemented across various festive and nightlife venues in Luxembourg. Its primary objective is to describe the characteristics of this specific user group attending these events and monitor recreational drug use within Luxembourg's festive context. The Pipapo survey uses a self-administered paper-and-pencil questionnaire, targeting people who have consumed (il)licit drugs within the last two weeks, completed on a voluntary basis with no particular exclusion criteria.

> Figure 3.6. depicts the last two weeks prevalence among visitors of festive and nightlife events between 2014 and 2023. In 2023, alcohol and tobacco were the predominating substances used in festive setting, with rates of 87.4% and 46.4%, respectively. Regarding illicit substances, THC-dominant cannabis was most frequently used (40.3%), followed by CBD-dominant cannabis (18.1%), cocaine (12.3%), MDMA (10%), and amphetamine (7.3%). The drugs least used were ketamine (5.1%), LSD (4.8%), hallucinogenic mushrooms (4.4%), NPS (1.7%) and opioids (1.7%). Between 2014 and 2023, the data for each substance varies from year to year, but the overall trend suggests an increase in the reported use of all substances, apart from tobacco and alcohol.

| | Alcohol | Tobacco | Cannabis THC | Cannabis CBD | MDMA | Amphetamine | Cocaine | Hallucinogenic mushrooms | LSD | Ketamine | NPS | Opioids |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023 | 87.4 | 46.4 | 40.3 | 18.1 | 10 | 7.3 | 12.3 | 4.4 | 4.8 | 5.1 | 1.7 | 1.7 |
| 2022 | 90.3 | 43.2 | 39.9 | 16.7 | 11.5 | 9.1 | 11.6 | 3.2 | 3.1 | 4.9 | 1.4 | 1.3 |
| 2019 | 86.8 | 37.6 | 41.1 | | 7.2 | 7.1 | 8.3 | 3 | 4.7 | 2.9 | 1.9 | 0.8 |
| 2018 | 86.2 | 46.1 | 44.2 | | 9.3 | 8.5 | 10.8 | 3.4 | 4.8 | 3.4 | 1.6 | 0.7 |
| 2017 | 88.4 | 41.2 | 37 | | 6.6 | 6 | 6.8 | 2.7 | 3.6 | 2.7 | 1.6 | 0.4 |
| 2016 | 88.4 | 41.7 | 33.7 | | 5.8 | 4 | 4.3 | 1.9 | 2.2 | 1.6 | 0.6 | 0.6 |
| 2015 | 87.3 | 37.1 | 27.5 | | 5.8 | 4.8 | 4.6 | 2.1 | 2 | 1 | 0.7 | 0.4 |
| 2014 | 89.9 | 49.6 | 32 | | 4.9 | 3.3 | 4.7 | 1.6 | 1.8 | 0.7 | 1.5 | 0.6 |

**FIGURE 3.6.**

Last two weeks prevalence (%) of substance use among visitors of festive and nightlife events (2014-2023 data) (Pipapo survey – Paulos et al., 2024)

*Note:* Starting in 2022, both THC-dominant and CBD-dominant cannabis have been reported separately. Thus, comparability with previous years, where no distinction between types of cannabis was made, cannot be guaranteed.

> In terms of gender differences, males consistently reported higher levels of substance use across all categories in 2023. The disparity was most pronounced for THC-dominant cannabis use, with 48.6% of males reporting consumption compared to 30.5% of females (Fig. 3.7.). However, no statistical tests were performed to determine whether this difference is statistically significant. It's also important to note that the sample size was relatively small, which can lead to large fluctuations in percentages and may limit the reliability of these comparison. Therefore, caution is advised when interpreting these results.

> In 2020 and 2021, the COVID-19 pandemic led to restrictive measures, including temporary closure of bars/clubs, cancellation of events, etc., and usual Pipapo activities, such as their presence at festivals and nightlife events. This in turn affected their yearly rapid assessment (Pipapo survey) of drug use among individuals attending these nightlife venues. In order to adapt to the restrictions in place, the intervention 'Party Safe City' was developed. Since 2020, the rapid assessment survey is also conducted in public spaces during Party Safe City interventions. Even though COVID-19 measures were generally less restrictive on nightlife in 2022, 4motion decided to maintain Party Safe City as an additional intervention. Results are, however, not comparable to the traditional Pipapo survey as the targeted individuals have different demographic characteristics. Results are thus presented separately.
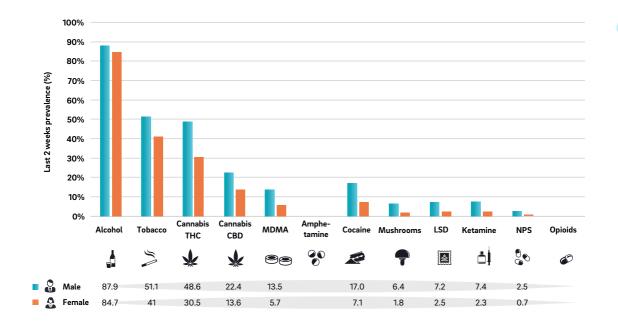
| | | Alcohol | Tobacco | Cannabis THC | Cannabis CBD | MDMA | Amphe-tamine | Cocaine | Mushrooms | LSD | Ketamine | NPS | Opioids |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ■ | Male | 87.9 | 51.1 | 48.6 | 22.4 | 13.5 | | 17.0 | 6.4 | 7.2 | 7.4 | 2.5 | |
| ■ | Female | 84.7 | 41 | 30.5 | 13.6 | 5.7 | | 7.1 | 1.8 | 2.5 | 2.3 | 0.7 | |

> According to the results of the Party Safe City intervention in 2023, alcohol is the most prevalent substance in festive settings (80.7%), followed by tobacco (44.4%). Both rates showed an upward trend since 2020, but the figures for 2023 are lower than those recorded in 2022. THC-dominant cannabis continues as the predominant illicit drug (40.8%), followed by CBD-dominant cannabis (15.8%), cocaine (7.3%), MDMA (5.7%), ketamine (3.0%), LSD (2.8%), amphetamine (2.6%), hallucinogenic mushrooms (2.4%), NPS (1.2%), crack (0.6%) and opioids (0.6%).

> A comparison of the data from 2020 to 2023 shows year-to-year fluctuations regarding past two-week use of most illicit drugs, with exceptions for alcohol, tobacco, cannabis (THC), and NPS (see Fig. 3.8.).

> It should be noted that crack has only been reported as of 2022. It is possible that some individuals may not distinguish between crack cocaine and cocaine powder, or may have different perceptions of the products, which could lead to reporting bias. Therefore, these numbers should be interpreted with caution.

| | Alcohol | Tobacco | Cannabis THC | Cannabis CBD | MDMA | Amphetamine | Cocaine | Mushrooms | LSD | Ketamine | NPS | Crack | Opioids |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2023 | 80.7 | 44.4 | 40.8 | 15.8 | 5.7 | 2.6 | 7.3 | 2.4 | 2.8 | 3 | 1.2 | 0.6 | 0.6 |
| 2022 | 85.1 | 47.2 | 38.7 | 18.5 | 5.9 | 3.3 | 0.8 | 1.8 | 3.8 | 1.3 | 1.0 | 4.6 | 0.5 |
| 2021 | 80.7 | 46.7 | 42.5 | | 3.3 | 3.3 | 8.3 | 2.4 | 2.8 | 1.9 | 1.2 | | 1.4 |
| 2020 | 79.8 | 41.4 | 36.2 | | 7.3 | 6.3 | 7.5 | 2.9 | 5.6 | 3.2 | 1.0 | | 1.5 |
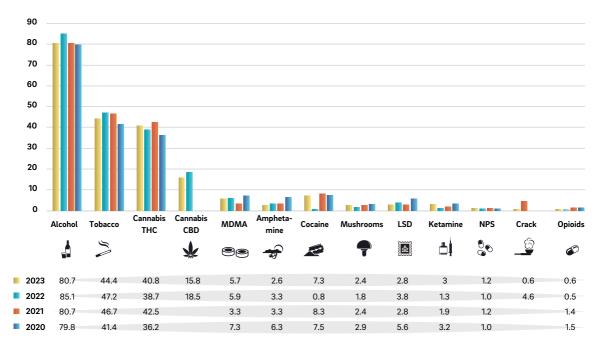
FIGURE 3.8.

Last two weeks prevalence (%) of substance use among visitors of festive and nightlife events (2014-2023 data) (Pipapo survey – Paulos et al., 2024)

*Note:* Starting in 2022, both THC-dominant and CBD-dominant cannabis have been reported separately. Thus, comparability with previous years, where no distinction between types of cannabis was made, cannot be guaranteed. It should also be noted that crack has only been reported as of 2022.

In addition, the specific circumstances and restrictions during the COVID-19 pandemic need to be considered when comparing data from 2020 and 2021 with subsequent years.

## EUROPEAN WEB SURVEY ON DRUGS (EWSD)

### EWSD 2018

> In 2018, the PFLDT participated in the project "European Web Survey on Drugs (EWSD)" coordinated by the EMCDDA. The project aimed to investigate recreational users' consumption habits, attitudes and perceptions towards drug use, alongside enhancing knowledge on drug markets at national levels.

> The study relied on a web-based survey launched in three languages - English, German and French. Data collection took place between August and September 2018. Participants were recruited through various methods including online promotion (Facebook Ads, Google Display and YouTube), distribution of flyers and posters and direct personal approach in festive and nightlife events. Respondents were selected based on three inclusion criteria: a) aged 18 years or above; b) residency in Luxembourg; c) reported use of at least one illicit drug during the last year.

> In total, a non-representative sample of 1,223 recreational drug users were included in the study, primarily comprising young adults between the age of 18 to 34 years (67.4% aged 18-24 years and 20.8% aged 25-34 years) (see Fig. 3.9.). The majority identified as male (69.1% males; 30.1% females; 0.8% transgender) with a secondary or higher education degree (50.1% secondary and 25.2% university). The study sample depicts a group of young recreational users, typically interested in festivals and nightlife events, and actively engaged in online social networks.
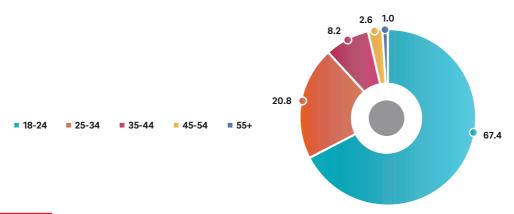
**18-24**   **25-34**   **35-44**   **45-54**   **55+**

67.4  20.8  8.2  2.6  1.0

### Prevalence rates among recreational users

> The prevalence rates among the targeted sample of last year drug users were notably higher than those observed among the general population (see section 2.1):

  o Cannabis and alcohol emerged as the most prevalent substances both in terms of recent and current use.

  o Cocaine ranked as the second most commonly used illicit drug, with recent use reported by 22.4% and current use by 13.9% of the respondents, followed by MDMA, recently used by 21.1% and currently used by 10.0% of the respondents.

  o Other hallucinogens (17.1%) and amphetamines (15.9%) also appeared as relevant drugs in terms of recent use, while current use of synthetic cannabinoids (8.6%) deserves further attention (see Fig. 3.10.).

> The use of synthetic cannabinoids and NPS was considerable, despite data from general population surveys and police seizures suggesting only marginal presence of these substances in Luxembourg. However, caution is required when interpreting these findings due to potential biases related to participants' conception of NPS.

### Gender differences

> Concerning gender disparities among recreational drug users, EWSD 2018 data pointed out that, on the one hand, current use of cocaine ($\chi 2$ (1) = 5.92, p <.05) and cannabis ($\chi 2$ (1) = 4.95, p <.05) were significantly more common among men compared to women. On the other hand, women tended to use more NPS ($\chi 2$ (1) = 4.44, p <.05) and synthetic cannabinoids ($\chi 2$ (1) = 4.47, p <.05) than men. These observations deserve further investigation. No other significant gender differences were identified (Fig. 3.11.).

|  | | **LAST YEAR**<br>recent use | | **LAST MONTH**<br>current use |
|---|---|---|---|---|
| ALCOHOL | - - - - - - - - - - - - - | 93.2 % | - - - - | 86.3 % |
| CANNABIS | - - - - - - - - - - - - | 95.6 % | - - - - | 81.0 % |
| COCAINE | - - - - - - - - - - - - | 22.4 % | - - - - | 13.9 % |
| MDMA | - - - - - - - - - - - - - | 21.1 % | - - - - | 10.0 % |
| SYNTHETIC CANNABINOIDS | - - - - - - | 11.4 % | - - - - | 8.6 % |
| OTHER HALLUCINOGENS | - - - - - - - | 17.1 % | - - - - | 8.3 % |
| AMPHETAMINES | - - - - - - - - - - | 15.9 % | - - - - | 8.3 % |
| LSD | - - - - - - - - - - - - - - | 9.6 % | - - - - | 4.1 % |
| KETAMINES | - - - - - - - - - - - - | 7.3 % | - - - - | 3.6 % |
| OTHER NPS | - - - - - - - - - - - - | 4.7 % | - - - - | 2.6 % |
| METHAMPHETAMINES | - - - - - - - - | 5.0 % | - - - - | 2.4 % |
| HEROIN | - - - - - - - - - - - - - | 2.9 % | - - - - | 2.4 % |
| CRACK | - - - - - - - - - - - - - - | 2.8 % | - - - - | 2.0 % |
| GHB | - - - - - - - - - - - - - - - | 2.5 % | - - - - | 2.0 % |
| SYNTHETIC OPIOIDS | - - - - - - - - - | 2.8 % | - - - - | 1.7 % |
| SYNTHETIC CATHINONES | - - - - - - - | 1.8 % | - - - - | 1.2 % |
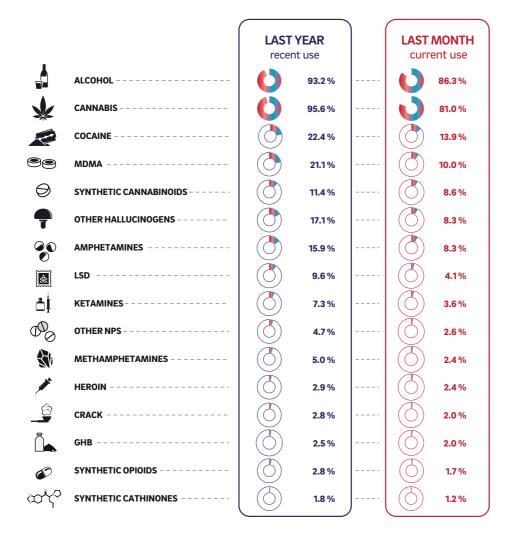
FIGURE 3.10.

Last year and last month prevalence rates of drug use among recreational users (Berndt & Seixas, 2019)

CANNABIS — Men 82.8%, Women 77.2%
ALCOHOL — Men 88.2%, Women 83.4%
COCAINE — Men 15.3%, Women 10.1%
MDMA — Men 10.1%, Women 9.0%
OTHER HALLUCINOGENS — Men 9.0%, Women 6.3%
AMPHETAMINES — Men 7.7%, Women 9.0%
LSD — Men 4.4%, Women 3.0%
NPS — Men 7.0%, Women 10.6%
SYNTHETIC CANNABINOIDS — Men 7.3%, Women 11.1%
KETAMINES — Men 3.7%, Women 2.7%
METHAMPHETAMINES — Men 2.3%, Women 2.4%
OTHER NPS — Men 2.4%, Women 2.7%
CRACK — Men 2.0%, Women 1.6%
HEROIN — Men 2.3%, Women 2.2%
GHB — Men 2.0%, Women 1.9%
SYNTHETIC OPIOIDS — Men 1.5%, Women 1.6%
SYNTHETIC CATHINONES — Men 1.2%, Women 0.8%

Men
Women

**FIGURE 3.11.**

Gender differences in last month prevalence of drug use among the targeted sample (%) (Berndt & Seixas, 2019)

> Even though single drug use was predominant among EWSD 2018 participants, multiple drug use was strikingly common – reported by more than 40% of the respondents. The majority of the multiple drugs users (47.6%) reported using two different drugs during last year, with smaller proportions reporting the use of three (21.7%), four (16.1%) or five to ten (14.6%) different types of drugs (Fig. 3.12., 3.13.).



■ Reported single drug use
■ Reported use of multiple drugs
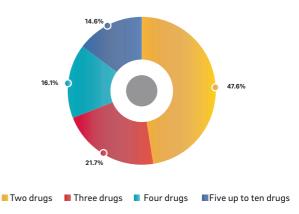
FIGURE 3.12.

Proportion of multiple drug users among recreational users (valid %)
(Berndt & Seixas, 2019)



■ Two drugs  ■ Three drugs  ■ Four drugs  ■ Five up to ten drugs

FIGURE 3.13.

Distribution of multiple drug users according to the number of drugs used
(valid %) (Berndt & Seixas, 2019)

⬡ Market characteristics and consumption habits

> The EWSD 2018 showed that cannabis was the most frequently used illicit drug with respondents reporting on average 16 days per month of herbal cannabis (weed) use and 12 days per month of resin (hashish) use. On a typical day, participants reported smoking on average two to three joints of cannabis (herbal or resin) and tended to buy four to five grams of cannabis (herbal or resin) per purchase.

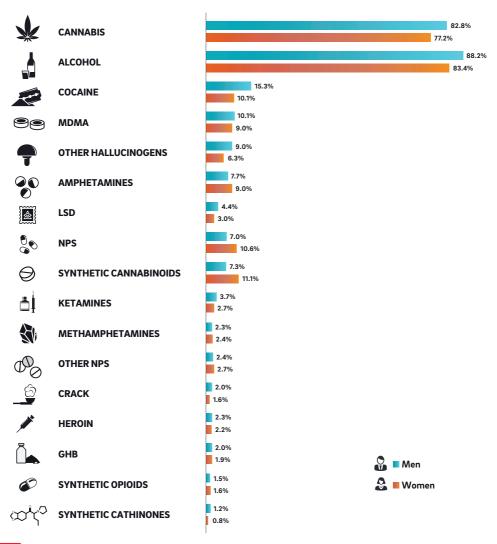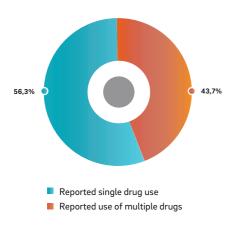> According to respondents, cocaine appeared to be the most expensive drug, while amphetamine emerged as the cheapest. On average, users reported buying 2.5 grams of cocaine and nine tablets of amphetamines per typical purchase.

> Recreational drug users indicated a tendency to share almost half of the purchased drug quantity with other users.

> Results from the 2018 EWSD wave further revealed that drugs were predominantly obtained through a dealer or for free. Other means of supply were not significantly reported (Fig. 3.14.).

| | CANNABIS (RESIN) | CANNABIS (HERBAL) | COCAINE POWDER | AMPHETAMINES | MDMA | NPS HERBAL |
|---|---|---|---|---|---|---|
| Average number of days of use- last month | 12 DAYS /MONTH | 16 DAYS /MONTH | 5 DAYS /MONTH | 6 DAYS /MONTH | 4 DAYS /MONTH | 14 DAYS /MONTH |
| Amount (grams or units) used on a typical day | 2.9 JOINTS | 2.4 JOINTS | 1.2 GR | 0.8 GR | 0.5 GR | 1.8 GR |
| Amount bought on a typical purchase (grams/units) | 4.1 GR | 4.6 GR | 2.5 GR | 8.8 TABLETS | 4.6 TABLETS | 16.7 GR |
| Average price (€ euro per gram or tablet) | 14.5 € /GR | 16.7 € /GR | 64.9 € /GR | 7.3 € /TABLET | 8.7 € /TABLET | 10.7 € /TABLET |
| % of drug typically shared with others | 49.3 % | 43.7 % | 43.4 % | 44.8 % | 47.8 % | - |
| How respondents get their drugs (several answer options possible) — Bought from dealer | 74.2 % | 62.3 % | 48.7 % | 38.9 % | 42.2 % | 40.9 % |
| How respondents get their drugs (several answer options possible) — Obtained for free | 43.6 % | 47.1 % | 42.9 % | 54.4 % | 46.9 % | 40.9 % |

Drug market characteristics and consumption habits among recreational users (Berndt & Seixas, 2019)

◇ Associations between current use of different types of drugs

> The use of cannabis was not related to the use of other drugs, except for synthetic cannabinoids, where a weak positive correlation was observed (r = 0.10, p < .05). Conversely, using any illicit drug apart from cannabis increased the likelihood of using other drugs, with significant positive correlations across all these illicit substances.

> Specific associations:

o Notably, cocaine use demonstrated strong associations with the use of MDMA, amphetamines and ketamine.

o Similarly, MDMA use was strongly linked to the use of amphetamines and LSD.

⬡ Attitudes and risk perception towards drug use

> The majority (92.3%) of the EWSD 2018 respondents expressed support for the notion that "people should be permitted to use cannabis (herbal (weed) or resin (hashish))".

> When evaluating the perceived risks associated with various drug-related behaviours, respondents indicated that "smoking marijuana or hashish regularly" was considered less dangerous than "trying cocaine or crack once or twice" or "having five or more drinks (alcohol) each weekend":

> The majority viewed regular marijuana or hashish use as posing either no risk or only a slight risk, whereas trying cocaine or crack once or twice and excessive alcohol consumption on weekends were perceived as behaviours entailing moderate or high risks (see Fig. 3.15.).
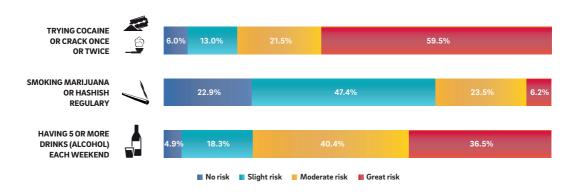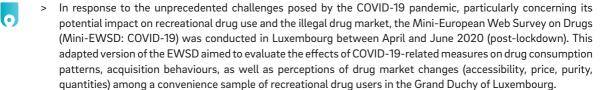


**TRYING COCAINE OR CRACK ONCE OR TWICE**: 6.0% | 13.0% | 21.5% | 59.5%

**SMOKING MARIJUANA OR HASHISH REGULARY**: 22.9% | 47.4% | 23.5% | 6.2%

**HAVING 5 OR MORE DRINKS (ALCOHOL) EACH WEEKEND**: 4.9% | 18.3% | 40.4% | 36.5%

■ No risk  ■ Slight risk  ■ Moderate risk  ■ Great risk

FIGURE 3.15.

Risk perception associated with the use of cocaine, cannabis and alcohol (%) (Berndt & Seixas, 2019)

MINI-EWSD: COVID-19 (2020)

> In response to the unprecedented challenges posed by the COVID-19 pandemic, particularly concerning its potential impact on recreational drug use and the illegal drug market, the Mini-European Web Survey on Drugs (Mini-EWSD: COVID-19) was conducted in Luxembourg between April and June 2020 (post-lockdown). This adapted version of the EWSD aimed to evaluate the effects of COVID-19-related measures on drug consumption patterns, acquisition behaviours, as well as perceptions of drug market changes (accessibility, price, purity, quantities) among a convenience sample of recreational drug users in the Grand Duchy of Luxembourg.

> The study adhered to a methodology similar to previous EWSD editions, encompassing recruitment strategies and inclusion criteria such as age above 18 years, residency in Luxembourg, and last year illicit drug use. Participation was entirely anonymous, confidential, and voluntary, ensuring that neither IP addresses nor any personal information were collected. A total of 420 respondents provided valid responses to the online survey, comprising 278 men (66.2%) and 132 women (31.4%) with a small percentage of missing values (N=10, 2.4%). Most respondents fell within the age range of 18 to 34 years (61.7%), followed by those aged 35 to 44 years (21.7%), with a median age of 29 years.

> Detailed results of this study were published in the report titled "Mini-European Web Survey on Drugs (EWSD): Impact of COVID-19 on drug use, acquisition behaviour and drug market in Luxembourg" (Berndt et al., 2021). Key highlights include:
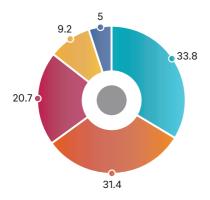
- o  <u>Cannabis</u>: Approximately 27.1% of respondents reported an increase in the frequency of cannabis use, while smaller proportions indicated reductions (7.1%) or complete cessation (4.1%) since the implementation of the COVID-19 related restrictions. Moreover, data suggest that a higher proportion of users increased the amount of cannabis used per session/joint (9.8%) compared to those who decreased it (4.5%). Hence, the COVID-19 pandemic clearly affected cannabis users.
- o  <u>Cocaine and MDMA</u>: Both cocaine and MDMA use appeared to have been most affected. These substances experienced the highest reductions in use, with 6.6% of respondents reporting reduced cocaine use and 5.7% reporting reduced MDMA use. These decreases were likely related to factors such as reduced mobility, closure of nightlife venues, cancellation of events, and mandatory stay-at-home measures.
- o  <u>Overall illicit drugs</u>: Further analysis revealed that nearly half of the respondents (44.5%) declared using the same amount (21.3%) or more drugs (21.3%), while a quarter of the respondents (26.0%) reported using less (12.9%) or abstaining completely (13.1%).

> Reasons cited for increased drug use included the relief of both boredom (15.2%) and anxiety or coping with the pandemic (6.9%), as well as the stockpile of drugs (3.3%). Three main reasons given for decreased use were reduced availability of drugs to purchase (7.1%), limited opportunities for consumption (6.9%) and a reduced ability to obtain drugs (6.4%).

> In addition, most of the respondents agreed that there was nearly no change in the drug market concerning the purity/strength or the quantity of the drug obtained. Although around one quarter (26.2%) reported an increase in price, no clear trend could be retained.

EWSD 2021

> Another wave of the EWSD took place in 2021 with a similar methodology than 2018. The survey was promoted via social media platforms (Facebook, Instagram, etc.) targeting adult recreational drug users residing in Luxembourg who had engaged in drug use within the last 12 months. The survey was available in four languages: English, French, German and Portuguese. Despite Luxembourg's relatively small population, the participation in the survey was high, yielding 709 valid responses. Data collection took place between April and May 2021. Initial findings were published by the EMCDDA, followed by the publication of a national factsheet by the Luxembourg Focal Point of the EMCDDA in 2022. This factsheet presents indicators such as last year prevalence of drug use per substance, as well as motivations for cannabis and MDMA use, drug use contexts and the impact of the COVID-19 pandemic on drug use[19].

> The sample comprised a non-representative group of 709 recreational drug users, predominantly composed of young adults between the age of 18 to 34 years (33.8% aged 18-24 years and 31.4% aged 25-34 years). Compared to the EWSD 2018 sample, there was a substantial reduction in the proportion of individuals within the 18 to 24 years of age range (67.4% in 2018) with a concurrent increase in participants aged 35 and above (11.8% in 2018; 34.9% in 2021) (see Fig. 3.16.). The gender distribution in the sample is skewed towards males (73.9% male; 25.7% female; 0.4% transgender or non-binary), holding a secondary or higher education degree (52% secondary and 37.2% university), mirroring trends observed in the EWSD 2018 sample.

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19  To access the factsheet, please consult https://sante.public.lu/dam-assets/fr/publications/e/enquete-europeenne-drogues/enquete-europeenne-drogues-2021.pdf

18-24  ■ 25-34  ■ 35-44  ■ 45-54  ■ 55+

33.8
31.4
20.7
9.2
5

FIGURE 3.16.

Age categories of the targeted sample of recreational drug users (%) (EWSD, 2021)

> Prevalence rates among the targeted sample of last year recreational drug users markedly surpassed those observed in the general population (see section 2.1.):
  o As depicted in Table 3.1., cannabis and alcohol stood out as the most prevalent substances, both in terms of recent and current use.
  o Cocaine appeared to be the second most commonly used illicit drug, with 25.5% reporting recent use and 11.9% reporting current use, followed by MDMA, which was recently used by 17.8% and currently used by 5.5% of the respondents.
  o Additionally, amphetamines (13.1%), LSD (10.9%), other hallucinogens (10.3%) and NPS (15.7%) were notable drugs in terms of recent use (Table 3.1.).

TABLE 3.1.

Last year and last month prevalence rates of drug use among recreational drug users (EWSD, 2021)

| Substance | Last year (recent use) | Last month (current use) |
|---|---|---|
| Alcohol | 92.7% | 82.6% |
| Cannabis | 94.1% | 73.5% |
| Cocaine | 25.5% | 11.9% |
| - Powder cocaine | *17.0%* | *9.2%* |
| - Crack cocaine | *1.7%* | *1.4%* |
| MDMA/Ecstasy | 17.8% | 5.5% |
| Amphetamines | 13.1% | 5.5% |
| LSD | 10.9% | 3.7% |
| Ketamines | 8.3% | 3.6% |
| Other hallucinogens | 10.3% | 2.6% |
| Heroin | 3.4% | 2.5% |
| GHB | 2.5% | 1.5% |
| Methamphetamines | 2.4% | 1.1% |
| NPS | 15.7% | 6.5% |
| Synthetic cannabinoids | 5.1% | 2.9% |
| Synthetic cathinones | 2.9% | 1.6% |

*Note:* Synthetic cannabinoids and cathinones are part of the prevalence of NPS use.

Figure 3.17. illustrates that men were significantly more likely to have consumed alcohol ($X^2$ = 2.90, p ≤ 0.1) and cannabis ($X^2$ = 2.64, p ≤ 0.1) in the last month. Conversely, women exhibited a higher tendency to use MDMA ($X^2$ = 10.63, p ≤ 0.05) and ketamine ($X^2$ = 6.95, p ≤ 0.05).
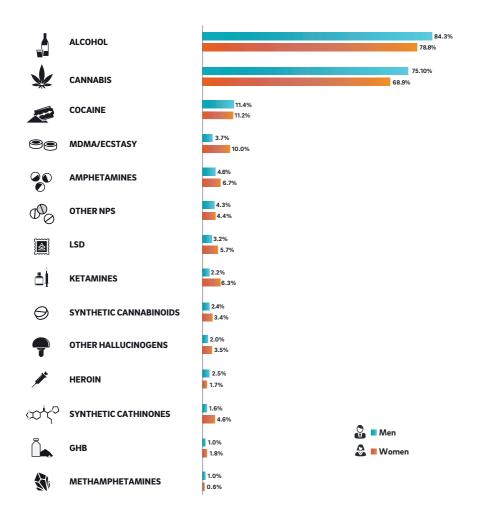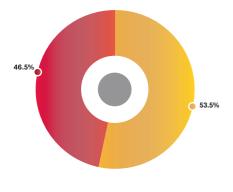
| | Men | Women |
|---|---|---|
| ALCOHOL | 84.3% | 78.8% |
| CANNABIS | 75.10% | 68.9% |
| COCAINE | 11.4% | 11.2% |
| MDMA/ECSTASY | 3.7% | 10.0% |
| AMPHETAMINES | 4.6% | 6.7% |
| OTHER NPS | 4.3% | 4.4% |
| LSD | 3.2% | 5.7% |
| KETAMINES | 2.2% | 6.3% |
| SYNTHETIC CANNABINOIDS | 2.4% | 3.4% |
| OTHER HALLUCINOGENS | 2.0% | 3.5% |
| HEROIN | 2.5% | 1.7% |
| SYNTHETIC CATHINONES | 1.6% | 4.6% |
| GHB | 1.0% | 1.8% |
| METHAMPHETAMINES | 1.0% | 0.6% |
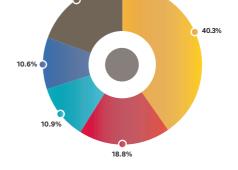
**FIGURE 3.17.**

Gender differences in the last month prevalence of drug use among recreational drug users (%) (EWSD, 2021)

◇ Multiple drug use

While single drug use remained predominant, a substantial portion of respondents engaged in multiple drug use, accounting for 46.5% of the sample. Among multiple drug users, the majority (40.3%) reported using two different drugs over the past year. Additionally, smaller proportions reported using three (18.8%), four (10.6%), five (10.6%), or more than five drugs (19.4%) (see Fig. 3.18. and 3.19.).

Proportion of multiple drug users among the targeted sample (valid %) (EWSD, 2021)

**Reported single drug use**
**Reported use of multiple drugs**

Distribution of multiple drug users according to the number of drugs used (valid %) (EWSD, 2021)

**Two drugs**  **Three drugs**  **Four drugs**
**Five drugs**  **More than five drugs**

## Market characteristics, consumption habits and attitudes towards cannabis use

> Cannabis emerged as the most frequently used illicit drug, with subjects indicating on average 16 days per month for herbal cannabis (weed) and 12 days per month for resin (hashish). On average, participants disclosed smoking two to three joints of cannabis (herbal or resin) on a typical day and tended to buy up to 10 grams per purchase.

> Among the respondents, cocaine was perceived as the most expensive drug, while MDMA was regarded as the least expensive. On average, users purchased up to two grams of cocaine and five grams of MDMA per purchase.

> Recreational users tended to share nearly half of the amount of their purchased drugs with other people.

> Drugs were primarily acquired through a dealer or for free, with no significant reporting of alternative means of supply (Table 3.2).

> When surveyed about whether "Taking cannabis should be legal", 80% of the subjects strongly agreed with the statement 12.3% somewhat agreed, 4.9% neither agreed nor disagreed, 1.1% somewhat disagreed and 1.7% strongly disagreed.

Drug market characteristics and consumption habits among the targeted sample (EWSD, 2021)

| | Cannabis (Resin) | Cannabis (Weed) | Cocaine powder | Amphetamine | MDMA | NPS |
|---|---|---|---|---|---|---|
| Average number of days of use – last month | 12.2 (8) days/month | 15.9 (15) days/month | 5.1 (2) days/month | 4.3 (1) days/month | 2.1 (1) days/month | 5.3 (2) days/month |
| | 18.9 (20) days/ month (any type of cannabis) | | | | | |
| Amount in grams or units used on a typical day | 2.7 (2.0) joints | 2.4 (2.0) joints | 0.74 (0.50) gr | 0.45 (0.20) gr | 0.40 (0.25) gr 1.5 (1) tablets | N.a. |
| Amount bought on a typical purchase in grams/units | 9.8 (3.5) gr | 10.6 (5.0) gr | 1.8 (1.0) gr | 5.0 (2.0) gr | 6.7 (5.0) tablets/ 2.6 (1.0) gr | N.a. |
| Price per gram - unit/euros | 9.0 (8.6) euros/gr | 10.1 (10.0) euros/gr | 72.1 (70.0) euros/gr | 12.9 (10.0) euros/gr | 7.3 (10) euros/ tablet 31.5 (30.0) euros/ gr | N.a. |
| % of people who shared drugs with others during their last use | 57.9% | 62.4% | 79.8% | 72.2% | 90.8% | 59.1% |
| How respondents get their drugs | 81.5% mostly buy it  12.8% obtain it for free | 73.0% mostly buy it  19.6% obtain it for free | 52.9% mostly buy it  43.3% obtain it for free | 48.8% mostly buy it  48.8% obtain it for free | 51.2% mostly buy it  42.7% obtain it for free | 74.1% mostly buy it  14.6% obtain it for free |

*Note:* The median values are presented in brackets.

◇ Associations between current use of different types of drugs

> Examination of Figure 3.20. reveals that the use of cannabis is not related to the use of most other drugs (at a 0.05 significance level). Nevertheless, a positive association between cannabis use and synthetic cannabinoids use ($r = 0.10$, $p < 0.05$) and a negative association between cannabis use and heroin use can be observed ($r = -0.10$, $p < 0.05$).

> The consumption of any other illicit drugs appears to enhance the likelihood of using additional substances, as evidenced by significant positive correlations across almost all other illicit drugs.

FIGURE 3.20.

Associations between current use of different types of drugs (EWSD, 2021)

| | Cocaine | MDMA | Alcohol | Amphetamines | Metham-phetamines | Cannabis | Heroin | Benzo-diazepines | GHB | Ketamine | LSD | Mushrooms | Other hallucinogens | NPS | Synthetic Cathinones |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MDMA | 0.24 | | | | | | | | | | | | | | |
| Alcohol | 0.12 | 0.09 | | | | | | | | | | | | | |
| Amphetamines | 0.28 | 0.38 | 0.08 | | | | | | | | | | | | |
| Methamphetamines | 0.13 | 0.21 | 0.05 | 0.27 | | | | | | | | | | | |
| Cannabis | -0.01 | 0.06 | 0.01 | -0.01 | 0.00 | | | | | | | | | | |
| Heroin | 0.25 | 0.12 | 0.03 | 0.12 | 0.32 | -0.11 | | | | | | | | | |
| Benzodiazepines | 0.18 | 0.13 | 0.02 | 0.23 | 0.21 | -0.01 | 0.26 | | | | | | | | |
| GHB | 0.15 | 0.19 | -0.10 | 0.36 | 0.64 | -0.07 | 0.22 | 0.15 | | | | | | | |
| Ketamine | 0.26 | 0.26 | 0.05 | 0.41 | 0.32 | 0.05 | 0.12 | 0.22 | 0.37 | | | | | | |
| LSD | 0.15 | 0.24 | -0.16 | 0.18 | 0.21 | 0.09 | 0.11 | 0.05 | 0.16 | 0.39 | | | | | |
| Mushrooms | 0.09 | 0.21 | 0.06 | 0.11 | 0.28 | 0.02 | 0.13 | 0.08 | 0.19 | 0.27 | 0.34 | | | | |
| Other hallucinogens | 0.14 | 0.16 | -0.02 | 0.17 | 0.31 | 0.08 | 0.23 | 0.10 | 0.21 | 0.31 | 0.33 | 0.28 | | | |
| NPS | 0.15 | 0.17 | -0.04 | 0.29 | 0.32 | 0.00 | 0.18 | 0.20 | 0.32 | 0.43 | 0.33 | 0.26 | 0.63 | | |
| Synthetic cathinones | 0.17 | 0.12 | 0.00 | 0.23 | 0.54 | -0.06 | 0.44 | 0.19 | 0.49 | 0.16 | 0.15 | 0.17 | 0.27 | 0.49 | |
| Synthetic cannabinoids | 0.10 | 0.11 | -0.01 | 0.12 | 0.36 | 0.10 | 0.20 | 0.09 | 0.20 | 0.11 | 0.14 | 0.12 | 0.26 | 0.20 | 0.33 |

*Note:* Numbers in the table represent Phi ($\varphi$) coefficients, ranging from -1 (perfect negative association) to 1 (perfect positive association). White/Uncoloured cells represent non-significant associations

> In 2024, a new wave of the EWSD was conducted, following a methodology similar to the 2018 and 2021 editions. Promotion on social media platforms, such as Instagram and Facebook, along with affiliated organisations, facilitated the recruitment of adult recreational substance users residing in Luxembourg. The web-based questionnaire was accessible in English, German and French. Data collection took place during the Summer of 2024 (June and July), yielding a valid sample of 911 responses. One distinction from previous waves' methodologies was that even individuals who reported not having used any illegal drug in the past year were included in the 2024 edition, which may in turn affect the reported prevalence rates.

> The non-representative sample included individuals who have used at least one substance (apart from nicotine) in the past year, aged between 18 to 68 years, with a mean of 29.9 years. The highest proportion of respondents (39.0%) was 25 to 34 years old (see Figure 3.21.). Even though the sample was predominantly composed of subjects identifying as a man (64.0%), the percentage of women increased from 25.7% in 2018 to 34.0% in 2024. Less than one percent identified as transgender or non-binary (0.7%). A bit more than half (53.6%) of respondents absolved higher education, demonstrating an increase compared to 2021 (37.2%). Meanwhile, the proportion of respondents holding a secondary education degree decreased from 52.0% to 41.5%. Most respondents were employed full time (58.2%), while 19.2% were students.
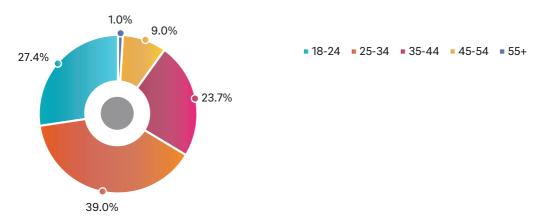


1.0%
9.0%
27.4%
23.7%
39.0%

■ 18-24  ■ 25-34  ■ 35-44  ■ 45-54  ■ 55+

FIGURE 3.21.

Age distribution of targeted sample of recreational users (%) (EWSD, 2024)

> The prevalence rates follow similar tendencies compared to the previous national waves of the EWSD. As expected, the rates are substantially higher than those observed in the general population (see section 2.1). Nonetheless, prevalence rates appear to be lower than in previous editions, which may be explained by the methodological decision to not only include individuals who reported having used an illegal drug in the past year. Consequently, caution is warranted when comparing the results across different waves.

   o Cannabis and alcohol are leading as the most used substances regarding last year prevalence rates, with alcohol reaching 95.1% and cannabis reaching 70.4%.

   o Compared to previous waves, MDMA has replaced cocaine as the second most commonly used illegal drug during the past year (14.5%). However, cocaine retains its position when considering last month use (6.6%). MDMA and cocaine are followed by amphetamine as the third most used stimulant drug (6.7% last year, 3.0% last month).

   o NPS emerged as important substances in terms of both last year (9.1%) and last month (5.0%) use.

o   Semi-synthetic cannabinoids were measured for the first time in this wave and revealed remarkably high rates (7.3% last year, 2.8% last month), highlighting the importance of continued surveillance of these drugs.

o   Drugs with lower prevalence rates included heroin (0.7% last year, 0.2% last month), GHB (0.8% last year, 0.0% last month), and methamphetamine (0.4% last year, 0.1% last month) (see Table 3.3.).

TABLE 3.3.

Last year and last month prevalence rates of drug use among recreational users (EWSD, 2024)

| Substance | Last year | Last month |
|---|---|---|
| Alcohol | 95.1% | 84.9% |
| Cannabis | 70.4% | 59.7% |
| Cocaine<br>  - Cocaine powder<br>  - Crack | 13.0%<br>8.0%<br>0.5% | 6.6%<br>4.8%<br>0.2% |
| MDMA | 14.5% | 5.7% |
| Amphetamine | 6.7% | 3.0% |
| LSD | 6.4% | 1.3% |
| Ketamine | 5.7% | 2.2% |
| Other hallucinogens | 3.6% | 1.0% |
| Heroin | 0.7% | 0.2% |
| GHB | 0.8% | 0.0% |
| Methamphetamine | 0.4% | 0.1% |
| NPS | 9.1% | 5.0% |
| Semi-synthetic cannabinoids | 7.3% | 2.8% |
| Synthetic cannabinoids | 1.9% | 1.0% |
| Synthetic cathinones | 1.8% | 0.5% |

◇  Gender differences

Examining gender disparities with a Fisher's exact test revealed that men were significantly more likely to have used cannabis ($p = 0.031$) and NPS ($p = 0.012$). Conversely, women were more likely to have used MDMA ($p = 0.003$) and synthetic cannabinoids ($p = 0.006$) (see Fig. 3.22.).
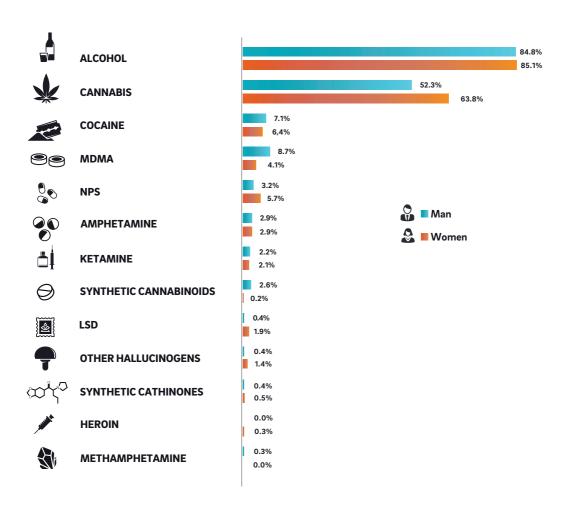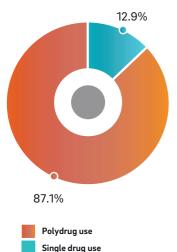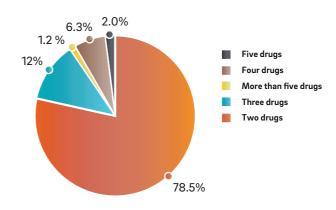
Gender differences in the last month prevalence of drug use among recreational users (%) (EWSD, 2024)

## Polydrug Use

Most respondents reported using multiple substances simultaneously (87.1%). Among those who indicated polydrug use, the majority reported having used two substances at the same occasion (78.5%). As the number of substances used increases, the proportion of respondents indicating polydrug use decreases. It should be noted that in 2024 the inclusion of alcohol and tobacco in the analysis explains the increased proportions of multiple drug users and of those using two substances simultaneously compared to the results from the EWSD 2021 (see Figure 3.23. and Figure 3.24.).

FIGURE 3.23.

Proportions of single and polysubstance users
(EWSD, 2024)

- 12.9%
- 87.1%
- Polydrug use
- Single drug use



FIGURE 3.24.

Proportions of the number of drugs used at once
(EWSD, 2024)

- 2.0%
- 6.3%
- 1.2 %
- 12%
- 78.5%
- Five drugs
- Four drugs
- More than five drugs
- Three drugs
- Two drugs

◇ Market characteristics and consumption habits

> Herbal cannabis is used most frequently, with an average of 14.8 days per month, followed by cannabis resin with 12.9 days per month. On a typical day, users smoke 2.4 joints on average (herbal cannabis or resin). During a typical purchase, respondents buy an average of 10 grams of herbal cannabis and 10.5 grams of resin. Cannabis resin is the cheapest drug compared to other substances, priced at 7.6€ per gram.

> MDMA users report the lowest frequency of use, averaging 2 days per month. On a typical day, they consume 1.3 tablets or 137.3 mg. MDMA is purchased in quantities averaging 4.6 tablets or 2.4 grams, with a price of 7.9€ per tablet or 23.6€ per gram.

> Cocaine is used on average 4.2 days per month and is the most expensive drug, priced at 72€ per gram. Users typically purchase 2.3 grams per transaction.

> Amphetamine users report an average of 6.2 days of use per month, with a typical daily amount of 0.9 grams. The average purchase quantity is 3 grams, priced at 8€ per gram.

> NPS users report an average of 3.7 days of use per month. They have the highest proportion of obtaining their drugs for free (43.5%).

> The proportion of subjects who primarily purchase their drugs is highest among cannabis resin users (67.3%) (see table 3.4.).

> The mean age of initiation for cannabis is 16.6 years. The greatest proportion of respondents (64.9%) indicated that the national change of the cannabis law had no effect on their cannabis use. Nonetheless, 20.9% claimed that they would use a little more than usual.

TABLE 3.4.

Drug market characteristics and consumption habits among the targeted sample (EWSD, 2024)

| | Herbal cannabis | Cannabis resin | Cocaine powder | MDMA | Amphetamine | NPS |
|---|---|---|---|---|---|---|
| Average number of days of use (last month) | 14.8 (12) days/ month | 12.9 (9.5) days/ month | 4.2 (2) days/ month | 2 (1) days/month | 6.2 (3) days/ month | 3.7 (1) days/ month |
| Amount used on a typical day (g/unit) | 2.4 (2) joints | 2.4 (2) joints | 0.7 (0.5) g | 1.3 (1) tablets 0.14 (0.13) g | 0.9 (0.5) g | N.a. |
| Amount bought on a typical purchase (g/unit) | 10 (5) g | 10.5 (5) g | 2.3 (1.8) g | 4.6 (4) tablets 2.4 (2) g | 3 (3) g | N.a. |
| Price per gram/ unit (€) | 10 (10) €/g | 7.6 (6.7) €/g | 72 (70) €/g | 7.9 (10) €/tablet 23.6 (25) €/g | 8 (8) €/g | N.a. |
| How respondents get their drugs | 59.9% mostly buy it<br><br>18.7% mostly get it for free<br><br>16.3% mostly produce it themselves | 67.3% mostly buy it<br><br>20.7% mostly get it for free<br><br>9:1% mostly produce it themselves | 58.9% mostly buy it<br><br>38.4% mostly get it for free | 62.1% mostly buy it<br><br>35.0% mostly get it for free | 50.0% mostly buy it<br><br>41.7% mostly get it for free | 47.8% mostly buy it<br><br>43.5% mostly get it for free |

## 3.4.   DRUG USE ACROSS DIFFERENT POPULATIONS

Figure 3.25. illustrates the relative importance of certain drugs among different target groups and settings. Due to each study entailing unique characteristics and data collection periods, direct comparisons are not possible. Nonetheless, the observed differences provide valuable insights into drug use prevalence rates looking at a period of the past two to four weeks across various surveys with distinct demographics.

> In general, cannabis emerges as the most commonly used substance by recreational drug users (59.7%), individuals in festive settings (40.3%), and young scholars (15.0%). While notably lower prevalence rates can be observed for the general population across all substances, cannabis remains the most used drug (2.3%). In contrast, HRDUs in 2023 primarily reported cannabis (61%), cocaine (59.7%), and heroin/opioids (44.5% / 48.1%) as their main substances of use. The use of MDMA, amphetamine type substances and NPS appears to be less common compared to other substances, with the highest rates among nightlife attendees, followed by recreational users, and then HRDUs.
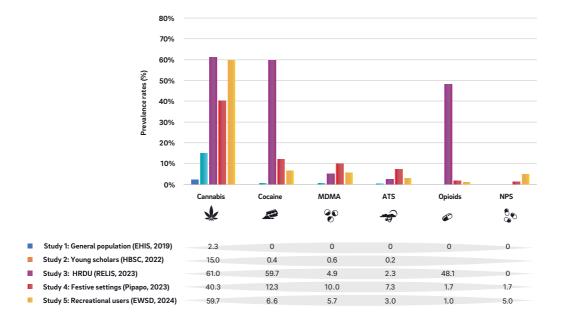
| | Cannabis | Cocaine | MDMA | ATS | Opioids | NPS |
|---|---|---|---|---|---|---|
| ■ Study 1: General population (EHIS, 2019) | 2.3 | 0 | 0 | 0 | 0 | 0 |
| ■ Study 2: Young scholars (HBSC, 2022) | 15.0 | 0.4 | 0.6 | 0.2 | | |
| ■ Study 3: HRDU (RELIS, 2023) | 61.0 | 59.7 | 4.9 | 2.3 | 48.1 | 0 |
| ■ Study 4: Festive settings (Pipapo, 2023) | 40.3 | 12.3 | 10.0 | 7.3 | 1.7 | 1.7 |
| ■ Study 5: Recreational users (EWSD, 2024) | 59.7 | 6.6 | 5.7 | 3.0 | 1.0 | 5.0 |

FIGURE 3.25.

Prevalence rates of drug use across different surveys targeting different populations and user groups (%)

*Note:* The studies presented in figure 3.25. were conducted in different time periods and encompassed samples of different populations with distinct demographics:
Study 1 (EHIS) encompassed a representative sample of the general population 15-64 years old.
Study 2 (HBSC) included a representative sample of school-aged children, 12-18 years old (15-18 years for cannabis). Opioids and NPS were not measured in the 2022 wave.
Study 3 (RELIS) encompassed a sample of high-risk drug users in contact with treatment- or harm reduction institutions.
Study 4 (Pipapo) measured drug use during the past 2 weeks among a targeted sample of visitors of festive events.
Study 5 (EWSD) included a targeted sample of individuals who have used drugs recreationally during the past year aged 18 years-old or above.

# 4.

# DRUGS AND PRISON

# 4. DRUGS AND PRISON

## 4.1.  NATIONAL PRISONS AND THEIR CAPACITIES

The Grand Duchy of Luxembourg has three state prisons at the national level, including two closed prison sites and one semi-open site. The closed prison site "Centre Pénitentiaire de Luxembourg" (CPL) is situated in the vicinity of Luxembourg City, the closed prison site "Centre Pénitentaire d'Uerschterhaff" (CPU) which has been operational since early December 2022 is situated in the south of the country (Sanem), and the semi-open site "Centre Pénitentiaire de Givenich" (CPG) is situated in the east of the country. The need to separate remand prisoners – individuals presumed innocent and held in pre-trial detention – from convicted prisoners, in accordance with international standards, along with the risk of prison overcrowding, led the Luxembourgish authorities to plan the construction of a second closed prison specifically for pre-trial detainees. This separation, along with efforts to reduce the overall prison population, enables a more appropriate penological approach that better meets the needs of those in detention.

The CPL and the CPU are conventional prisons, whereas the CPG may be considered as an alternative to a strict penitentiary regime; it is defined as a semi-open prison located in a rural setting. At the CPG, inmates engage in regular professional activities or participate in one of the centre's workshops such as agriculture, animal husbandry, cooking, horticulture, woodworking, locksmithing or general maintenance tasks. After their work or workshop participation, inmates return to their individual cells for the night. Each block within the CPG has its own living room, kitchen, bathroom, and laundry area, allowing inmates to live with a degree of autonomy.

By the end of 2023, national prisons had a capacity of 995 beds (CPL: 482; CPU: 400; CPG: 113)[20]. The CPL and CPG have separated sections for male and female inmates, while the CPU is exclusively for male remand prisoners. In 2023, the average number of prisoners remained relatively stable compared to the previous years, reaching 660 (2022: 674; 2021: 598; 2020: 548), while the average occupation rate of inmates in the penitentiary centres has decreased over the past years to 66.4% (2022: 92.8%; 2021: 84.2%; 2020: 77.2%). With the opening of the CPU, the number of beds increased and consequently the average occupation rate has decreased considerably. The number of prisoners and the average occupation rate per penitentiary centre are presented in Table 4.1. After an increase in 2022, the national detention rate decreased again to 99.9 inmates per 100,000 population (2022: 104.5 per 100,000 population; 2021: 94.2 per 100,000 population; 2020: 87.5 per 100,000 population), which is below the European median of 104.1 inmates per 100,000 population.

TABLE 4.1.

Number of inmates and average occupation rate at the CPL, CPU and CPG in 2023

| Substance | CPL | CPU | CPG |
|---|---|---|---|
| Number of beds | 482 | 400 | 113 |
| Average number of inmates | 346 | 238 | 77 |
| Occupation rate | 71.7% | 59.5% | 67.8% |

The gender ratio has remained stable with approximately 5.1% female inmates (2022: 5.4%; 2021: 5.7%; 2020: 4.8%). On 7 January 2024[21], the mean age of all inmates was 37.5 years (2022: 36.6 years; 2021: 36.4 years; 2020: 38.5 years). The proportion of people aged 30 to 50 years has remained stable compared to 2022 (2023: 56.9%; 2022: 54.2%), while the proportion of people younger than 30 years slightly decreased. In 2023, 0.8% of the inmates were minors (2022: 1.1%; 2021: 1.8%; 2020: 0%). The age group of 30 to 40 years has remained the most represented in the past years (2023: 35.5%; 2022: 33.3%; 2021: 34.4%; 2020: 34.7%), followed by those aged 21 to 30 years (2023: 21.7%;

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20   By the end of 2022, national prisons had a total capacity of 910 beds following the partial opening of the new prison CPU.
21   The numbers from January 2024 are considered representative for the prison population in 2023.

2022: 25.5%; 2021: 26.1%; 2020: 19.5%), and then the 40 to 50 age group (2023: 21.3%; 2022: 20.9%; 2021: 20.9%; 2020: 28.1%).

As of 7 January 2024, among the 605 inmates, 54.2% (n=328) were Luxembourgish residents. Of these, 43% (n=141) were of Luxembourgish nationality, while 57% (n=181) were of foreign nationality, including a small number with unknown nationality. The latter (i.e. foreign) represent 30.9% of the total prison population. In total, 45.8% of the 605 inmates were non-residents of the Grand-Duchy of Luxembourg. Among these non-resident inmates, 97.8% were of foreign nationality and 2.2% were Luxembourgish (n=6). The 271 inmates who were non-residents with foreign nationality represented 44.8% of the total prison population.

The proportion of inmates from EU Member States has decreased over the past four years, reaching 61.3% (n=371) in 2023 (2022: 61.5%; 2021: 64.0%; 2020: 69.3%). Among these, 24.3% were Luxembourgish; 16.5% Portuguese; 6.1% Romanian; 6.0% French; 1.7% Italian; and 1.5% Belgian, with other nationalities each representing less than1%. Of the 38.7% of inmates from non-EU countries (2022: 38.5%; 2021: 36.0%; 2020: 30.7%), the majority were of African origin (2023: 30.0%; 2022: 28.3%; 2021: 25.0%; 2020: 18.8%), followed by European (non-EU) origins at 6.0% (n=36), and Asian origins at 5.1% (n=31). Only 1.7% (n=10) of the inmates were of American origin.

Since 2015, following an experimental phase, electronic surveillance tags (bracelets) have been used as an alternative to incarceration, either to avoid imprisonment or to facilitate the reintegration of convicted individuals. In 2023, 45 people were authorised to use an electronic surveillance bracelet (2022: 36; 2021: 43; 2020: 39). The majority (2023: 71.1%; n=32; 2022: 47.2%; n=17) have been wearing the "frontdoor" version, which enables convicts to avoid prison stays by serving their custodial sentence at home. When the electronic surveillance is used as a transitional phase in the execution of a sentence –facilitating the shift from incarceration to release – it is referred to as the "backdoor variant". In both cases, the convicted person is required to have employment, stable housing, and a telephone connection or cellular modem to allow the transmission of surveillance data (Ministère de la Justice, 2024).

## 4.2.   DRUG-RELATED OFFENCES AMONG PEOPLE LIVING IN PRISON

According to the annual activity report 2023 from the penitentiary administration, drug-related offences among male prisoners leading to imprisonment (13.6%) are slightly down and remain lower than in previous years (2022: 13.8%; 2021: 16.8%; 2020: 17.8%). Violent offences (intentional homicide, attempted homicide, assault and battery, robbery with violence) accounted for 33.9% of all offences (2022: 32.9%; 2021: 32.4%; 2020: 35.6%; 2019: 37.5%), while sexual offences (rape, other sexual offences, indecent assault) represented 10.0% of offences (2022: 8.8%; 2021: 10.4%; 2020: 9.9%). In total, violent and sexual offences constituted 43.9% of offences committed by convicted male offenders (2022: 41.7%; 2021: 42.8%; 2020: 45.5%).

Regarding female inmates, drug-related offences leading to imprisonment increased again in 2023 compared to previous years (2023: 25.0%; 2022: 15.0%; 2021: 20.0%; 2020: 7.0%). The proportion of offences related to theft and robbery remained stable (2023: 25.1%; 2022: 25.0%; 2021: 20.0%; 2020: 14.3%), while the rate of intentional homicides has increased compared to 2022 (2023: 31.3%; 2022: 25.0%; 2021: 25.0%; 2020: 35.7%). In 2023, no convictions for the intentional assault were recorded among female inmates, which may explain the decrease in intentional homicides (2022: 5.0%; 2021: 5.0%; 2020: 28.6%). Furthermore, in 2023, no women were convicted of sexual violence offences (rape, other types of sexual offences, indecent assault). The proportion of physical violence offences leading to imprisonment among females remained consistent at 30.0% in both 2022 and 2021 (64.3% in 2020) (Ministère de la Justice, 2024).

## 4.3. DRUG USE PRIOR TO AND DURING IMPRISONMENT

Drug use in prison remains a reality with major social and health consequences. However, since drug use is strictly prohibited in prisons, the true extent of the issue remains largely unknown in most European countries. In 2020, a study was conducted in the closed prison setting 'CPL' (Foulon, 2020) to examine drug use patterns and associated risk behaviours among the prison population in the Grand Duchy of Luxembourg. This cross-sectional quantitative study employed an anonymous, confidential, and voluntary paper-and-pencil questionnaire, based on the European Questionnaire on Drug use in Prison (EQDP) developed by the EMCDDA (EMCDDA, 2021). At the end of August 2020, the questionnaire was distributed to the prison population (n=488) in four languages (English, French, German and Portuguese). Nearly half (n=238; 48.8%) of the distributed questionnaires were returned. Of these questionnaires, some were entirely incomplete, contained refusals to answer the questions, had clearly inconsistent responses, or had more than 50% of missing values. Based on these criteria, 164 valid questionnaires were included for statistical analysis.

### SOCIO-DEMOGRAPHIC CHARACTERISTICS

> Regarding the gender distribution of the retained respondents (n=164), 138 were male (84.1%) and seventeen were female (10.4%). Gender information was missing in nine questionnaires (5.5%). On the day the questionnaires were distributed, there were eighteen women in the women's block, indicating that nearly all of them (94.4%) completed the questionnaire. In contrast, slightly less than one-third (29.4%) of male prisoners (n=470) completed the questionnaire.

> More than half of the respondents (56.7%) were between 30 and 49 years of age. 20.1% were under 30 years old, 14.6% were between 50 and 59 years, and a minority (5.5%) were over 60 years of age.

> In total, slightly more than one-third of respondents reported holding Luxembourgish nationality (34.8%). Additionally, 42.7% declared a European nationality – with 37.8% from EU Member States and 4.9% from non-EU European countries – while 17.7% reported a nationality from outside Europe. Nationality data was missing for 4.8% of respondents.

> One-third of respondents (32.8%) said they had not been living in stable, independent housing before their current imprisonment. This includes situations such as homelessness, unstable housing, residence in night shelters, or living in institutions.

### LEGAL SITUATION

> Regarding legal status, 40.2% of respondents reported being in pre-trial detention, while a little more than half (51.2%) stated that they had already been convicted.

> Concerning the type of offence, 20.1% of respondents reported having committed offences against property (e.g., theft, burglary), and 30.5% indicated a drug-related offence. Among the latter, 17.7% were related to drug possession or use, and 12.8% to drug trafficking.

> In terms of the time spent in prison, half of the respondents reported being incarcerated for less than one year, one-quarter for less than 92 days, and another quarter just under three years. The average number of prior incarcerations was two, with a minimum of zero and a maximum of fourteen.

### DRUG USE BEFORE AND DURING IMPRISONMENT

> Before imprisonment: among participants in the 2020 study, the most commonly used illicit drugs prior to incarceration, in decreasing order of prevalence, were cannabis (42.1%), cocaine powder (37.8%), crack cocaine (28.0%), and heroin (28.0%) (see Table 4.2. below). Half of the respondents stated that they continued using drugs during their time in prison.

> During imprisonment:

  o The most commonly consumed psychoactive substances remained the same after entering prison: tobacco, alcohol, and cannabis, reported by 21.3%, 20.7%, and 21.3% of respondents, respectively. Heroin, powder cocaine, and crack cocaine were reported by 15.9%, 15.2%, and 12.8% of the respondents.

  o For most other substances, similar trends were observed. Except for methadone/buprenorphine and benzodiazepines, the number of respondents reporting substance use inside prison was approximately half or less than those reporting use outside prison. This trend did not apply to substances with low prevalence rates (see Table 4.2.) (Foulon, 2020).

**TABLE 4.2.**

Number of persons and prevalence (%) by substance before and during imprisonment (n=164)

| Substance | Before imprisonment n (%) | During imprisonment n (%) |
|---|---|---|
| Tobacco | 102 (62.2) | 89 (21.3) |
| Alcohol | 97 (59.2) | 34 (20.7) |
| Cannabis | 69 (42.1) | 35 (21.3) |
| Synthetic cannabinoids (e.g. SPICE) | 24 (14.6) | 17 (10.4) |
| Cocaine (powder) | 62 (37.8) | 25 (15.2) |
| Cocaine « crack » | 46 (28.0) | 21 (12.8) |
| Heroine | 46 (28.0) | 26 (15.9) |
| Methadone (Mephenon)/ Buprenorphine (Suboxone) | 23 (14.0) | 13 (7.9) |
| Other opioids (e.g. tramadol; fentanyl) | 11 (6.7) | 7 (4.3) |
| Benzodiazepines | 25 (15.2) | 15 (9.1) |
| Ketamine | 10 (6.1) | 6 (3.7) |
| Amphetamines (Speed) | 25 (15.2) | 7 (4.3) |
| Methamphetamines | 12 (7.3) | 6 (3.7) |
| Ecstasy/MDMA | 32 (19.5) | 8 (4.9) |
| LSD/Mescaline/Mushrooms | 19 (11.6) | 5 (3.0) |
| Volatile substances (e.g. butane; propane) | 5 (3.0) | 4 (2.4) |
| Synthetic cathinones | 4 (2.4) | 3 (1.8) |
| Other NPS | 5 (3.0) | 4 (2.4) |
| Other illicit substance | 5 (3.0) | 3 (1.8) |

RISK BEHAVIOUR AMONG PEOPLE LIVING IN PRISON

The national prison study conducted in 2020, which assessed drug use before and during imprisonment, also examined risk behaviours among people living in prison (n=164), including history of overdose, equipment sharing and injecting drug use.

> 23.2% of participants reported having experienced an overdose outside prison. Of these, 10.4% (n=17) reported an overdose related to opioids, and 12.8% (n=21) to other substances.

> The reported incidence of overdose within prison was significantly lower. Only four respondents reported having experienced an opioid-related overdose in prison, and six respondents an overdose related to other substances (2.4% and 3.7%, respectively).

> Regarding injecting drug use, 37 respondents (22.5%) indicated that they had injected drugs in the past. Regarding lifetime equipment sharing, 24 respondents (14.6%) reported ever sharing needles or syringes, 35 (21.3%) shared straws or equipment for sniffing, 34 (20.7%) shared spoons or cooking equipment, 54 (32.9%) shared pipes or other smoking equipment, and 20 (12.2%) shared a tattoo equipment (Foulon, 2020).

<div style="background-color:red;color:white;">KNOWLEDGE OF HARM REDUCTION PROGRAMMES AMONG PEOPLE LIVING IN PRISON</div>

The 2020 national study on drug use in prison in Luxembourg further assessed awareness of and participation in two harm reduction programmes specific to the closed prison setting (CPL), i.e., the Safe Tattoo programme and the syringe exchange programme.

> Of the 164 respondents, 34.1% reported being aware of the Safe Tattoo programme, and 9.1% reported having participated in it.

> Similarly, 29.9% were aware of the needle and syringe exchange programme, but only 6.7% had benefited from it.

> These findings suggest that both harm reduction programmes may be insufficiently known and that participation rates could be improved (Foulon, 2020). However, it should be noted that responses to these questions – particularly regarding use of the syringe exchange programme – may be highly sensitive and prone to social desirability bias.

## 4.4. OTHER DATA ON DRUG USE PRIOR TO IMPRISONMENT: ENTRY FORM

Every person arriving at the CPL meets a healthcare professional from the prison psychiatric service (SPMP - Service psychiatrique en milieu pénitentiaire) within the first 24 hours of incarceration. During this initial check-up, the healthcare professional completes an entry form that includes socio-demographic data, medical history, and self-reported use of legal and illegal substances. Moreover, the behaviour, complaints, and needs of the entrant are recorded, and a preliminary nursing diagnosis is established. A medical examination is also conducted, which may be supplemented by a urine test (quick screening for the presence of most common drugs).

According to the latest available data from 2021, 900 new prison entries were recorded through the entry forms, corresponding to an average of 75 new entrants per month (min: 54 in February; max: 102 in June). Among the new entrants seen by the SPMP in 2021, 844 were male (93.8%) and 56 female (6.2%), with a mean age of 33.5 years (males: 33.5y, min: 14y, max: 72y; females: 34.5y, min: 21y, max: 60y). The majority of entrants recorded by the SPMP in 2021 were between 18 and 40 years old (approximately 60%) (n=893).

The proportion of illicit substance users and the range of substances consumed by new prison entrants in 2021 are depicted in Figure 4.1. Upon arrival, 55% of entrants reported using at least one illicit drug. It is important to note that these figures reflect cases of intense or problematic drug use, as declared by the entrant and assessed by the SPMP staff. Past use of illicit substances is not recorded comprehensively, but rather only when problematic use is declared or suspected. Furthermore, urine drug screening is not performed systematically; therefore, the data rely largely on the self-reported information gathered during the intake interview. Data from 2021 also indicate that problematic alcohol use was recorded in nearly one-third (27.0%) of new prison entrants. Among those, 79.8% also reported using one or more illicit substances.
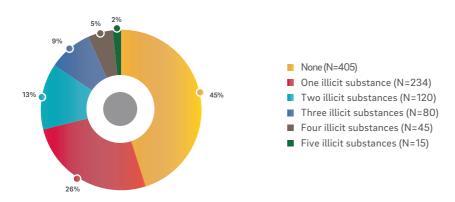
**FIGURE 4.1.**

Number of illicit substances consumed by new prison entrants recorded through the SPMP entry forms (2021)

Table 4.3. below presents the most commonly used illicit substances or misused medications according to the SPMP prison entry forms. Cannabis was the most frequently reported (36.2%), followed by cocaine (29.0%), benzodiazepines (14.9%), and heroin (12.1%). In total, 9.8% of new entrants were undergoing opioid agonist treatment (OAT) upon arrival in prison, while 4.4% showed problematic use of LYRICA®[22] and 1.3% reported problematic use of another (illicit) substance. New prison entrants who reported use of cannabis, benzodiazepines, or Lyrica® were, on average, younger than other prison entrants. Conversely, new inmates with problematic heroin use and/or in OAT were, on average, older than those without problematic heroin use or those not enrolled in OAT (see Table 4.3. below).

**TABLE 4.3.**

Use of (illicit) substances among prison entrants at the CPL in 2021 (N=899)

|  | THC | Cocaine | Benzodiazepines | Heroin | OST | Lyrica | Others | Any substance use |
|---|---|---|---|---|---|---|---|---|
| **Number of users** | 325 (36.2%) | 261 (29.0%) | 134 (14.9%) | 109 (12.1%) | 88 (9.8%) | 40 (4.4%) | 12 (1.3%) | 494 (54.9%) |
| **Mean age of users (SD)** | 29.9 (9.1) | 34.2 (8.8) | 31.6 (10.9) | 37.1 (8.3) | 37.9 (8.5) | 23.5 (7.0) | 33.3 (10.0) | 31.9 (9.7) |

*Note*: Any substance use refers to the use of one or more of the following (illicit) substances: THC, cocaine, benzodiazepines, heroin, opioid substitution products, LYRICA® and others (including MDMA/Ecstasy, LSD, amphetamines, synthetic cannabinoids such as spice and Tramadol).

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22    Anti-epileptic medication containing the active substance pregabalin

In 2021, the SPMP recorded 130 (14.5%) cases of mood disorders, 110 (12.2%) of anxiety disorders, 53 (5.9%) of personality disorders, 40 (4.4%) of psychotic disorders, and 14 (1.6%) of ADHD (Attention Deficit/Hyperactivity Disorder) among prison entrants (see Table 4.4). Among the 494 individuals recorded as substance users, 32.3% (n=160) received a preliminary diagnosis of at least one mental health condition. In comparison, 26.4% (n=107) of the 405 individuals without an indication of substance use were also affected by a mental health condition. Data for more recent years are not yet available (see Table 4.4.).

TABLE 4.4.

Mental health disorders among prison entrants at the CPL in 2021 (N=899)

| | Mood disorders | ADHD | Personality disorders | Anxiety | Psychotic disorders | Any mental health condition |
|---|---|---|---|---|---|---|
| Number of prison entrants with recorded disorder | 130 (14.5%) | 14 (1.6%) | 53 (5.9%) | 110 (12.2%) | 40 (4.4%) | 267 (29.7%) |
| Mean age of prison entrants with recorded disorder (SD) | 35.0 (8.9) | 26.5 (8.1) | 32.3 (10.6) | 33.4 (10.7) | 36.5 (12.0) | 33.7 (10.6) |

*Note:* Any mental health condition refers to the presence of one or more of the following conditions: Mood disorders, ADHD, personality disorders, anxiety and psychotic disorders.

## 4.5. PRS20: UNDERSTANDING DRUG USE DURING AND AFTER IMPRISONMENT AND THE NEEDS AMONG PEOPLE LIVING IN PRISON

From 2020 to 2023, the Luxembourg Focal Point of the EUDA participated in the European PRS20 project aimed at understanding drug use both inside and outside prison and improving the health and quality of life of people living in prison. The project was a collaboration between institutions from Luxembourg, Belgium, Lithuania, Cyprus and Greece. The objectives of the PRS20 project were to assess drug use among people living in prison and those (recently) released, and to gain better insight into their needs regarding treatment and harm reduction services within the prison system. To meet these objectives, both a quantitative and a qualitative data collection took place in Luxembourg during the summer and autumn of 2022, targeting people living in or recently released from prison with a history of drug use. The quantitative tool was an adaptation of the EQDP, whereas the qualitative component was based on semi-structured interviews developed specifically for the project consortium. Results from the national study were published in January 2024 (Berndt et al., 2024).

Overall, the national implementation of the PRS20 study confirms the reality of drug use among people living in prison and those released, many of whom also face mental health issues. Drugs use often serves as a coping mechanism for the psychological stress experienced in these settings. The findings highlight the need to increase awareness of prison-based interventions, expand health education programmes, and ensure continuity of care. They also highlight the importance of developing effective transition and reintegration measures for people with a history of drug use that are released from prison. Improving access to housing, education, training services, and employment is essential for supporting social reintegration and promoting a more stable, balanced life (Berndt et al., 2024).

At the end of July 2022, a fully anonymous paper-pencil questionnaire was distributed to the prison population at the CPL in four languages (English, French, German and Portuguese). Of the questionnaires returned, 193 were considered valid, representing approximately 35% of the average prison population in July 2022.

> Regarding the gender distribution of retained respondents (n=193), 170 were male (88.1%) and 17 female (8.8%). Three participants were identified with a gender other than male or female, and three other participants did not state their gender. The mean age of participants was 40 years.

> The largest proportion of respondents (n=87; 45.1%) were nationals of other European countries (excluding Luxembourg), followed by people with Luxembourgish nationality (n = 58; 30.1%). In total, 44 respondents (22.8%) were nationals of non-EU countries, and four questionnaires lacked nationality information.

> Concerning the housing situation prior to serving their prison sentence, a total of 120 individuals (62.2%) reported having stable housing situation. Homelessness or unstable housing situations were reported by more than one-third of respondents (n = 70; 36.3%).

*Drug use prevalence rates during imprisonment and outside prison*

> Lifetime consumption[23]: At the time of the survey, 84.5% respondents reported having used at least one substance in their lifetime (alcohol included). Among them, 70.5% reported using two or more substances, and over one-third (37.4%) indicated having consumed five or more different substances during their lifetime.

> Drug type: Cannabis showed the highest lifetime prevalence rates both inside (27.5%) and outside (53.9%) prison. Non-prescribed sedatives and tranquillizers ranked second in terms of psychoactive substances consumed inside prison (15.5%), but sixth for use outside prison (22.8%). Cocaine ranked second for lifetime use outside (51.3%) prison, and third for use inside (13.0%). The consumption of psychoactive substances was notably higher among incarcerated individuals aged 18 to 34 compared to older age groups.

> First-time use of a substance: Among lifetime users, cannabis and non-prescribed sedatives or tranquillisers were the most frequently cited substances for first-time use within prison. Initiation rates in prison were 35.0% for cannabis and 43.5% for non-prescribed sedatives or tranquillisers.

> Mental health co-morbidities: Among the participants who reported drug use, 89.0% indicated experiencing symptoms of depression or anxiety within the past two weeks, with a high prevalence of co-occurring symptoms (78.9%). People currently using drugs in prison reported moderate to severe symptoms of depression and anxiety compared to non-users. Recent users also more frequently reported feelings of insecurity and loneliness.

Between September and November 2022, the psychiatrist service of the prison (SPMP) conducted semi-directed interviews with 11 people living in prison, whereas low-threshold services of harm reduction agencies in Luxembourg City (Abrigado CNDS and K28 from the Foundation Jugend- an Drogenhëllef) carried out similar interviews with 12 individuals who had previously been incarcerated. The interviews explored various aspects, including perceived physical health and psychosocial well-being; substance use before and during imprisonment; reasons for and context of illicit substance use; needs and perceived support.

> The analysis of fully anonymised responses from both – people currently living in prison and those who were formerly incarcerated – showed that individuals in prison generally shared more examples of experiences with a positive connotation compared to the group of individuals released from prison.

> People who have been released from prison often relapse into drug use or experience a worsening of their substance use habits. This suggests that the physical and psychological condition of ex-inmates tends to decline upon reentry into society.

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23 Lifetime consumption refers to the prevalence of psychoactive substance(s) consumed during the life, even if only once (inside and/or outside of prison) (in %) (N=193).

> Several former inmates expressed a need for improved access to medical care, in particular for those requiring OAT.

> Individuals who were previously incarcerated reported a perceived lack of adequate reintegration support, which may be worsened by the absence of systematic follow-up after release.

> The designation of a reference person to provide follow-up and support during the preparatory phase of the reintegration and return to society could prevent relapses or further offences (Berndt et al., 2024).

## 4.6. DRUG HEALTH RESPONSES IN PRISON

**HEALTH CHECK-UP AND SPECIALISED COMMUNICABLE DISEASE OFFER**

The implementation of health responses is based on a medical health check-up for newly admitted individuals in both the closed and semi-open national prison setting. This initial health assessment serves as a basis for further interventions. During the medical counselling session, individuals are offered a voluntary HIV screening test, alongside screening for other infectious diseases such as syphilis and hepatitis A, B and C. To address the specific needs related to infectious diseases among people living in prison, the somatic nursing unit (CHL) established a specialised communicable disease-counselling offer, which has been operational since 2011.

> In 2023, a total of 793 serological tests were conducted at CPU and CPL prisons, covering 66.8% of all admissions (2022: 795; 2021: 708; 2020: 592). Among tested inmates, 2.5% had a positive test result for HIV and 5.3% for HCV.

> To prevent further transmission, hepatitis A and B vaccinations were administered to individuals with negative serology results. As a result, 43 inmates received the hepatitis A vaccine (2022: 26; 2021: 65), 167 hepatitis B vaccine (2022: 217; 2021: 201), and 59 received both (2022: 146; 2021: 133) (Comité de surveillance du SIDA, 2024).

> Vaccination against hepatitis A and B is systematically recommended for those with negative serological results in order to prevent further infections.

Long-term data from 2010 to 2021, analysed by the National Infectious Diseases Service in collaboration with prison healthcare service, showed a significant decline in hepatitis C prevalence, with seropositivity rates dropping from 19% to 10%. The reinfection rates were highest among younger individuals and those living with HIV, however, overall rates have been decreasing over time. Despite this progress, at least eight new HCV and three new tuberculosis infections were suspected in 2023 (Comité de surveillance du SIDA, 2024). These findings underscore the effectiveness of ongoing surveillance, harm reduction, and treatment programmes.

**NEEDLE AND SYRINGE DISTRIBUTION PROGRAMME**

Since 2005, a needle and syringe distribution programme (NSP) has been operating within the prison system, allowing people living in prison to access sterile injection equipment following a counselling session. To enroll, inmates have to make a written request. After an introductory counselling session, they receive a kit containing two syringes, which can be exchanged later at the medical unit. Inmates who inject drugs possessing a syringe kit are exempt from sanctions related to possession of injection paraphernalia. The programme is confidential and safeguarded by medical confidentiality measures to enhance accessibility and effectiveness. Additional harm reduction supplies – such as ascorbic acid, filters, stainless steel spoons, sterile saline solution, antiseptic wipes, and small plasters – are also available at the prison medical units. Condoms are distributed at discreet locations throughout the prisons, although this distribution is not formally documented.

> In 2022, 20 kits (16 kits in 2021; 11 kits in 2020) were distributed and 540 syringes (800 in 2021; 590 in 2020) were exchanged.

> In 2023, 230 syringes were exchanged, witnessing a decrease compared to previous years.

An opioid agonist treatment programme (OAT) is also available in both the closed and semi-open prison setting. Further details about health responses available in prison, including those on the OAT programme, are presented in chapter 6 "Responses to health consequences".

THERAPEUTIC COUNSELLING PROGRAMME (SUCHTHËLLEF)

As part of the health response for people with illicit substance addictions, a therapeutic counselling programme, called 'Suchthëllef', has been implemented in both closed prisons (CPL and CPU) and in the semi-open facility (CPG). The programme combines drug treatment counselling with support for socio-professional reintegration. Its primary goal is to address psychological and behavioural issues in order to prevent future use of illicit substances among people living in prison. Suchthëllef also offers health promotion and prevention sessions on infectious and sexually transmitted diseases (including HIV, hepatitis, and syphilis), as well as substance-related information sessions aimed at raising awareness and reducing associated risks. Prevention campaigns are regularly organised to promote harm reduction and overall health. These offers are accessible to all people who live in prison, offering the option to participate in individual or group therapy sessions.

To promote psycho-social reintegration, the Suchthëllef programme assist clients with applications for national and international out- or inpatient therapies. At the CPG, accompanied excursions are organised to support clients in their reintegration process and to help them navigate in real-life situations that may expose them to triggers or substances.

In 2023, 567 individual clients were supported by the Suchthëllef programme (34 women; 533 men) (2022: 461 clients; 2021: 315). The service organised 38 prevention sessions (2022: 45) with 136 participants, 163 therapeutic community sessions with 3,780 participants, 3,002 individual counselling sessions, and 1,114 individual psychological follow-up sessions.
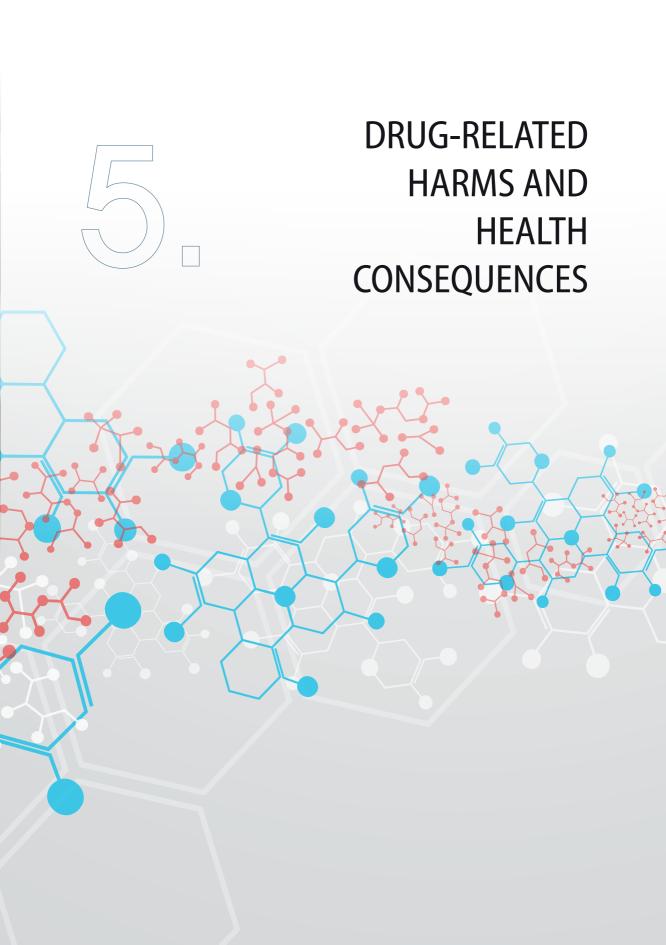
SAFE TATTOO PROGRAMME

A Safe Tattoo programme has been operational at the CPL prison since March 2017. This peer-to-peer programme enables inmates to make tattoos under appropriate hygienic conditions, aiming to prevent the transmission of communicable diseases such as HIV, hepatitis B and C. The Safe Tattoo project operates under strict regulations. Interested inmates can apply to become official tattoo artists and receive specific training, including hygiene practices and information on various communicable diseases. After passing a qualifying exam, certified tattoo artists are allowed to work with professional equipment provided by the prison, within dedicated facilities and under the supervision of prison nursing staff.

> In 2023, 17 tattoo artists were trained (2022: 17; 2021: 19; 2020: 11; 2019: 13), of whom 13 were actively tattooing. Over the course of that year, tattoos were provided to 37 inmates (2022: 39; 2021: 25; 2020: 28; 2019: 40), requiring a total of 341 supervised work hours to complete (Comité de surveillance du SIDA, 2024).

# 5. DRUG-RELATED HARMS AND HEALTH CONSEQUENCES

# 5. DRUG-RELATED HARMS AND HEALTH CONSEQUENCES

## 5.1. DRUG-RELATED INFECTIOUS DISEASES – HIV

Data on drug-related infectious diseases are collected by the National Retrovirology Laboratory at the Luxembourg Institute of Health (LIH) in close collaboration with the National Service of Infectious Diseases at the Centre Hospitalier de Luxembourg (CHL). This data collection is further complemented by information from the multi-sector national information network on drugs and drug addictions (RELIS) and by national research studies conducted by the Department of Infection and Immunity, Infectious Diseases Research Unit at the LIH.

> RELIS self-reported data: the prevalence rates of HIV, based on self-declared data, suggest a relatively stable trend between 2017 and 2020, following a peak in 2016 linked to the HIV outbreak among high-risk drug users (HRDUs) and people who inject drugs (PWID). In 2021, self-reported HIV rates showed a substantial new increase among HRDUs (9.6%) and PWID (16.0%). However, in 2022 and 2023, these rates declined. By 2023, the self-reported HIV rates among HRDUs and PWID reached 6.5% and 10.0%, respectively (see Figures 5.1. and 5.2.) (RELIS, 2023).
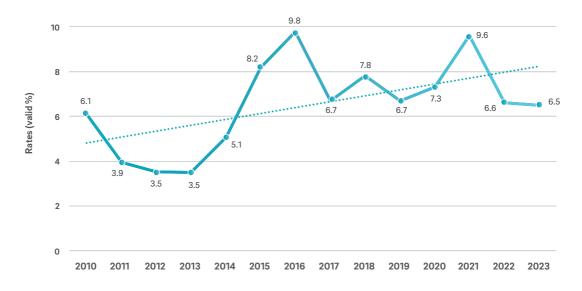


FIGURE 5.1.

Proportion of self-reported HIV infection rate among high-risk drug users (HRDUs) (valid %) (RELIS, 2023)
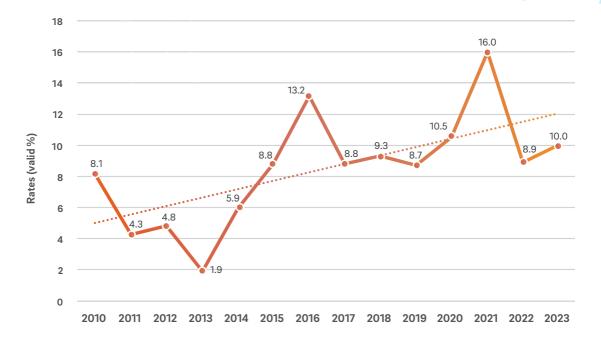
Proportion of self-reported HIV infection rate among people who inject drugs (PWID) (valid %) (RELIS, 2023)

> RELIS self-reported data: data reveal that since 1989, injecting drug use has been the third most reported mode of HIV transmission, following homosexual/bisexual and heterosexual transmission, which rank first and second, respectively. Serology-based data indicate that, although fluctuating, the number of HIV cases added to the national HIV cohort show an increasing trend. In contrast, the number of HIV cases attributed to PWID within the national HIV cohort appears relatively stable. The lowest proportion of PWID-related HIV transmissions was recorded in 2011, with only two cases added to the national HIV cohort. The period between 2014 and 2016 was marked by an HIV outbreak among this group, partially explained by an increase in stimulant injections (mainly cocaine). Following the implementation of supplementary response measures within the framework of the national drug strategy and action plan, the national HIV and hepatitis action plan, and the recommendations formulated by the EUDA (former EMCDDA) and the European Centre for Disease Control (ECDC) after their country visit in 2018, the number of diagnosed HIV cases attributed to injecting drug use has been decreasing, albeit with fluctuations (see Figure 5.3.).

   o The number of cases added to the HIV-positive cohort in the general population declined in 2023 compared to 2022, when the highest increase to date was observed (2023: 121; 2022: 170). The decrease observed in 2020 and 2021 was primarily due to reduced screening and lower economic and migratory activity during the COVID-19 pandemic. Business closures, financial instability and health measures such as social distancing, limited healthcare access, delaying routine testing and treatment. At the same time, travel restrictions and border closures limited population movement, reducing transmission and potentially hindering access to testing for some groups. However, this trend was counterbalanced by an increase in detected and treated cases in 2022 and 2023, aligning with patterns seen across Europe (Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2024).

   o Among the 121 cases added to the HIV cohort in 2023, nine cases (7.4%) were attributed to injecting drug use, revealing a decrease compared to 2022 (2022: 9.4%).
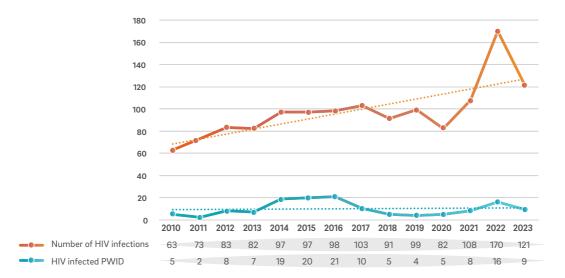
Number of HIV cases added to the national HIV cohort and number of cases related to injecting drug use (Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2024)

*Note:* The numbers have been revised compared to the National Drug Report 2024 following recent updates.

> Between the years 2021 and 2022, an increase in the number of newly diagnosed HIV cases was observed by the National Service of Infectious Diseases: (2022: 68; 2021: 50). This rise may be partially attributed to the resumption of screening activities, which had been significantly impacted by the COVID-19 health crisis in 2020 and the first half of 2021. In 2023, the number of newly diagnosed HIV cases declined to 53 (2022: 67), possibly reflecting a stabilisation after the disruptions caused by the COVID-19 pandemic (see Figure 5.4.).

> According to a report published in 2021, HRDUs perceived the availability of drug-related services as sufficient during the COVID-19 pandemic. This relates particularly to the availability of "safer-use" and "safer-sex" equipment, medications, medical care, and substitution treatments. However, at a broader European level, these services were generally considered insufficient (Berndt et al., 2021).
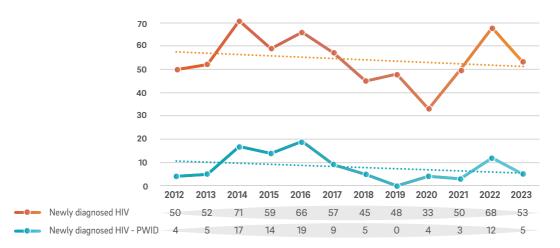
Number of newly diagnosed HIV infections among the general population and PWIDs (Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2024)

*Note:* The numbers have been revised compared to the National Drug Report 2024 following recent updates.

Proportion (%) of PWIDs in newly diagnosed HIV patients (Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2024)

*Note:* The numbers have been revised compared to the National Drug Report 2024 following recent updates.
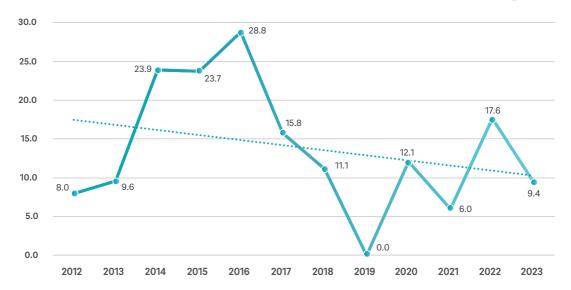
> With regard to newly diagnosed HIV cases among PWID, there were zero cases in 2019, four in 2020, three in 2021, and twelve in 2022. In 2023, the number of cases declined compared to 2022, with five new cases reported (2022: 12). Looking at the overall trend from 2012 to 2023, the number of newly diagnosed HIV cases among PWID appears to be gradually decreasing. This decline may be linked to increased harm reduction efforts, such as safer consumption practices, expanded needle exchange programmes, and improved access to HIV prevention and treatment services (Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2024) (see Figures 5.4. and 5.5.).

> In 2021, UNAIDS updated its global HIV targets, originally set in 2014, from 90-90-90 to 95-95-95, aiming to end AIDS as a public threat by 2030. As of 2023, Luxembourg remains among the top performing countries in Europe, with 85% of people living with HIV diagnosed, 95% receiving treatment, and 82% achieving an undetectable viral load. Meeting the 95-95-95 targets is expected to significantly reduce the HIV epidemic in Luxembourg[24].

> Luxembourg continues its prevention efforts by promoting awareness of HIV screening. To date, several testing options are available, including routine blood tests in hospitals or laboratories and rapid diagnostic tests. Since July 2019, HIV self-tests have complemented these options, available for purchase in pharmacies and, since November 2019, in various stores across the country.

> During the COVID-19 crisis in 2020, new initiatives were introduced to strengthen HIV prevention. When the mobile screening service called "DIMPS" — which provides rapid HIV, HCV and, syphilis testing for sex workers — was temporarily suspended during the lockdown (March/April 2020), the HIV Berodung introduced an HIV self-testing service, allowing individuals to order test kits by regular mail as an alternative screening method. Continuing its prevention efforts, Luxembourg also introduced a website promoting safer sex in 2023, a centralised platform providing comprehensive information on sexuality, risk reduction, STI prevention, self-tests, screening, contraception, and the diverse spectrum of sexual identities and orientations (Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2024).

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24   https://www.ecdc.europa.eu/sites/default/files/documents/hiv-dublin-continuum-care-progress-report-2023.pdf

## 5.2. DRUG-RELATED INFECTIOUS DISEASES – HCV

The HCV prevalence rates among HRDUs and particularly among PWID have remained rather high but have shown a steady decline over the 14-year period from 2010 to 2023:

> RELIS self-reported data: since 2004, HCV prevalence among HRDUs has remained consistently high, though with periodic fluctuations, including occasional decreases. However, between 2017 and 2018, the proportion of HRDUs infected with HCV dropped substantially from 54.7% to 39.8%, continuing to decline until reaching 23.7% in 2023. Similarly, HCV prevalence among PWID has been steadily decreasing since 2014, reaching 35.6% in 2023.

> Serology-based data: as part of the national HCV-UD research project[25], serological data have been collected from a random sample of HRDUs since 2017. Participants were recruited from outpatient drug treatment and harm reduction services, needle/syringe programmes, and prisons. The latest data from this study suggest an increase in the number of lifetime PWID with HCV infection. In 2019, among 45 persons tested, 32 (71.1%) had a positive HCV test result. In 2020, among nine persons screened, four tested positive (44.4%) (see Fig. 5.6.). These numbers should be interpreted with caution, as the COVID-19 pandemic significantly impacted HCV screenings, leading to a substantial decrease in sample size compared to previous years. Serology-based data have not been available since 2021.



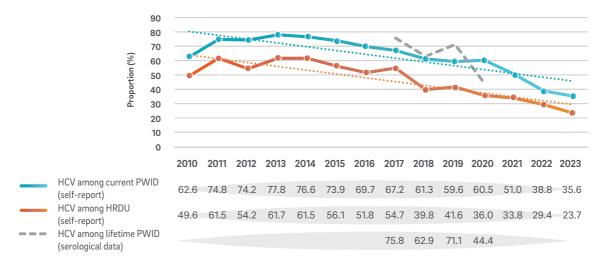| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HCV among current PWID (self-report) | 62.6 | 74.8 | 74.2 | 77.8 | 76.6 | 73.9 | 69.7 | 67.2 | 61.3 | 59.6 | 60.5 | 51.0 | 38.8 | 35.6 |
| HCV among HRDU (self-report) | 49.6 | 61.5 | 54.2 | 61.7 | 61.5 | 56.1 | 51.8 | 54.7 | 39.8 | 41.6 | 36.0 | 33.8 | 29.4 | 23.7 |
| HCV among lifetime PWID (serological data) | | | | | | | | 75.8 | 62.9 | 71.1 | 44.4 | | | |

FIGURE 5.6.

Evolution of HCV rates among high-risk drug users (HRDUs) and people who inject drugs (PWID) – self-reported and serological data (valid %)
(Comité de surveillance du SIDA, des hépatites infectieuses et des maladies sexuellement transmissibles, 2021; RELIS, 2023)

Recent efforts have focused on improving testing and linkage to care through harm reduction programmes in prisons and low-threshold agencies:

> Needle and paraphernalia exchange programmes, along with the availability of Opioid Agonist Treatment (OAT) and Heroin-Assisted Treatment (HAT), contribute to reducing direct contamination, supporting user stabilisation through improved treatment adherence, and decreasing high-risk behaviours;

25 Project HCV-UD « Toxicomanie, hépatite C et substitution: étude épidémiologique, comportementale et clinique au Luxembourg » - https://www.luxclin.lu/Studies/Details/?c=STP3756SUU. The project has resulted from a collaboration between the LIH, the CHL and five harm reduction centres in Luxembourg and was implemented in several low-threshold sites with the purpose of providing testing and treatment while identifying risk factors and the transmission clusters related to the HCV infection among people who use drugs (PWID).

> Implementation of a low-threshold medical service and OAT programme at the main harm reduction centre, including two supervised drug consumption rooms, in Luxembourg City (Abrigado CNDS). Launched at the start of the COVID-19 pandemic, this initiative was jointly led by the Ministry of Health and several specialised NGOs. Since April 2020, marginalised drug users facing increased social exclusion have been able to access OAT easily, regardless of their social security status;

> Expanding testing and improving access to treatment for clients of drug treatment centres, many of who experience social exclusion and marginalisation;

> In addition to these developments, additional measures aimed at stabilising users, such as expanding  housing programmes, are being further developed. In this context, a "Housing First" initiative in the municipality of Esch-sur-Alzette provides low-threshold housing for eleven people who use drugs and are in medical distress (Ministry of Health and Social Security, 2023).

## 5.3.  DRUG-RELATED MORTALITY

Drug-related mortality is a complex phenomenon counting as a key indicator of the overall health impact caused by illicit drug use. In Luxembourg, deaths caused by illegal drugs are recorded in two primary sources of information: the Special Registry and the General Mortality Registry (GMR).

The Special Registry, based on forensic evidence, including autopsies and toxicological analysis, provides detailed insight into drug-related deaths. When a suspected overdose case is investigated by the national Judicial Police, post-mortem toxicology performed by the National Health Laboratory (LNS) confirms or rules out drug involvement. Cases confirmed through forensic analysis are classified as *acute drug-related mortality*, referring to deaths *directly* caused by illicit drug use, alone or combined with other substances and/or prescription drugs. These include overdoses and acute intoxications (intentional, accidental, or of undetermined intent). While the Special Registry may suffer from limited coverage, it offers rich data on the drugs involved and circumstances of death.

The GMR, maintained by the Directorate of Health under the supervision of the Ministry of Health and Social Security, is based on the 10th revision of the International Classification of Diseases (ICD-10) codes from death certificates. Nowadays, it provides national coverage, although, it is subject to reporting delays. While the Special Registry includes autopsy-confirmed, direct drug-related deaths, the GMR also covers indirect cases, such as accidents or health complications where drugs were involved but did not directly cause death.

> Special Registry: The most recent forensic data show that drug-related mortality has followed an overall decreasing trend in recent years, albeit with some fluctuations. In 2000, a total number of 26 acute drug-related deaths were registered. Over the following years, the number of cases gradually declined, with periodic fluctuations, reaching nine cases in 2023. In 2000, the drug-induced mortality rate in the general population was 6.43 overdose-related deaths per 100,000 inhabitants[26]. In recent years, this rate has shown a general downward trend with some year-to-year variations. In 2023, the drug-induced mortality rate stood at 1.97 per 100,000 inhabitants aged 15 to 64 years, corresponding to the nine recorded cases (LU 2023 population size for ages 15-64: N = 457,934) (STATEC, 2023) (Fig. 5.7.)[27].

26   All age groups.
27   For Luxembourg, the figures for overdoses and infectious diseases are statistically low. As a result, both positive and negative changes in trends should be interpreted with caution, as they are not definitive. To improve the reliability of trend analysis, methodological adjustments — such as regrouping data into three-year periods — could be considered.

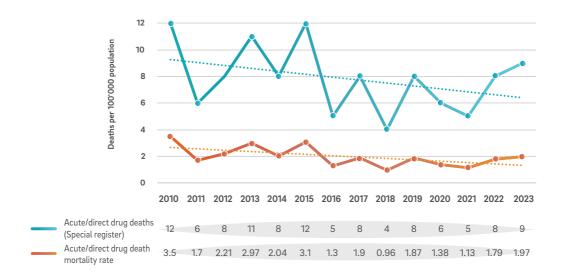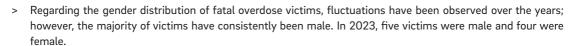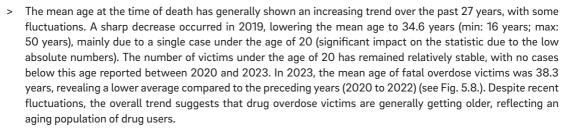| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Acute/direct drug deaths (Special register) | 12 | 6 | 8 | 11 | 8 | 12 | 5 | 8 | 4 | 8 | 6 | 5 | 8 | 9 |
| Acute/direct drug death mortality rate | 3.5 | 1.7 | 2.21 | 2.97 | 2.04 | 3.1 | 1.3 | 1.9 | 0.96 | 1.87 | 1.38 | 1.13 | 1.79 | 1.97 |

FIGURE 5.7.

Evolution of drug-related death cases and mortality rates per 100'000 inhabitants (Special Registry - National Health Laboratory – LNS, 2023)

CHARACTERISTICS OF OVERDOSE VICTIMS IN THE SPECIAL REGISTRY

> Regarding the gender distribution of fatal overdose victims, fluctuations have been observed over the years; however, the majority of victims have consistently been male. In 2023, five victims were male and four were female.

> The mean age at the time of death has generally shown an increasing trend over the past 27 years, with some fluctuations. A sharp decrease occurred in 2019, lowering the mean age to 34.6 years (min: 16 years; max: 50 years), mainly due to a single case under the age of 20 (significant impact on the statistic due to the low absolute numbers). The number of victims under the age of 20 has remained relatively stable, with no cases below this age reported between 2020 and 2023. In 2023, the mean age of fatal overdose victims was 38.3 years, revealing a lower average compared to the preceding years (2020 to 2022) (see Fig. 5.8.). Despite recent fluctuations, the overall trend suggests that drug overdose victims are generally getting older, reflecting an aging population of drug users.

> It is worth noting that a majority of acute drug death victims listed in the Special Registry are known to law enforcement for their drug history. In 2023, this applied to 56% of victims (2022: 75%; 2021: 80%; 2020: 83%; 2019: 83%). As for the place of death, since 2004, around 50-65% of overdoses occurred at the victims' homes, followed by public places (e.g., parking areas, trains, public bathrooms). In 2023, approximately 56% of deaths occurred at home, and 22% in the hospital, while the remaining cases occurred at an unknown location. Regarding nationality, the majority of victims have been natives, with the rest being residents of neighbouring countries. In 2023, all nine victims (100%) were natives (2022: 75%; 2021: 60%; 2020: 66%; 2019: 63%). These distributions should be interpreted with caution due to the small absolute figures.

> Forensic data from the Department of Forensic Toxicology of the National Health Laboratory (LNS) show that opioids (especially heroin and methadone) remain the most frequently involved substances in overdose cases, followed by cocaine. Notably, since 2000, methadone presence in overdose victims' blood samples has been increasing. In 2023, heroin and methadone were detected in five cases (55%), cocaine in six cases (66%), benzodiazepines in eight cases (88%), cannabis/THC (or metabolites) in four cases (44%), and alcohol in two cases (22%).
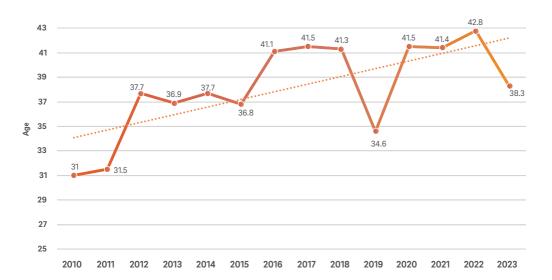
FIGURE 5.8.

Mean age (in years) of acute drug overdose victims (Special Registry - National Health Laboratory – LNS, 2023)

> The decrease of direct drug-related deaths, as shown in Figure 5.7., is likely due to the regionalisation and extension of the OAT programme, along with the development of low-threshold facilities, particulary supervised drug consumption facilities. Since its opening in 2005, the harm reduction centre "Abrigado CNDS" in the city of Luxembourg has assisted around 2,500 overdose episodes. A second centre, with two supervised drug consumption rooms run by "Fondation Jugend- an Drogenhëllef" (JDH), has been operational in the largest southern city (Esch-sur-Alzette) since September 2019. Opioid-related overdoses at these centres have decreased, with no fatal cases. Additionally, the HAT substitution programme, launched in March 2017 by the JDH, was another factor contributing to the decline in direct deaths.

ADDITIONAL INFORMATION ON OPIOID-RELATED DEATHS

Over the past 30 years, the Department of Forensic Toxicology of the National Health Laboratory has investigated direct drug-related deaths, including those involving opioids, such as prescribed opioids used in OAT, as well as other illegal substances. As described above, the results of these investigations have been recorded in the Special Registry. Figure 5.9. presents data from this registry on prescription opioid-related deaths for the period 2010 to 2023. These data should be interpreted in the context of the increasing number of autopsies performed, which have steadily risen over the years (2000: 72 in 2000; 2010: 80; 2020: 86; 2023: 143). While deaths involving prescription opioids in the Special Registry have remained relatively stable, with four deaths reported in 2023, the rise in autopsies may have contributed to a decrease in the relative proportion of prescription opioid-related deaths.

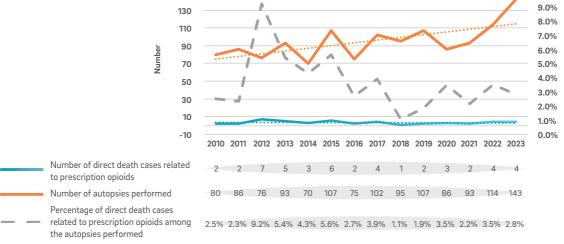| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of direct death cases related to prescription opioids | 2 | 2 | 7 | 5 | 3 | 6 | 2 | 4 | 1 | 2 | 3 | 2 | 4 | 4 |
| Number of autopsies performed | 80 | 86 | 76 | 93 | 70 | 107 | 75 | 102 | 95 | 107 | 86 | 93 | 114 | 143 |
| Percentage of direct death cases related to prescription opioids among the autopsies performed | 2.5% | 2.3% | 9.2% | 5.4% | 4.3% | 5.6% | 2.7% | 3.9% | 1.1% | 1.9% | 3.5% | 2.2% | 3.5% | 2.8% |

FIGURE 5.9.

Evolution of direct deaths related to prescription opioids (Special Registry - National Health Laboratory – LNS, 2023)

> General Mortality Registry: the most recent data on drug-related deaths from death certificates coded with ICD-10 show fluctuations, with an overall increasing trend in drug-related deaths from 2010 to 2023[28]. Compared to the Special Registry, which includes drug-induced deaths confirmed by post-mortem autopsy, the GMR covers cases where drugs were involved but were not the primary cause of death. Most drug-related deaths in the GMR are classified as 'accidental poisoning' (ICD codes X41–X42), corresponding to deaths caused by overdose. Looking at the years 2010 to 2023, the number of death cases classified as accidental poisoning were relatively low initially, but from 2017 onward, an overall increasing trend has been observed with periodic fluctuations. In 2023, three deaths were recorded under ICD code X42 (Figure 5.10.). Another notable category is "exposure to other and unspecified drugs" (ICD codes X44 and X64), which has seen a rise in recent years. In 2022, 62.5% of all drug-related deaths were attributed to these codes. A similar pattern was observed in 2023, where the majority of drug-related deaths (66.7%) were attributed to "exposure to other and unspecified drugs."

> Comparison between the Special Registry and the GMR: to account for potential underreporting, data from both registries have been compared for the years 2010 to 2023. As depicted in Figure 5.11., this comparison reveals discrepancies in the number of direct drug-related deaths reported, with a higher number of cases recorded in the GMR from 2016 to 2022. However, in year 2023, both registries reported the same number of direct drug-related mortality cases. These differences likely stem from the distinct scopes of the registries. The Special Registry includes direct drug-related deaths confirmed through forensic toxicological analysis via autopsy, whereas the GMR also accounts for indirect cases certified by a medical doctor (without post-mortem toxicological analysis). The GMR further includes indirect drug-induced deaths resulting from accidents or health conditions where drugs were involved but were not the direct cause of death or where drugs contributed to death alongside other illnesses.

28    Please note that these fluctuations are partly due to organisational and methodological changes related to the recording of deaths.

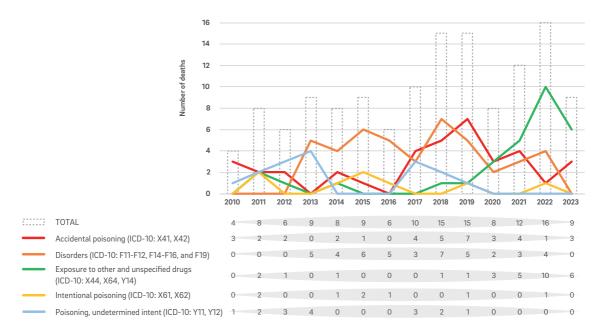| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOTAL | 4 | 8 | 6 | 9 | 8 | 9 | 6 | 10 | 15 | 15 | 8 | 12 | 16 | 9 |
| Accidental poisoning (ICD-10: X41, X42) | 3 | 2 | 2 | 0 | 2 | 1 | 0 | 4 | 5 | 7 | 3 | 4 | 1 | 3 |
| Disorders (ICD-10: F11-F12, F14-F16, and F19) | 0 | 0 | 0 | 5 | 4 | 6 | 5 | 3 | 7 | 5 | 2 | 3 | 4 | 0 |
| Exposure to other and unspecified drugs (ICD-10: X44, X64, Y14) | 0 | 2 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 3 | 5 | 10 | 6 |
| Intentional poisoning (ICD-10: X61, X62) | 0 | 2 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Poisoning, undetermined intent (ICD-10: Y11, Y12) | 1 | 2 | 3 | 4 | 0 | 0 | 0 | 3 | 2 | 1 | 0 | 0 | 0 | 0 |

FIGURE 5.10.

Trends in drug-related deaths based on the General Mortality Register (GMR) and ICD-10 Classification (Department of Epidemiology and Statistics, Directorate of Health, Ministry of Health and Social Security, 2023)

It is also important to note that cases reported in both the Special Registry and the GMR are not limited to PWID or HRDU. They may also include individuals who misused prescription medicines or took drugs recreationally (occasionally) but are not classified as PWID or HRDU. Consequently, indicators such as accidental poisoning, intentional poisoning, and poisoning of undetermined intent may not always accurately reflect overdose cases, specifically among PWID or HRDU.

Given these differences in case inclusion, the Special Registry and the GMR serve complementary but distinct roles in tracking drug-related mortality. While the Special Registry provides more precise data on the substances involved and their direct contribution to acute overdoses, the GMR offers a broader perspective by including indirect drug-related deaths. Both sources complement each other, but caution is needed when comparing them, as they rely on different methodologies and cover different aspects of drug-related mortality (Figure 5.11.).
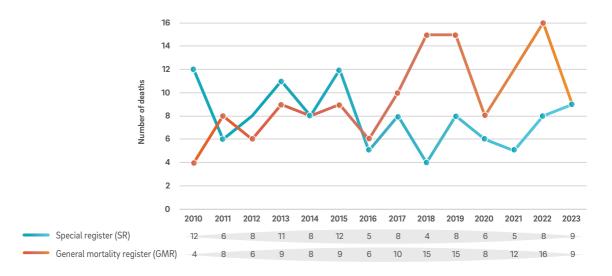
| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Special register (SR) | 12 | 6 | 8 | 11 | 8 | 12 | 5 | 8 | 4 | 8 | 6 | 5 | 8 | 9 |
| General mortality register (GMR) | 4 | 8 | 6 | 9 | 8 | 9 | 6 | 10 | 15 | 15 | 8 | 12 | 16 | 9 |

**FIGURE 5.11.**

Trends in Drug-Related Deaths: A comparison between the Special Registry and the General Mortality Registry (GMR) (National Health Laboratory - LNS (2023); Department of Epidemiology and Statistics, Directorate of Health, Ministry of Health and Social Security, 2023)

## 5.4. DRUG-RELATED ACUTE EMERGENCIES AND OVERDOSE INCIDENTS

Data on drug-related acute emergencies are reported by the main low-threshold centres both including two supervised drug consumption rooms (for inhalation and injection). Abrigado CNDS is the main harm reduction centre in Luxembourg City, whereas Contact Esch, run by the Foundation "Jugend- an Drogenhëllef", is located in the south of the country.

> In 2023, five acute emergency episodes due to heroin consumption occurred at Abrigado CNDS: one with loss of consciousness, classified as non-fatal overdose incident, and four without loss of consciousness.

> While there has been an overall decrease in opioid overdose episodes, non-fatal cocaine overdoses have increased in recent years. As presented in Table 5.1., there were 52 non-fatal cocaine overdoses at the Abrigado in 2021, compared to only three in 2020. This number, however, decreased in 2022 to sixteen non-fatal cocaine overdoses and continued to decrease to eight cases in 2023 (Abrigado CNDS, 2024).

> At the Contact Esch centre, the number of non-fatal acute emergency episodes has decreased over the last four years. In 2023, there was only one acute emergency episode, which was classified as 'moderate', with none classified as severe (Fondation JDH, 2024).

TABLE 5.1.

Overdose incidents (non-fatal) at national low-threshold centres (Abrigado CNDS and Contact Esch)

| | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|
| **ABRIGADO** | | | | |
| - Heroin – with loss of consciousness | 10 | 7 | 1 | 1 |
| - Heroin – without loss of consciousness | 12 | 2 | 4 | 4 |
| - Cocaine overdose | 3 | 52 | 16 | 8 |
| **CONTACT ESCH** | | | | |
| - Moderate overdose | 11 | 11 | 4 | 1 |
| - Severe overdose | 1 | 0 | 0 | 0 |

*Note.* In the past years there have been no fatal overdoses at the low-threshold centres

# 6.

# RESPONSES
# TO HEALTH
# CONSEQUENCES

# 6. RESPONSES TO HEALTH CONSEQUENCES

## 6.1 A FOCUS ON PREVENTION OF DRUG USE AND ADDICTIVE BEHAVIOUR

Prevention is a key pillar of the 2020-2024 National Drug Strategy and Action Plan encompassing a wide range of complementary approaches, areas and actors (Ministère de la Santé, 2020). Preventive interventions of drug use and addictive behaviours generally aim at:

> reducing initiation to drugs;

> delaying the onset of drug use;

> promoting protective actions and healthy lifestyles in the general population and in groups at risk, notably young people and their peers; and

> reducing the social, mental, and physical health risks linked to drug use.

Environmental and universal prevention strategies target entire populations, while selective prevention strategies focus on vulnerable groups at greater risk of developing substance use problems. In contrast, indicated prevention strategies are aimed at individuals already at risk of developing substance abuse and/or behavioural dependency. Selective actions for young people and their peers include prevention measures such as health education and promotion in school settings, which address attitudes and risk perceptions regarding drug use. The goal of these prevention efforts is to increase awareness, promote critical thinking among adolescents, and to build resilience skills, while also promoting harm reduction among recreational and high-risk drug users.

NEW DEVELOPMENTS, INTERVENTIONS AND EVENTS

The main national actor in the field of drugs and addiction prevention is the 'CNAPA' (Centre National de Prévention des Addictions), the "National Centre for Addiction Prevention". The Centre was established in 1995 with the mission of addiction prevention and health promotion, focusing on developing and implementing concepts and strategies for a healthy and positive lifestyle.

Besides the prevention work developed by 'CNAPA', the therapeutic addiction treatment service 'Impuls' (Foundation Solina, Solidarité Jeunes asbl) targeting adolescents and young adults provides preventive counselling interventions. The national treatment institution 'Quai 57 (ARCUS)' is also involved in prevention work, providing information and training offers to raise awareness about addictions and substance use among the general public and professionals. Furthermore, the association '4motion asbl' offers prevention and harm reduction interventions in recreational settings. Other actors involved in preventive measures include the Foundation 'Jugend- an Drogenhëllef'[29] (JDH), the "Red Cross" and the "Psychosocial and School Support Centre" (CePAS).

The mission of the 'CNAPA' consists of:

> The development of a catalogue of prevention strategies and measures in the fields of "childhood and youth", "workplace" and "municipalities".

> The strengthening of the exchange and coordination of all relevant actors.

> The establishment of a research group in the field of addictive behaviours.

> The development of an information centre for the public.

> The establishment of an evidence-based database / best practice portal providing access to assessed prevention strategies and measures in the Luxembourgish context.

29    EN: Youth- and Drug support

The 'CNAPA' intervenes in a wide range of settings including schools, extra-curricular institutions such as youth centres, and municipalities. Professional training but also teaching materials and projects in the field of addiction prevention targeting different national stakeholders are developed to best fit the needs of the latter, including children and young people.

A series of developments occurred in 2023:

> At the request of the Ministry of Education, Children, and Youth, two prevention modules, each consisting of six double periods were developed in alignment with the 'CNAPA' principles for effective addiction prevention and subsequently implemented in schools. A third module is currently under development. The modules cover the age group from 11 to 16 years and include teaching units to educate children and young people about consumption and risk.

> The 'CNAPA' increased its focus on the topics of (social) media/digitalisation and their risks for young children, as well as on prevention efforts in the early childhood sector.

> Since 2022, prevention measures targeting recreational cannabis use have been reinforced and include campaigns and new formats for disseminating information.

> A training course has been developed and implemented in collaboration with the treatment centre 'Impuls'. Through this course, addiction coordinators at secondary schools acquire basic knowledge on addiction, addiction prevention (programmes and interventions), and prevention methods.

> The 'CNAPA' has further integrated the concept of nature and its positive effect on physical and mental health into its programmes. In collaboration with the 'Caritas Eifel', the 'CNAPA' is offering basic training in "Wilderness Education and Addiction Prevention".

> The 'Impuls' treatment service has developed a new offer called 'SEBRA'. 'SEBRA' includes addiction prevention, competence development and expert advice for interdisciplinary teams, ongoing training for teams and multipliers, as well as systemic coaching and supervision services.

> Since 2023, Drug Checking services are also offered at the supervised drug consumption facilities in Luxembourg City and Esch-sur-Alzette (see chapter 5 for further information on these facilities). Furthermore, over the past two years, '4motion asbl' and the National Health Laboratory (Laboratoire National de Santé, LNS) developed a mobile drug-checking service to conduct substance analyses at festive events.

UNIVERSAL, SELECTIVE AND INDICATED PREVENTION

UNIVERSAL PREVENTION

Universal prevention is mainly implemented in schools, although drug-related education and prevention modules are not mandatory in school curricula. School-based programmes are usually implemented in cooperation with non-governmental organisations, and seminars, trainings and educational tools regarding addiction prevention and life-skills improvement are offered to school staff (on a voluntary basis). Annual thematic/prevention days or adventure weeks providing outdoor activities aim to give young people the opportunity to experience group dynamics, conflict management, risk assessment and a feeling of solidarity within a group of socially and culturally diverse people. A toolbox developed by the 'CNAPA' assists schools with the implementation of school-based prevention activities. Moreover, the 'CNAPA' established a guide with recommendations for educational professionals on how to tackle cannabis in the school environment. Training modules for professionals working with young people on how to communicate about psychoactive substances in non-formal environments and educational tools that facilitate discussion on substance abuse have also been developed.

Trained police staff members periodically visit schools - upon request to - educate students about drugs and their risks, reaching around 6,000 students every year (2023: 512 substance use prevention sessions and 425 violence prevention sessions). Some manual-based school prevention programmes are implemented in schools. Other universal prevention programmes have been carried out periodically in community settings, while trainings and seminars are offered to staff in youth centres, so they are able to reinforce social competences and prevent substance abuse and addiction among adolescents and young adults. There are also basic information sessions/trainings about drugs and their (side-)effects

provided to teachers, staff working in the psycho-socio-educational field, but also directly to adolescents.

Online counselling, e-health and m-health interventions are developed at the national level in order to provide anonymised advice and information regarding drug use and addictions, thus functioning as both universal and selective prevention measures.

◇ Universal prevention interventions implemented in 2023 by 'CNAPA':

> Continuous cooperation with school leaderships, coaching for teaching staff, psychologists, social workers, and educators.

> A podcast called "Drug Stories" on social media and on the Website 'Graffiti, d'Jugendsendungen um Radio ARA'. In 2023, 15 episodes focusing on cannabis were published.

> "Resilience-Trainer": The aim is to sensitise participants to the importance of psychological resilience regarding well-being and health (in connection with addiction prevention). The training consists of five modules (two of the modules were provided to 16 participants in 2023).

> 'Powervoll' (since 2017): Training provided to teachers in order to develop and strengthen personal competencies of young people. Young people are expected to develop skills of autonomy and decision-making. In 2023, the concept was adapted to care structures, and first workshops were implemented in non-formal institutions with the aim to provide educators with basic knowledge about addiction prevention and practical approaches.

> 'CNAPAs Pack': Health promotion and addiction prevention among children aged 3 to 12 years through strengthening of personal competencies.

> '"Health Nature Day" offered to 200 students in 2023.

> '"Resilience to go": Well-being and health promotion in school settings (150 teachers participated in 2023).

> '"Drugs ABC": Training and information on drugs (15 teachers participated in 2023).

> Workshops on addiction prevention and health promotion (59 students and 25 teachers or social workers participated in 2023).

> 'Tom & Lisa': Prevention workshop on alcohol designed for school classes (13-15 years old students). In 2023, 312 students participated in 13 workshops at school.

> 'Wieso, weshalb, warum - Suchtprävention' (former "Fit 4 Life"): Universal prevention workshop (35 participants in 2023).

> 'Cannabiskoffer 2.0': Methods for preventive practice related to cannabis use implemented mainly in school setttings.

> 'Eltereschoul': Parents' evenings and meetings with parents and schools (143 participants in 2023).

> "Motivational interviewing": Training for teachers and social workers (27 teachers and social workers participated in 2023) and "motivational interviews" with teenagers who use drugs (11 participants).

> Teaching units for primary and secondary schools (22 teachers participated in 2023).

> "REBOUND Social Work": The goal of "REBOUND social work" is to raise awareness and promote personal capacities, to learn a responsible and healthy coping strategy with risks, and raising risk competencies in peer groups. The training targets social work professionals and teachers. In 2023, 25 people participated.

> 'Gees de oder stees de': Cannabis awareness and prevention campaign and art competition open to young people aged 12 to 26 years (48 educators and 135 young people participated in 2023).

> Project "Drug Scout" and Project "Harm reduction" (13 people participated in 2023).

> Parents' evenings for addiction prevention in (early) childhood in cooperation with 'Eltereschoul' and education and care structures (57 participants in 2023). Further parents' evenings or meetings were organised in the context of media use among children and youth (288 participants in 2023).

> Further prevention measures in the "children and youth" sector include: training and supervision for professionals (11 participants), group interventions for young people on request (six participants), "Addiction prevention why" (14 participants), "Salutogen communication" (seventeen participants), 'Cannabis Reloaded' (workshops and presentations on cannabis), expert monitoring for the elaboration of a prevention guide (12 participants).

> Following the change in cannabis legislation, the 'CNAPA' organised several information sessions, such as the 'Cannabiskoffer on Tour' (4 information sessions with 125 participants) or information sessions on the "Regularisation of cannabis" (30 participants). Furthermore, several interviews and reports were published on different Luxembourgish news channels regarding the new national cannabis policy, media literacy, crisis management, and date-rape drugs.

> In the context of the new law on recreational cannabis use (see chapter 1), 'CNAPA' intensified its prevention efforts through the campaign 'Méi informéiért, manner riskéiert' ("More informed, less risks") and the "Cannabis – what is what?" information sessions.

> Community-based interventions: Coaching sessions in two municipalities with the aim of developing and implementing a municipal prevention plan. A first "guide to municipal addiction prevention" was drafted by the 'CNAPA' in 2023. Two coaching sessions were offered in the context of the addiction prevention campaign related to the change in Luxembourg's cannabis policy.

> Addiction prevention at the workplace: Coaching on health management and workplace drug prevention (10 participating organisations in 2023), as well as health promotion activities for CEO's and employees. Four training sessions and workshops for managers, specialised professionals and employees were held. Workshops were provided in collaboration with the treatment centre 'Quai 57'.

◯  By other institutions:

> "First Aid Mental health" (provided since 2021 by 'CePAS' and the Information and Prevention Centre of the Luxembourg League of Mental Hygiene): Trainings for the school community (teachers, administrative and technical staff, psychologists, social workers, educators). Over the past 3 years, there were more than 700 people from secondary schools trained in mental health first aid. The initiative was developed in collaboration with the Ministry of Health and Social Security.

> Permanent representation of the 'CePAS' in secondary schools to detect early signs of substance abuse and high-risk behaviour in students.

> Cooperation between 'CePAS', 'Impuls' and the national Judicial Police: Since 2023, members of the school staff started working as "prevention coordinators" in secondary schools.

> School interventions by the national Judicial Police: Provided in primary and secondary school settings, including support for parents and professionals on how to cope with young people who use illicit substances.

> "How to react to young people using drugs?": Trainings for teachers and professionals from the school community.

> Trainings for professionals and teams in the field of addiction prevention ('Impuls').

> Workshops on well-being at school organised by the "Ministry of Education, Children and Youth" as part of the European Year of Youth (five workshops on youth work and well-being of young people).

> Trainings for health professionals in the field of resilience (Combination of evidence-based resilience with proven addiction prevention strategies) ('Impuls').

> 'Suchtberodung online' (since 2019): Online information on addiction prevention, substances and their risks/effects, gaming and gambling, including online advice, tailored counselling, and self-tests (Foundation 'JDH' & 'Suchtverband Letzebuerg').

> The 'Impuls' treatment centre continuously offers several programmes for young people using addictive substances and drugs, including the following programmes: 'Choice', 'Choice 18+', 'Prost' and 'Option'. Participants are often referred by their family, their school or by the police in case of a drug-related contact with law enforcement agencies.

> The treatment centre 'Quai 57' continuously offers advice, information and training.

> In 2023, the 'CNAPA', in collaboration with 'Planning familial' organised workshops for young people in care aged 17 to 19 years old, including risk management in nightlife settings (15 participants).

> The Foundation 'JDH' offers the parenting service 'Service parentalité' addressing pregnant women and parents who are experiencing or have experienced problems due to their drug use, preventing the recurrence of addiction problems and associated disorders from one generation to the next.

> '4motion asbl' offers various prevention and risk minimisation interventions in recreational settings:

  o In 2016, 'Pipapo Sex, drugs and party' was launched to provide harm reduction and educational interventions to partygoers and organisers of festive events. They also offer a free product analysis service for users of psychoactive substances: 'DUCK – DrUg ChecKing'.

  o The project 'Pipapoter' was launched in 2019, offering drug checking services, drug use monitoring and counselling advice with regard to one's substance use at the main office of the association '4motion asbl'.

  o The 'Party Safe City' Project was launched in 2020 to provide outreach and street interventions by directly approaching adolescents and young adults who are gathering outdoors by informing them on how to party and interact in a safe manner.

  o The 'Safer Night' project was launched in 2022 with the aim to prevent and fight sexual violence and discrimination in party settings.

  o Since August 2024, a mobile drug checking service is offered, enabling the analysis of substances and provision of counselling and advice at festive events.

Regarding indicated prevention, early detection is a priority for young people showing high-risk behaviour in school settings or at home. More intensive interventions for young people with problematic substance abuse are provided by psychiatric care services. As reported in the 2022 annual activity report of the Ministry of Health[30], the 'Impuls' treatment service (Foundation Solina) pursues several objectives related to indicated prevention:

> Identify young people who reveal indicators closely associated with an individual risk of dependence (e.g., family or personal distress, comorbidities or psychiatric disorders, dissocial behaviour, school failure, consumption of psychoactive substances for self-medication, association with marginalised environments, relations with high-risk peer groups).

> Offer inpatient treatment and psycho-socio-educational support throughout counselling and facilitate administrative and financial procedures.

> Avoid drug use or reduce the frequency/intensity of use. Another aim is to prevent the emergence of poly-drug dependence.

> Working closely with the therapeutic communities, juvenile and adult psychiatry services of Luxembourg and abroad, in the context of inpatient treatment.

> Provide care for the beneficiary's family during inpatient therapy and post-therapeutic individual and/or family care.

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30    Please note that in 2023, the Ministry of Health and the Ministry of Social Security were merged into the Ministry of Health and Social Security.

◇ Indicated prevention interventions include:

> Psychological and psychotherapeutic, social and family/relationship support in secondary schools, offered by the 'CePAS'.

> The programme 'OPTION' offered by the youth treatment centre 'Impuls' includes inpatient treatment and psycho-socio-educational support throughout the treatment period, as well as administrative and financial assistance. In 2023, 112 individual- and 23 group sessions were offered. A third of the people that participated in the Option programme attended an inpatient therapy abroad or in Luxembourg.

> Another example for an indicated prevention measure is the mobile unit 'MOPUD/X-Change' offered by the Foundation 'JDH' (in collaboration with 'Abrigado CNDS' and the 'HIV-Berodung' of the "Red Cross"). The mobile prevention offer for people who use drugs promotes safer use and safer sex. Furthermore, therapy and consultation are offered by the Foundation 'JDH' to quit drug use and prevent relapse.

## 6.2. TREATMENT AND HARM REDUCTION RESPONSES AVAILABLE IN LUXEMBOURG

Specialised drug treatment in Luxembourg includes inpatient and outpatient services. These services rely on government support and are provided through specialised harm reduction and low-threshold agencies, hospital-based drug treatment units, outpatient treatment facilities, and inpatient treatment facilities. Treatment units are also available in prisons. The treatment system is decentralised and primarily provided by state-accredited and state-financed non-governmental organisations. Outpatient treatment is offered free of charge, whereas inpatient treatment is covered by the national health insurance. All institutions work in close collaboration, forming an inter-connected therapeutic chain.

HARM REDUCTION AND LOW-THRESHOLD SERVICES

> Currently, two centres offer harm reduction services for high-risk drug users (HRDU) in the centre of the country. The first is the 'Abrigado CNDS' centre, run by the national social defence committee[31], and the second is the 'Contact 28', run by the Foundation 'JDH'. The Foundation 'JDH' further offers harm reduction services in the South ('Contact Esch') and in the North ('Contact Nord') of the country. Services include offers such as day and night shelter, as well as supervised injection and inhalation facilities (in the centre of the country and in the South).

> In July 2005, the first supervised drug injection room opened in Luxembourg City. It was integrated into the low-threshold centre 'Abrigado CNDS' providing day care, night shelter (42 beds) and low-threshold services to people who use drugs. In 2015, an additional supervised room for inhalation became operational at the 'Abrigado CNDS' centre.

> Supervised drug consumption rooms, one for injection and one for inhalation, were established as part of the harm reduction facility ('Contact Esch') in the southern city of Esch-sur-Alzette. Operated by the 'JDH' Foundation, the facility opened in September 2019.

> The supervised injection facility at the 'Abrigado CNDS' centre provides eight places, and the blow/inhalation room six places, whereas the supervised injection and blow facilities at 'Contact Esch' provide four places each. Another low-threshold offer run by the Foundation 'JDH' was opened in the northern city of Ettelbruck in 2014 ('Contact Nord').

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31    Comité national de défense sociale, CNDS

> Furthermore, the 'Drop-In service' is available in Luxembourg City, offering a safe place for sex workers and people who use drugs, where they can access medical, social, psychological, and material support, as well as follow-up care. To complement this service, the 'PASS-By service' was established, ensuring 24/7 access to safer use and safer sex equipment, along with low-threshold nursing care for people who use drugs.

The 'Pipapo' project from the NGO '4motion asbl' provides both prevention and harm reduction services through the 'DrUg CheCKing (DUCK)' project targeting drug users in recreational or festive settings. The 'DUCK' project allows for testing of substances, including NPS, used in these settings. Users have the opportunity to visit the stand of 'Pipapo' at the festive event and hand over a small sample for analysis. During their visit, users are invited to describe what substance they think it is, as well as the expected effects. The 'DUCK' team uses this interaction to raise awareness about the risks associated with drug use and to promote a more responsible consumption. The samples collected by the 'DUCK' service have generally been sent to the "National Health Laboratory" for spectrochemical analysis, while the samples are destroyed after testing.

Since 2020, the 'DUCK' project by 'Pipapo' has been complemented by the 'Pipapoter' service which is an integrated counselling service available on various weekdays at the main office building of '4motion asbl'. In addition to providing drug testing services, clients can ask questions related to safer sex, safer partying, and drug use. These inquiries may concern specific substances or focus on strategies for safer consumption. Clients are generally encouraged to return for a follow-up visit to the 'Pipapoter' service once the test results are available. This allows 'Pipapo' staff to provide personalised feedback on the composition of the substance, its expected effects, and the associated risks or harms based on the user's patterns of use.

In August 2024, 'Pipapo' launched its first mobile drug-checking unit, offering onsite testing and immediate feedback to clients at festive settings.

In 2023, the 'DUCK' team collected 150 samples for the purposes of drug checking (2022: 117; 2021: 120; 2020: 91), of which 31 were collected at festive settings. The samples were safely transported to the "National Health Laboratory", where the analyses are conducted. The laboratory results were usually available on the next weekday, and generally confirmed the substance expected by the consumer.

Among the tested samples in 2023, two were positive for synthetic cannabinoids, a decrease compared to 2022 (2022: 16 samples positive). The increasing demand for cannabis testing may be partly explained by an increase in the presence of synthetic cannabinoids and CBD cannabis products in the Grand Duchy of Luxembourg, as well as the policy changes that were put into force in 2023.

In 2023, 46 "Pipapoter" consultations were provided (2022: 41; 2021: 69; 2020: 42). In total, 42 people benefitted at least once from the "Pipapoter" consultation offer in 2023 (2022: 37; 2021: 48; 2020: 23).

The Foundation 'JDH', created in 1986, is the main treatment provider at the national level. It provides various psychosocial, therapeutic and medical care services for consumers of psychoactive substances, including people who have a problematic drug use, parents with drug addictions and their children, mothers and pregnant women providing intervention to strengthen the parenting skills, and their relatives. The Foundation 'JDH' runs three regional antennas that are situated in Luxembourg City (Centre), in Esch-sur-Alzette (South), and in Ettelbruck (North).

The 'Alternativ Berodungsstell' ("Alternative Counselling Centre") is a specialised outpatient service implemented in Luxembourg City. Its main objectives are to establish first contact with people who use drugs searching for treatment and to assist them in the development and organisation of a therapeutic counselling project, detoxification, psychiatric/psychotherapeutic interventions, and the provision of informative or therapeutic sessions.

The service 'Quai 57 (ARCUS)' implemented in Luxembourg City is primarily a social and psychological counselling and referral agency providing help to people who suffer from addiction or an addictive disorder (with or without substance abuse) or to family members and/or peers of people with an addictive disorder. The service 'Quai 57 (ARCUS)' also offers counselling in other regions of Luxembourg, such as Rédange, Grevenmacher, Mersch, Diekirch, Marnach and Esch-sur-Alzette.

The treatment service 'Impuls' (Foundation Solina) provides, in the framework of youth protection, psychosocial and therapeutic assistance to young people (generally below the age of 21 years) and their families when they are confronted with the consumption of legal and illegal psychoactive substances. The treatment service 'Impuls' has its main seat in Luxembourg City, while there are also antennas in the North (Ettelbruck) and South of the country (Esch-sur-Alzette).

### HOSPITAL-BASED DRUG TREATMENT UNITS

Detoxification treatment is provided by psychiatric units within the following general hospitals:

> Centre Hospitalier du Nord – CHdN (Ettelbruck - North);
> Centre Hospitalier Emile Mayrisch – CHEM (Esch-sur-Alzette - South);
> Centre Hospitalier de Luxembourg – CHL (Luxembourg City - Centre);
> Hôpitaux Robert Schuman (sites Zithaklinik and Hôpital Kirchberg) – HRS (Luxembourg City - Centre).

### INPATIENT TREATMENT SERVICES

The national residential therapeutic centre at the 'Syrdall Schlass' called 'Centre Thérapeutique de Manternach' ('CTM') is managed by the 'Centre Hospitalier Neuro-Psychiatrique' ('CHNP'). The therapeutic centre is situated in the East of the country and provides assistance to people who have a behavioural addiction due to (illegal) substances use. The centre is organised as a therapeutic community and can accommodate up to 25 people. Patients are allowed to follow opioid agonist treatment in-house. Mothers and/or fathers accompanied by their children may also follow a therapeutic programme at the centre. The goal of the therapeutic community is to help each individual lead a life without drugs and reintegrate into society and work. The therapeutic programme of the centre is divided into three progressive phases. Before admission to the 'Syrdall Schlass', it is mandatory to first consult the 'Alternativ Berodungsstell' orientation office in Luxembourg City. All patients have to go through detoxification before entering the therapy.

In 2021, the 'CTM' engaged in an ongoing reform to adapt their offer to the patients' needs and to reduce waiting lists. The reform has shortened the duration of the therapy for some patients, which so far ranged from 6 to 15 months on average. In many other countries, similar therapies usually last between 3 to 6 months. The 'CTM' now implements more individualised, flexible treatment options with an increased focus on psychotherapy. In addition, the value of the therapy outside the therapeutic closed setting is expected to increase, as patients are given more responsibility and fewer restrictions. The 'CTM' furthermore continues to improve the therapy for mothers with children, as their treatment takes longer on average. A working group has been created by the 'CTM' to implement the changes without compromising current patients' therapy.

A specialised residential rehabilitation centre for youngsters ('Centre Thérapeutique Putscheid') was opened in the beginning of 2007 in the North of the country under the management of the 'CHNP'. The rehabilitation centre can accommodate up to twelve people of both genders, between 12 and 17 years old, who suffer from a psychiatric disorder or a social behaviour disorder, sometimes associated with psychoactive substances misuse or a post-traumatic dysfunction. While adolescents usually stay between 4 and 6 months, the centre provides therapeutic counselling to adolescents and facilitates family, school and/or socio-professional reintegration.

The 'service psychiatrique en milieu pénitentiaire' ('SPMP') ensures screening and care for psychiatric disorders among people who live in prison. Furthermore, the programme 'Suchthëllef' targeting people living in prison with an active drug use implemented in both closed prison settings ('Centre pénitentiaire de Luxembourg - CPL' and 'Centre péntientiaire d'Uerschterhaff - CPU') and in the semi-open prison setting ('Centre pénitentiaire de Givenich - CPG') has established several psycho-educational activities. It is a therapeutic counselling programme of individualised rehabilitation, not time-limited, allowing clients to participate in activities that are in line with their previously established therapeutic plan. The programme allows the clients to combine drug treatment counselling and other necessary steps towards socio-professional reintegration. For further details on drug use and services provided to people living in prison who use drugs, see also chapter 4.

POST-THERAPY/AFTER-CARE

> "Post-therapeutic centre in Schoenfels": In 2016, the 'Stëmm vun der Strooss asbl' ("Voice of the Street") opened a new post-therapeutic centre in Schoenfels for persons previously treated for substance use and addiction. It provides post-therapy, time-limited housing and daytime occupation notably to adults who have a past of drug use or a past of problematic alcohol use who intend to lead a life without drugs and/ or alcohol. A total number of fifteen people who have successfully completed inpatient drug treatment and therapy can be accommodated for a limited time in the residential centre. The post-therapy centre has two main aims:

  o To offer professional and social reintegration;

  o To avoid accommodation in emergency care facilities after the end of inpatient therapy and provide follow-up in a protected setting.

  In the accommodation facility, of the 24 residents in 2023, five relapsed, which means that 79% remained abstinent in 2023. Of the 13 who left, five relapsed, which means that 62% of the people successfully completed inpatient therapy. The average age of the residents was 38.6 years. During the same year, 53 people submitted their application for admission to the housing facility, and 27 people were on the waiting list to join the post-therapy centre.

> "Post-Cure Service" (CHNP): The aim of this offer is to provide after-care for people having completed their therapy at the 'CTM' ("Therapeutic Centre Manternach") or abroad. The project team provides support to clients living in community housing facilities or in apartments located in several areas of the country (Rosport, Moersdorf, Junglinster, Grevenmacher, Wasserbillig, Berg, Echternach, Ettelbruck, Warken and Ingeldorf). The objectives of the "post-cure service" are:

  o abstinence and continuous development of skills towards abstinence from illicit drug use;

  o professional/social reintegration and stabilisation through the acquisition and consolidation of personal skills;

  o physical and mental stability;

  o solidarity across the community/life group;

  o educational support for the clients' children; and

  o provision of professional support to clients beyond their after-care stay.

  In 2022, 42 housing places were attributed (33 adults and nine children) (2021: 48 housing places to 37 adults and 11 children). In 2023, 42 housing places were attributed including 34 adults and eight children.

> Supervised housing service 'Les Niches': The supervised housing service from the Foundation 'JDH' offers a communitarian house for senior drug users. This housing facility allows responding to the specific needs of this group, while the number of senior drug users in need of housing is increasing. The number of visits and accommodations has increased over the past years. In 2023, 82 housings were offered (2022: 78; 2021: 69; 2020: 57) accommodating 97 adults (2022: 95; 2021: 87; 2020: 67), as well as 25 children (2022: 23; 2021: 19; 2020: 18). Data from the "Niches" reveal an increasing proportion of aging drug users with 27.8% of the clients benefitting from the housing offer being above the age of 55 years (2022: 20.0%; 2021: 27.8%; 2020: 16.4%).

As shown in Figure 6.1., drug treatment and re-integration facilities are spread over different regions. All listed services are specialised with the exception of regional general hospitals providing detoxification treatment via their respective psychiatric departments.

- ● Foundation JDH: Counselling, substitution, low-threshold, supervised drug consumption/facilities and aftercare
- ● ABRIGADO (CNDS): Low threshold
- ● ABRIGADO (CNDS): Night shelter, supervised drug consumption facilities
- ○ IMPULS (Foundation Solina): Youth counselling
- ✿ Quai 57 (Arcus asbl): Counselling and referral

- ▲ CHNP: Treatment and referral
- ◉ CTM: Residential therapy, reintegration measures
- ○ CTM: Aftercare, supervised housing (only main site)
- ● General hospitals providing detoxification treatment
- △ Stëmm vun der Strooss: Post-therapeutic centre
- △ Alternativ Berodungsstell (CHNP)
- ▲ DropIn Pass-BY (Red Cross Luxembourg)



FIGURE 6.1.

Map of the geographical coverage of specialised drug agencies in the Grand Duchy of Luxembourg

*Note:* The prison sites in Luxembourg ('CPL', 'CPG' and 'CPU') offer therapeutic counselling services ('Suchthëllef') and OAT to the people who live in prison who use(d) drugs

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## 6.3. PROVISION OF DRUG TREATMENT

TABLE 6.1.

Overview of harm reduction services and drug treatment provision in the Grand-Duchy of Luxembourg

| | | | | Definition | Number of clients/client-contacts in 2023 | Total clients in treatment in 2023 |
|---|---|---|---|---|---|---|
| **Outpatient** | Specialised drug treatment centres | Impuls, Quai 57, JDH, Alternativ Berodungsstell | Non-government (non-for-profit) | The patient receives drug treatment without staying overnight and may receive pharmacological assistance | 1,909 | 1,909 |
| | Low-threshold agencies | Abrigado, JDH-K28, JDH-Contact Esch, JDH-Contact Nord | | Agencies offering harm reduction services including, night shelters, needle exchange programme, supervised consumption rooms, education/counselling, and infectious disease testing | 109,107[32] | |
| | Outpatient OAT | General Practitioners (GPs) and JDH | | Opioid Agonist Treatment (OAT) is available to opioid users and can be assessed through general practitioners or the JDH substitution treatment programme | 980 | 980[33] |
| | Mobile outreach unit | MOPUD/X-Change Project | | A mobile van promoting "safer use" and "safer sex", with the ultimate goal of harm reduction and reducing the risks of infectious disease transmission | 955 | |
| **Inpatient** | Hospital-based drug treatment | CHL, CHEM, CHdN, HRS | Public/ Government | The patient stays overnight, with or without pharmacological support (including detoxification) | 675[34] | 675 |
| | Therapeutic communities | Syrdall Schlass - Centre Thérapeutique de Manternach (CTM) | | The patient stays overnight, and psychological, long-term treatment, which may or may not include pharmacological assistance (excluding detoxification). Detoxification is required prior to entering the community | 54 | 54 |
| | Prisons | Programme SuchtHëllef (CPL, CPG & CPU) | | The patient incarcerated in prison can submit a request to enter a specialised drug treatment (Suchthëllef programme). The treatment may include pharmaceutical assistance, but does not involve detoxification | 567 | 567 |
| | | OAT treatment in prison (CPL, CPG & CPU) | | The patient incarcerated in prison can continue a previously prescribed OAT treatment or begin OAT while in prison | 120 | 120 |
| | | | | | | **4,305[35]** |

32  Number of client-contacts (the number of individual-clients is not registered).

33  To allow for comparisons to previous years, OAT clients (N = 28) from the diacetylmorphine (DIAM) programme and OAT clients (N = 89) from low-threshold services were excluded.

34  Please note that the total number of clients for hospital-based residential drug treatment is an accurate estimate based on exact figures provided by four hospitals (CHL n= 223; CHEM n = 30, HRS n= 397; ChdN n=25).

35  Data provided by the treatment institutions in their annual activities report. Inter-institutional multiple counts are not excluded meaning that a given client could be indexed twice or more in case he/she used several harm reduction and/or treatment services during a given reporting year.

The number of drug treatment demanders reported by specialised outpatient drug treatment centres ('JDH' Foundation, 'Quai 57', 'Impuls', and 'Alternativ Berodungsstell') has generally increased over the years. However, a decrease in treatment provision was observed in 2020 due to COVID-19-related restrictive measures, with demand rising again in 2021, as these measures were partially lifted. In 2023, 1,909 clients were reported by these centres, which was slightly higher than the previous year (2022: 1,876). Admission rates for outpatient Opioid Agonist Treatment (OAT) have remained stable in recent years, though in 2023, the number of OAT clients saw a decrease of nearly 7% compared to 2022 (2023: 980 patients; 2022: 1,053 patients). A similar trend was observed in the number of OAT patients in prisons, where the number dropped by 27% in 2023 compared to the previous year (2023: 120 patients; 2022: 165 patients). In Luxembourg, detoxification treatment is provided in inpatient settings, with four hospitals offering a 1-2 week detoxification that includes both medical and psychological interventions. Over the past few years, the number of drug treatment demanders reported by hospitals has remained relatively stable, with minor fluctuations and a decline in 2020 due to the COVID-19 pandemic. However, in 2023, this number surged by more than 100% compared to 2022 (2023: 675 patients; 2022: 319 patients). For more detailed data, Table 6.1. presents the number of clients in other national in- and outpatient therapeutic and harm reduction agencies in 2023, while Figure 6.2. illustrates the trend in the total number of clients in inpatient and outpatient treatment over the past 14 years.

The number of clients in in- and outpatient treatment has shown an overall increasing trend, with some fluctuations, from 2002 to 2023. However, in 2020, due to the COVID-19 pandemic, the count of registered clients decreased substantially compared to previous years (2020: 3,190; 2019: 3,450) (multiple counts included). In 2021, the total number of clients increased again, returning to pre-pandemic levels. In 2022 and 2023, the figures for those in treatment in both in- and outpatient settings continued to rise, with 2023 showing an increase of nearly 10% compared to 2022 (see Fig. 6.2.).
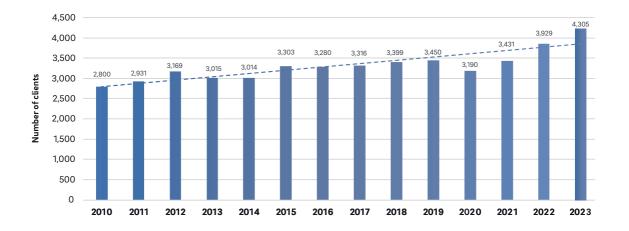


FIGURE 6.2.

Trend in total number of clients in inpatient and outpatient treatment (RELIS, 2010-2023)

## 6.4. PATTERNS OF USE AND CHARACTERISTICS OF TREATMENT DEMANDERS

At the national level, treatment demands, characteristics of treatment demanders and their drug use patterns are assessed continuously on an annual basis through the RELIS monitoring system, which includes the majority of national out- and inpatient drug treatment centres.

> The mean age of all treatment entrants has generally been increasing during the last 30 years. In recent years, the average age of treatment entrants was around 35 years (2023: 34.8y; 2022: 35.0y; 2021: 36.8y), while looking back at 1997, the average age of treatment entrants was around 28 years.

> In 2023, 81.3% of all treatment entrants were male and 18.7% were female (2022: 81.8% male; 18.2% female). This distribution has been stable over the past years.

> In 2023, the largest proportion of treatment demands were related to cannabis use (2023: 38.8%; 2022: 42.7%; 2021: 24.7%). One-third (33.3%) of treatment demands were related to cocaine use (2022: 23.7%; 2021: 33.2%). Moreover, in 2023, for the first time, opioids were the least represented primary substance among treatment demanders (2023: 25.6%; 2022: 33.6%; 2021: 40.5%) (see Figure 6.3.)

> The high proportion of treatment demanders due to cannabis use can partially be explained by the substantial share of clients from the 'Impuls' treatment centre among the total sample, as this treatment centre mainly provides counselling to young people who report cannabis use (84 clients of whom 98.8% were in treatment for cannabis use). In 2021, clients from the 'Impuls' treatment centre made up only 6.7% of the treatment entrants, while in 2023, this figure increased to 27.8% (2022: 24.9%).

> When excluding 'Impuls' clients from the 2023 analysis, cocaine is the most prevalent substance used by treatment demanders (2023: 42.9%; 2022: 30.5%; 2021: 35.6%), followed by opioids (2023: 36.6%; 2022: 44.7%; 2021: 41.8%) and cannabis (2023: 18.3%; 2022: 24.7%; 2021: 19.2%) (N=224). Consequently, when excluding treatment demanders from the analysis that entered the 'Impuls' service during the year 2023, an increase can be observed in demands due to cocaine use, and a decrease in demands related to opioid or cannabis use (Figure 6.4.). The same trend can be observed for all treatment entrants (Figure 6.3.).

> In 2023, cannabis use was most prevalent among younger treatment demanders (below 25 years), while opioids and cocaine were more commonly reported as the primary drug among older treatment demanders (see Fig. 6.5.).



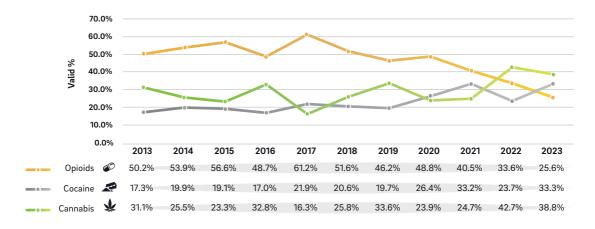| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Opioids | 50.2% | 53.9% | 56.6% | 48.7% | 61.2% | 51.6% | 46.2% | 48.8% | 40.5% | 33.6% | 25.6% |
| Cocaine | 17.3% | 19.9% | 19.1% | 17.0% | 21.9% | 20.6% | 19.7% | 26.4% | 33.2% | 23.7% | 33.3% |
| Cannabis | 31.1% | 25.5% | 23.3% | 32.8% | 16.3% | 25.8% | 33.6% | 23.9% | 24.7% | 42.7% | 38.8% |

FIGURE 6.3.

Proportion of treatment demands by primary drug (valid %) (RELIS, 2013-2023)

> The majority of the treatment demanders reporting cannabis as their primary drug started consuming this substance before the age of 20 (97.6%). For people entering treatment due to cocaine or opioid use, 51.2% started using the respective primary substance before the age of 20, with some clients indicating an older age of first use (Fig. 6.6.).
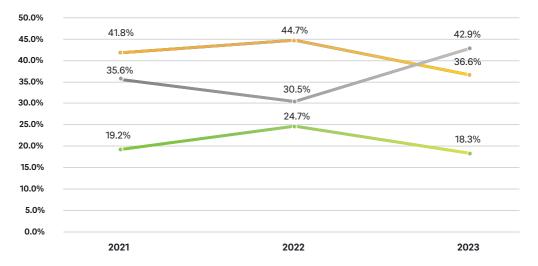
Proportion of treatment demands by primary drug in 2021-2023, excluding clients from the 'Impuls' centre (valid %) (RELIS, 2021-2023)

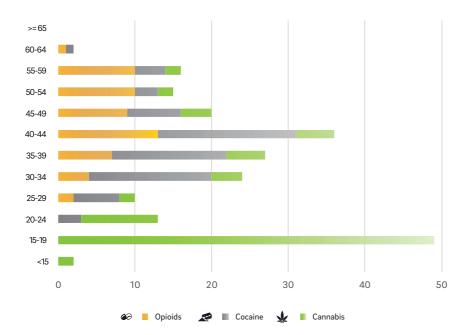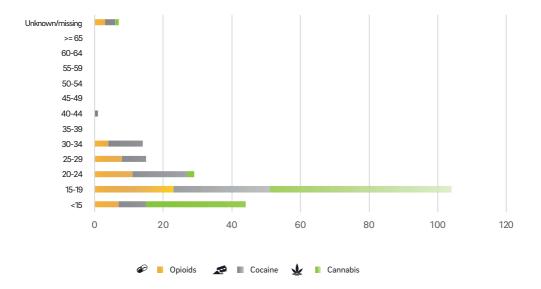Age of treatment demanders by primary drug in 2023 (N=219) (RELIS, 2023)

**FIGURE 6.6.**

Age of first use of treatment demanders by primary drug in 2023 (N=219) (RELIS, 2023)

> In total, 33.3% of all clients entered treatment for problems related to cocaine use (see Fig. 6.3.), making it the second most reported drug in treatment demands. This proportion has increased compared to previous years (2022: 23.7%; 2021: 33.2%). The same trend can be observed when excluding 'Impuls' clients from the sample, with cocaine, however, being the most prevalent primary substance (42.9%). This confirms the high prevalence of cocaine on the illicit market and a shift in consumption patterns, with a shift from heroin to cocaine or crack use, especially among younger people who use drugs.

> In 2023, the proportion of treatment demanders with cannabis as their primary drug decreased compared to the previous year (2023: 38.8%; 2022: 42.7%; 2021: 24.7%). A similar decrease is observed when excluding 'Impuls' treatment clients from the total sample (2023: 18.3%; 2022: 24.7%; 2021: 19.2%). However, over the past 15 years, a general increase in the number of cannabis treatment demanders is evident. This increase may be linked to higher THC levels observed in cannabis products (see also chapter 7), which have been associated with an increased risk of mental health and social problems.

> In general, other illicit drugs represent only a small proportion of treatment demands. People with a primary use of stimulants other than cocaine, hypnotics and sedatives, and hallucinogens represent only 2.3% of the total treatment demands in 2023.

> The primary route of administration of the main drug over the past 10 years has generally remained stable, with around 30% of treatment clients reporting injection. However, during the past three years, there has been a noticeable decrease in this proportion (2023: 16.9%; 2022: 26.5%; 2021: 27.4%). The data from the drug consumption rooms further highlight this trend (see Chapter 5).

> The proportion of clients using smoking/inhalation as their main route of administration has continuously increased from around 37.4% in 2013 to 68.0% in 2023 (66.4% in 2022). However, this increase should be considered in the context of changes in the sample characteristics (i.e., higher number of cannabis users).

> Other routes of administration are less prominent – however, the proportion of people consuming through intra-nasal sniffing in 2023 was elevated compared to previous years. There is no consistent trend for swallowing or other routes of administration (see Fig. 6.7.).
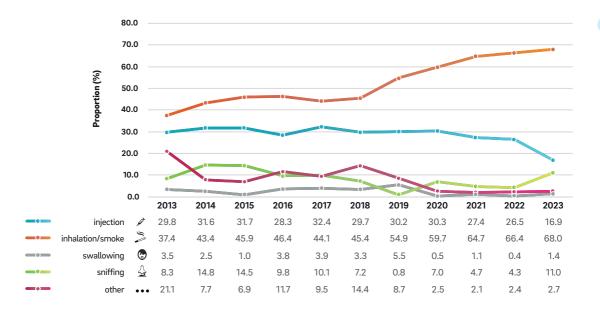
| | | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| injection | 🖉 | 29.8 | 31.6 | 31.7 | 28.3 | 32.4 | 29.7 | 30.2 | 30.3 | 27.4 | 26.5 | 16.9 |
| inhalation/smoke | ⌇ | 37.4 | 43.4 | 45.9 | 46.4 | 44.1 | 45.4 | 54.9 | 59.7 | 64.7 | 66.4 | 68.0 |
| swallowing | 😀 | 3.5 | 2.5 | 1.0 | 3.8 | 3.9 | 3.3 | 5.5 | 0.5 | 1.1 | 0.4 | 1.4 |
| sniffing | 👃 | 8.3 | 14.8 | 14.5 | 9.8 | 10.1 | 7.2 | 0.8 | 7.0 | 4.7 | 4.3 | 11.0 |
| other | ••• | 21.1 | 7.7 | 6.9 | 11.7 | 9.5 | 14.4 | 8.7 | 2.5 | 2.1 | 2.4 | 2.7 |

FIGURE 6.7.

Route of administration of the primary drug among treatment entrants (%) (RELIS, 2023)

> The proportion of new treatment demanders[36] has fluctuated over the past years. After an increase between 2017 and 2019 (2019: 35.2%; 2018: 26.8%), the proportion of new treatment demanders decreased in 2020 (28.9%), likely due to the COVID-19 pandemic. A slight increase was observed in 2021 (30.0%), possibly as COVID-19 restrictions eased, though it remained below pre-pandemic levels. In recent years, the proportion of new treatment demanders has continued to rise, reaching 44.8% in 2023, higher than in 2022 (35.6%) and higher than pre-COVID-19.

> More than half of new treatment demands are related to primary cannabis use. In 2023, 58.2% of the treatment demands of people that were not previously in treatment for substance use, were related to cannabis use (2022: 63.3%; 2021: 38.6%).

> In 2023, 14.3% of new treatment demands were related to primary opioid use (2022: 22.2%; 2021: 29.8%), while 25.5% were primarily due to cocaine use (2022: 14.4%; 2021: 18.1%).

## 6.5. OPIOID AGONIST TREATMENT

Opioid agonist treatment (OAT) is a medically assisted treatment provided to individuals who suffer from opioid addiction, primarily involving the delivery of opioid agonists, antagonists and partial agonists as substitutes for the substances they normally use. The primary goals of OAT are to achieve the psychosocial and medical stabilisation of patients by replacing "street" drugs with quality-controlled substitution medications. OAT is typically accompanied by psychosocial care, which can be provided in both inpatient and outpatient settings. A structured and multidisciplinary OAT programme has been provided at the national level by the 'JDH' Foundation since 1989. Additionally, OAT licenses can be granted to medical doctors, office-based general practitioners, and specialised agencies, provided they meet specific training requirements. By law, licenced medical doctors are obliged to notify the Directorate of Health of all requests for OAT. The 'JDH' Foundation provides oral methadone, while since 2017, diacetylmorphine may also be delivered to patients in

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36  New treatment demanders are defined as people who have not previously been in treatment for substance use related problems

the context of the national heroin-assisted treatment programme (HAT). Freelance, state-accredited medical doctors can also prescribe other substitution medications specified by law. OAT medications registered in Luxembourg include methadone, buprenorphine, morphine-based medications, and diacetylmorphine (heroin – only available within the framework of the national HAT, or diamorphine-assisted treatment programme). The costs of OAT consultations are partially covered by individuals' health insurance, while the government covers pharmaceutical costs and pharmacy fees.

<span style="background-color:red; color:white">DEVELOPMENTS IN THE NUMBER OF OAT PATIENTS</span>

The overall number of patients receiving OAT has remained relatively stable over the past 22 years (2002–2023), with some fluctuations between 2008 and 2012. Since 2013, a gradual decline has been observed, with 2023 marking the lowest number (980 patients) recorded in the last 22 years. The majority of OAT patients benefitting from the programme are over 40 years old and primarily receive prescribed methadone, followed by buprenorphine and naloxone. As shown in Figure 6.8., in addition to those registered in the national OAT database by the national health insurance (CNS), OAT is also provided to people living in prison (120 patients in 2023) and through low-threshold services at harm reduction centres (89 patients in 2023). Furthermore, the HAT programme (diacetylmorphine-assisted treatment – DIAM), coordinated by the Directorate of Health and implemented by the 'JDH' Foundation since 2017, also provides treatment to OAT patients, with 28 patients participating in 2023. All these patients are included in the overall number of OAT patients (Fig. 6.8.). It is important to note that the prescription of diacetylmorphine (DIAM) is not considered a low-threshold intervention, but rather a specialised, supplementary form of substitution treatment.
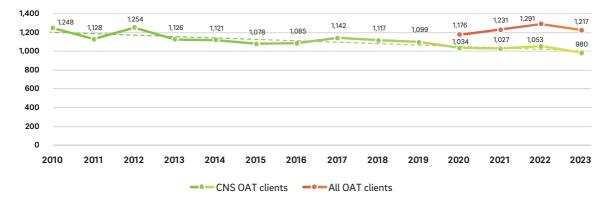


<span style="background-color:red; color:white">FIGURE 6.8.</span>

Trends in the number of opioid agonist treatment (OAT) patients (RELIS, 2010-2023)

*Note:* To ensure comparability with previous years, the number of OAT patients recorded in the CNS register and the total number of OAT patients (since 2020) are reported separately. Since 2020, additional OAT services have been included in the statistical reporting, specifically OAT provided in prisons, OAT provided by low-threshold facilities, and heroin-assisted treatment (DIAM).

2020: Prison: N=142

2021: Prison: N=132; Low-threshold facilities: N=36; DIAM: N=36

2022: Prison: N=165; Low-threshold facilities: N=44; DIAM: N=29

2023: Prison: N=120; Low-threshold facilities: N=89; DIAM: N=28

In response to the COVID-19 pandemic, the Ministry of Health[37] rapidly developed, in close collaboration with the 'Abrigado' centre, the 'JDH' Foundation, and the association 'Médecins du Monde', a medical service to ensure continuous low-threshold OAT. Since the introduction of COVID-19-related sanitary restrictions, this service has offered several weekly medical counselling slots to ensure access to medical care and referrals. In addition, a nursing service has been available seven days a week.

To ensure the continuity of OAT, Abrigado has worked closely with a local pharmacy to provide essential medications. Marginalised drug users facing increased social exclusion now have access to low-threshold OAT, regardless of their social security status. In specific cases, take-home OAT doses are also provided. Some clients visit the service daily to receive their medication, while others can take home up to three days' worth of medication. Each client is registered in the service system, with their treatment journey documented and adapted as needed. The main drivers behind the rapid implementation of this first low-threshold OAT programme included the risk of an emerging shortage of illicit drugs (linked to border closures), increased demand for OAT, reduced access to OAT due to stricter controls, and a heightened risk of overdoses.

OAT PROVISION IN PRISON

Regarding the provision of OAT in the two closed prisons in Luxembourg ('CPL' and 'CPU'), official data indicates that in 2023, 120 inmates received OAT, representing a decrease compared to 2022 (165) (see Table 6.2.). At the 'CPL', 54 individuals received methadone treatment in 2023 (2022: 148 persons), with an average daily dose of 23 mg (2022: 34 mg). Suboxone® was also provided, with two prisoners receiving it in 2023 (2022: 7 persons), at an average daily dose of 7.8 mg (2022: 8.6 mg). The average duration of treatment was 104 days for methadone and 365 days for Suboxone® in 2023 (2022: 126 days for methadone and 206 days for Suboxone®).

At the 'CPU', which opened in the end of 2022, 64 prisoners received methadone treatment in 2023 (2022: 10 persons), with an average daily dose of 25.01 mg (2022: 26.5 mg). The average duration of methadone treatment was 14.7 days in 2023 (2022: 8.1 days).

TABLE 6.2.

Number of prisoners receiving opioid agonist treatment (OAT) at the 'CPL' and 'CPU' prisons (2010-2023)

| Year | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methadone | | | | | | | | | | | | | | |
| CPL | 200 | 181 | 200 | 154 | 181 | 165 | 172 | 204 | 159 | 136 | 134 | 123 | 148 | 54 |
| CPU | | | | | | | | | | | | | 10 | 64 |
| Suboxone ® | | | | | | | | | | | | | | |
| CPL | 28 | 58 | 72 | 70 | 66 | 46 | 33 | 26 | 10 | 10 | 8 | 9 | 7 | 2 |
| Total (persons) | 228 | 239 | 272 | 224 | 247 | 211 | 205 | 230 | 169 | 146 | 142 | 132 | 165 | 120 |

Source: Psychiatric service in prison (service psychiatrique en milieu pénitentiaire – SPMP, 2010-2023
*Note:* Data for 2022 and 2023 cover both the 'CPL' and 'CPU', which became operational in December 2022. Data for all previous years (2010–2021) reflect only the 'CPL' prison.

37    Please note that in 2023, the Ministry of Health and the Ministry of Social Security were merged into the Ministry of Health and Social Security.

## 6.6   HARM REDUCTION RESPONSES

Harm reduction responses in Luxembourg consist of offers such as needle and syringe exchange programmes, HIV/HCV testing, supervised drug consumption facilities, and outreach offers (see also chapter 5). The national needle and syringe programme is decentralised, operating through five fixed sites and vending machines in towns most affected by injecting drug use. However, as these vending machines no longer meet the needs of clients and require intensive maintenance, they are being phased out and replaced by syringe dispensers integrated into the mobile outreach initiative 'MOPUD/X-Change', led by the 'JDH' Foundation. Launched in 2017, 'MOPUD/X-Change' specifically targets urban areas with high levels of drug use, providing clean syringes and essential harm reduction services in locations where traditional infrastructure is lacking.

In addition, clean syringes are available at drug counselling centres, drop-in centres for sex workers and at-risk populations, low-threshold centres such as supervised drug consumption rooms, and prisons. Alongside needle distribution, these services offer testing for bloodborne infections, vaccinations and counselling on safer-use practices. To further decentralise harm reduction efforts and expand accessibility, two additional supervised drug consumption rooms were integrated into the main low-threshold harm reduction centre in the south of the country (Esch/Alzette) in September 2019, and they remain operational. Additionally, since September 2021, the Red Cross has been operating a complementary service, 'PASS-By', alongside the existing 'Drop-In service'. This service provides safer-sex and safer-use materials—including needles and syringes—along with a low-threshold nursing service. This initiative ensures 24/7 over-the-counter access to free harm reduction supplies in the capital. As part of ongoing efforts to expand harm reduction services, a new care centre, 'Marga,' dedicated exclusively to high-risk female drug users, opened in the city in January 2025. This facility addresses the specific needs of this vulnerable and often marginalised group by offering psychological, medical, and social care, OAT, supervised drug consumption facilities, and relaxation rooms.

> The number of person-contacts recorded by low-threshold facilities has steadily increased since the opening of the first drug consumption room in 2005 (2005: 47,739). In 2023, there were 109,107 contacts across various national harm reduction services, showing an increase compared to previous years (2022: 105,369; 2021: 91,647; 2020: 98,497) (see Fig. 6.9.).

> In 2023, all 'JDH' low threshold services reported a total of 42,672 client contacts, including 'K28' in Luxembourg City, 'Contact Nord', and the 'Contact-Esch' (2022: 30,327; 2021: 23,394; 2020: 18,253), which also includes supervised drug consumption facilities. This total represents an increase of 41% in client contacts compared to 2022, a much higher rise than in previous years.

> The 'Abrigado' centre (run by CNDS) reported approximately 33,546 client contacts in 2023 (2022: 39,336; 2021: 53,175), which represents a decrease compared to the previous year. Additionally, the 'Abrigado' centre reported a small decrease in the number of clients at the drug consumption room in 2023 (2023: 44,517; 2022: 45,405; 2021: 42,423), alongside a small increase in the number of clients contacting medical services at the centre (2023: 12,839; 2022: 12,808; 2021: 10,729). These trends, however, should be interpreted with caution due to substantial changes in the working and statistical counting procedures at the 'Abrigado' centre (Note: these figures do not exclude multiple counting).

   Methodological note: The reported numbers have been adjusted retrospectively, as the method of counting clients in the different services provided by the 'Abrigado' centre has changed over the years due to structural changes and developments. Previous versions that have been published of the Luxembourg National Drug Report included client contacts separately for the Contact Café, medical services, and supervised drug consumption rooms. The numbers reported in the current 2024 National Drug Report include only Contact Café clients, as those using the drug consumption room or medical services are generally included in the Contact Café figures.

> The 'Drop-In' service from the Red Cross recorded a total of 13,701 client contacts in 2023, a decrease compared to the previous year (2022: 20,292; 2021: 12,202; 2020: 20,132). In contrast, 'PASS-By' recorded 19,188 clients in 2023, representing a 25% increase compared to 2022 (2022: 15,414; 2021: 2,876).
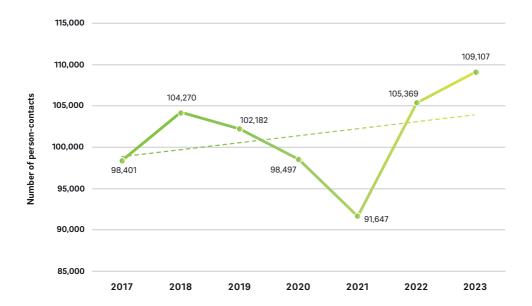
> The mobile outreach unit is a key part of the responses to reaching drug users outside the operating hours of the different services participating in the needle exchange programme. The 'MOPUD/X-Change' service is a collaborative project between the 'JDH', the 'Abrigado' centre, and the 'HIV-Berodung' of the Red Cross, primarily targeting drug users through safer-use and harm-reduction initiatives. The 'MOPUD/X-Change', created in 2017, suspended its operations in June 2019 due to major construction roadwork in the parking lot it used to be stationed. Between July 2020 and June 2021, the mobile unit was stationed also at various locations in the southern city of Esch-sur-Alzette. The COVID-19 pandemic significantly impacted the mobile outreach service, leading to a noticeable decrease in the number of client contacts in 2020 (2019: 214; 2020: 15) (Note: these figures do not exclude multiple counting). In June 2021, the mobile outreach unit received permission to provide its services at the location of the 'Kontakt 28' in Luxembourg City. By 2023, the 'MOPUD/X-Change' service had expanded further, establishing a regular presence in the city of Differdange. That year, a total of 955 client contacts were recorded, reflecting an increase of 32% compared to 2022 (2022: 724; 2021: 168).

> The number of clean syringes distributed through the national needle exchange programme has fluctuated over the years, reaching a record high in 2018 with 492,704 syringes distributed. After 2018, distribution declined, with a significant drop in 2020—likely due to the COVID-19 crisis—when the number of syringes provided by specialised needle syringe programs (NSPs) fell to 394,690. In the following years, distribution saw a slight recovery before decreasing again in 2023. That year, the number of syringes distributed dropped by 12% compared to 2022 (2023: 372,576; 2022: 425,133), falling below the levels recorded during the COVID-19 period (see Fig. 6.10.).

> Data from 2023 indicate that most people who inject drugs (PWID) continue to obtain syringes primarily from specialised agencies, particularly the Abrigado centre, followed by pharmacies, with decreasing reliance on automatic dispensers (RELIS 2023).
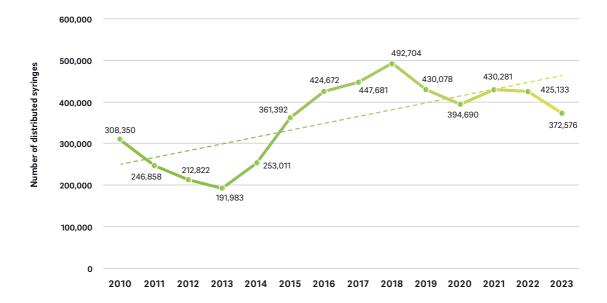
FIGURE 6.10.

National distribution of sterile syringes 2010-2023 across multiple settings (Ministère de la Santé et de la Sécurité sociale, 2024; Comité de surveillance du SIDA, 2024)

*Note:* Multiple settings include specialised agencies, prisons, vending machines, and supervised drug consumption rooms. Numbers have been retrospectively adjusted to harmonise counting methods across settings and improve comparability over time.

# 7.

# DRUG MARKETS
# AND CRIME

# 7. DRUG MARKETS AND CRIME

## 7.1. AVAILABILITY AND SUPPLY

Drug markets are of changing nature. They rely on factors such as supply mechanisms, the economic situation of the country, and the priorities, activity and efficiency of law enforcement strategies. Availability and supply indicators should be interpreted with caution as they rely on the interplay of these factors. The Luxembourg Focal Point of the EUDA (PFLAD) processes anonymous nationwide data on drug-related offences, prosecutions and seizures of illicit substances provided by the law enforcement agencies in collaboration with the Specialised Drug Department of the Judicial Police and the national Customs and Excise Agency. Important fluctuations have been observed in the quantities of illicit substances seized over the past two decades.

CANNABIS

Cannabis remains the most frequently used and seized psychoactive substance:

> The prevalence of cannabis use among people entering treatment in 2023 experienced a slight decrease compared to 2022, yet it remained higher than the rates observed in previous years in regard to clients[38] reporting cannabis as their primary drug of use (2023: 38.8%; 2022: 42.7%; 2021: 24.7%; 2020: 23.9%). For more information on the prevalence of cannabis use among treatment demanders, please refer to chapter 6 "Responses to health consequences", section "Patterns of use and characteristics of treatment demanders".

> The number of cannabis seizures reflects fluctuations over the past years, with the number of individual cannabis seizures remaining high over long term (1994: 164). All in all, the number of seizures in 2023 is comparable to 2022, yet still lower than the figures reported in the years before 2022 (2022: 892; 2021: 1,150; 2020: 1,142). Overall, seizures of cannabis-based products represented 68.8% (906 out of 1,316 total seizures) of the total number of drug seizures in 2023 (2022: 70.4%; 2021: 74.1%; 2020: 67.2%).

> The year 2023 was marked by a sharp increase in the quantity of cannabis (herbal cannabis and resin) seized (525.1 kg), breaking the record of yearly seized cannabis since the first records. These numbers are in significant contrast to those reported in recent years, which were suggestive of a decreasing trend (2022: 21 kg; 2021: 53 kg; 2020: 102 kg). It is not advised to draw conclusions related to the total quantities of cannabis seizures, since these numbers are distorted by large individual seizures. Instead, an 80th percentile analysis comparison might be more effective in assessing whether there has been a change in seized cannabis quantities. In 2023, the weight of 80% of seized cannabis was equal, or less than 16.6 gr. From this point of view, cannabis seizures weighted slightly more in 2023 compared to previous years (2022: 14.8 gr; 2021: 11.7 gr; 2020: 13.1 gr). However, as in past years, most seizures[39] weighted around two grams in 2023 (median = 2.35 gr) (2022: 2 gr; 2021: 2 gr; 2020: 2.2 gr).

> In total, 263 seizures of herbal cannabis were reported by national law enforcement authorities with a total of 99.0 kg in 2023 (2022: 323 seizures with 9.1 kg; 2021: 528 seizures with 13.9 kg; 2020: 678 seizures with 89.7 kg). This increase in herbal cannabis quantities was mainly caused by two important seizures (71.7 kg in early 2023, and 16.8 kg in late 2023). Since 2014, cannabis resin has become increasingly important in seizures data. In 2023, the number of seizures of cannabis resin surpassed those of herbal cannabis for the second consecutive year. According to law enforcement data, there were 505 resin seizures, constituting 38.4% of all seizures in 2023 (2022: 492 seizures, 38.8% of total; 2021: 486 seizures, 31.3% of total; 2020: 320 seizures, 18.8% of total). Similarly, the proportion of arrests involving cannabis resin[40] has continuously increased in recent years (2023: 24.5%; 2022: 22.7%; 2021: 18.5%; 2020: 17.6%), whereas the proportion of herbal cannabis

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38  Note: The proportion of individuals entering treatment for primary cannabis use is significantly influenced by the relative proportion of IMPULS clients, as these clients are predominantly young adults who report cannabis as their primary substance of use.
39  Bottom 80% of all cannabis resin and herbal cannabis seizures for the respective year.
40  Although the substance was involved in the arrest, it may not have been the primary reason for the arrest.

related arrests has been declining over the same period (2023: 17.0%; 2022: 24.4%; 2021: 32.4%; 2020: 33.6%). In total, 426.1 kg of cannabis resin were seized in 2023 (2022: 12.0 kg; 2021: 39.2 kg; 2020: 11.9 kg). This extraordinary increase in cannabis resin quantities was mainly caused by two seizures in early 2023 (290.2 kg and 108.2 kg).

- The investigations[41] concerning the seizure of 290.2 kg resin revealed that the drug had been concealed in 135 packages inside of a truck, and that three similar shipments had already been realised with the same truck in autumn and winter of 2022. It is important to mention that the cargo was intended for destinations in other North European countries. According to the press release from the national Customs and Excise Agency, the 108.2 kg resin seized in January 2023 were discovered inside a truck as well, along with the previously mentioned 71.7 kg of herbal cannabis. The illicit cargo was headed towards Belgium. These figures may indicate a potential shift in the cannabis market, with a growing demand for cannabis resin over herbal cannabis, possibly linked to an improved supply chain for resin.

> Regarding cannabis plants, 38 plants were seized in the context of five seizures in 2023 (2022: 10 seizures with a total of 367 plants; 2021: seven seizures with a total of 76 plants; 2020: two seizures with a total of seven plants). A total of 201.8 gr of cannabis seeds were seized across three seizures, with an additional five cannabis seeds seized in a separate seizure.

<span style="background-color:red;color:white">**HEROIN**</span>

Although heroin has a long history of use at the national level, the quantities of heroin seized seem to follow an unstable trend:

> According to law enforcement data, the absolute number of seized heroin quantities has experienced notable fluctuations over the past decade. Between 2012 and 2022, the annual seizures varied between 1.3 kg and 8.0 kg of heroin, with an average weight of 3.8 kg per year. Regarding the number of heroin seizures, a slight decrease has been observed on the long term, especially when considering the years 2010 and 2011, when heroin seizures were more frequent than cocaine seizures. However, this changed over the following years, when the number of cocaine seizures surpassed that of heroin. Since 2016, cocaine has consistently been the second most frequent seized substance in Luxembourg. In 2023, the number of heroin seizures further decreased to a record low of 1.1 kg. Although the total number of seizures might vary with law enforcement strategies, these figures indicate a shift in the drug market towards an increased availability of cocaine. For more information on the decrease in purity of seized heroin, please refer to section 7.3 "Trends in drug purity".

> Most of other opioids seized in 2023 were methadone in liquid form (915.6 ml) (2022: 35 ml; 2021: 11 ml) and in tablet form "Mephenon®" (7 gr) (2022: 692 gr; 2021: 195 gr; 2020: 1.4 kg).

> No seizures of "speedballs" were reported in 2022 and 2023, although some have been reported in earlier police records (2021: N=14; 2020: N=65). The annual statistics shared by the main harm reduction centre in Luxembourg city disposing supervised consumption rooms (Abrigado CNDS) show that in 2023, "speedballs" were consumed by one in five of their clients, although numbers for the supervised drug consumption rooms located in the south of the country (Contact Esch) are lower (8.7%).

<span style="background-color:red;color:white">**COCAINE**</span>

Cocaine seizures are highly variable since the beginning of the nineties and police data refer to high quantities seized in recent years. Since 2016, the number of cocaine seizures has steadily increased. The annual total quantity of cocaine seized depends strongly on individual large seizures, as it is the case for other drugs.

> Between 2010 and 2023, the annual quantity of cocaine seized has fluctuated between 0.8 kg and 24.4 kg, with the exception of 2018, when a record quantity of 346.8 kg were seized. In 2023, the quantity of cocaine seized was slightly higher than the annual median weight of 3.3 kg seized during the same period (2023: 5.0

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41 Jugt no 1878 /2024: On 5 January 2023 a total of 290 kg cannabis resin was found in a truck, concealed in 135 packages. Source: https://justice.public.lu/fr/jurisprudence/juridictions-judiciaires.html

kg; 2022: 1.3 kg; 2021: 3.7 kg; 2020: 11.2 kg). Moreover, the number of seizures was also above the median (190 yearly cocaine seizures) for the timeframe between 2010 and 2022 (2023: 239; 2022: 190; 2021: 218; 2020: 191). According to recent press releases from national law enforcement and customs agencies, record-breaking seizures were made in early 2025, totalling over 1.3 tonnes[42] of cocaine.

> Despite the high variations in the number and quantity of cocaine seized in the past years, the increased proportion of high-risk drug users (HRDUs) and recreational drug users reporting cocaine use suggest a growing availability of the drug on the market.

> The average purity of cocaine seized has increased continuously since 2020, but remained comparable over 2023 and 2024. For more information on the trends in purity of seized cocaine, please refer to section 7.3 "Trends in drug purity".

> One minor crack (cocaine-base) seizure (5.2 gr) was reported in 2023 by national authorities, although freebasing is frequently reported by field agencies. Lastly, three cocaine "balls" of unknown weight were seized in 2023.

OTHER STIMULANTS

Ecstasy-like substances (MDMA/XTC) and amphetamine-type stimulants (ATS) remain popular, particularly in festive settings, and seizure figures suggest a similar trend:

> In 2019, a historic high of 46,059 MDMA/XTC tablets were seized in 32 seizures. In 2020, the number remained high with 28,696 tablets seized in 17 seizures. In 2023, the number of tablets seized was comparable to the levels observed in 2021. However, in 2022, there was a marked decrease in the number of tablets seized (2023: 534 tablets seized in nine seizures; 2022: 19 tablets seized in two seizures; 2021: 559 tablets seized in six seizures).

> With regard to amphetamines, relatively small quantities have generally been seized, except for 2021, when 1.9 kg were confiscated. Compared to 2022, slightly more amphetamine and methamphetamine were seized in 2023. In 2023, 159.9 gr of amphetamine in non-tablet form were seized in 13 seizures (2022: 140.7 gr in eight seizures), as well as six amphetamine tablets in two seizures. In total, 16.8 gr of methamphetamine were seized in four seizures along with two methamphetamine seizures of unknown quantities (2022: 2.8 gr powder/salts in two seizures, 29 tablets in one seizure).

HALLUCINOGENIC DRUGS

Seizures of conventional hallucinogenic drugs like LSD and psychoactive mushrooms are rare, suggesting low presence of these substances on the national market. Laboratory results from the National Health Laboratory (LNS) point towards the presence of other, non-conventional hallucinogenic substances seized on the national territory. For more information, please refer to section 7.3 "Trends in drug purity".

> In 2023, only one LSD seizure of 2.42 ml was recorded in law enforcement data (2022: no quantity recorded; 2021: 86 ml; 2020: no quantity recorded); while in 2022, 16 blotters[43] of LSD were seized (2021: no blotters; 2020: 2 blotters).

> In regard to psychoactive mushrooms, only 177.87 gr were seized in two seizures, which remains considerably below the important seizure of 1.2 kg recorded in 2019 (2022: 37.3 gr; 2021: 3.7 gr; 2020: 105.8 gr).

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42  The PFLAD will share the seized quantities once the investigations are concluded and the official numbers become available.
43  An LSD blotter is a small tab of absorbent paper onto which liquid LSD has been soaked. Blotter paper is one of the most common methods of dosing for LSD. The term "blotter" refers to one unit (one "stamp") of LSD.

> As for 2023, no evidence existed on the presence of fentanyl or other synthetic opioids on the national street-drug market. However, laboratory results from 2024 revealed, for the first time, the presence of a fentanyl seizure in Luxembourg. The substance was identified from a paste-like substance.

> In 2023, only one seizure of 10.8 gr of synthetic cannabinoids (Spice) was reported as well as two additional seizures of semi-synthetic cannabinoids (32.1 gr Delta-10-Tetrahydrocannabinol and 32.8 gr Delta-8-Tetrahydrocannabinol).

> Regarding dissociative drugs, a total of 2.6 gr of ketamine was seized in one seizure, along with another ketamine seizure of unknown quantity.

> A total of 82 bottles of nitrous oxide (N2O; size of the bottles unknown) were seized in two seizures, as well as one seizure of unknown N2O quantity.

> Seized hypnotics and sedatives (depressant drugs) included a variety of benzodiazepines (prescription medicine) and GHB/GBL. In total, seven seizures lead to 165 benzodiazepine tablets being seized, in addition to 6.3 gr unspecified benzodiazepines and three blisters with an unknown amount of benzodiazepine tablets. Two seizures concerned GHB/GBL, weighing 2,410 gr in one case and with no indication of weight in the other.

> Three seizures involved synthetic cathinones, with a minimum of 3.3 gr of 3-CMC and unknown amounts of 3-MMC seized in 2023. One seizure with two flasks of 4-HO-MET (a hallucinogenic substance) nasal spray and one seizure of 5.9 gr of 3-Fluoroethamphetamine (a stimulant drug) were reported as well.

> One seizure of Mitragyna speciosa (kratom) was reported in 2023, totalling 527.6 gr.



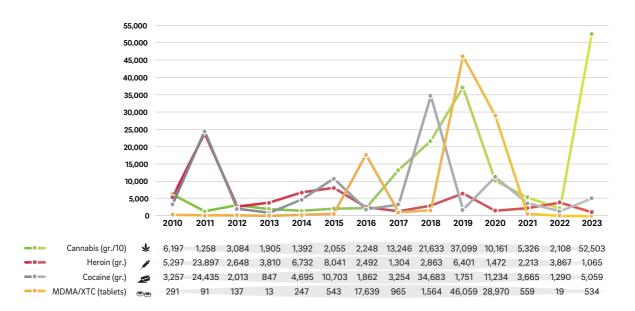| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cannabis (gr./10) | 6,197 | 1,258 | 3,084 | 1,905 | 1,392 | 2,055 | 2,248 | 13,246 | 21,633 | 37,099 | 10,161 | 5,326 | 2,108 | 52,503 |
| Heroin (gr.) | 5,297 | 23,897 | 2,648 | 3,810 | 6,732 | 8,041 | 2,492 | 1,304 | 2,863 | 6,401 | 1,472 | 2,213 | 3,867 | 1,065 |
| Cocaine (gr.) | 3,257 | 24,435 | 2,013 | 847 | 4,695 | 10,703 | 1,862 | 3,254 | 34,683 | 1,751 | 11,234 | 3,665 | 1,290 | 5,059 |
| MDMA/XTC (tablets) | 291 | 91 | 137 | 13 | 247 | 543 | 17,639 | 965 | 1,564 | 46,059 | 28,970 | 559 | 19 | 534 |

FIGURE 7.1.

Total quantities of main national yearly seizures: cannabis, heroin, cocaine, MDMA/XTC
(Specialised Drug Department of the Judicial Police, 2010 - 2023)

*Note:* For 2018, the quantity of cocaine was reported as gr/10 (total seizure 346.828 kg).

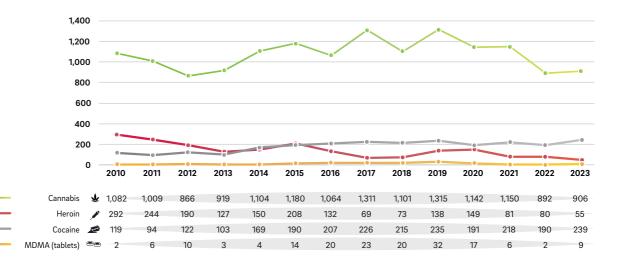| | | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cannabis | | 1,082 | 1,009 | 866 | 919 | 1,104 | 1,180 | 1,064 | 1,311 | 1,101 | 1,315 | 1,142 | 1,150 | 892 | 906 |
| Heroin | | 292 | 244 | 190 | 127 | 150 | 208 | 132 | 69 | 73 | 138 | 149 | 81 | 80 | 55 |
| Cocaine | | 119 | 94 | 122 | 103 | 169 | 190 | 207 | 226 | 215 | 235 | 191 | 218 | 190 | 239 |
| MDMA (tablets) | | 2 | 6 | 10 | 3 | 4 | 14 | 20 | 23 | 20 | 32 | 17 | 6 | 2 | 9 |

FIGURE 7.2.

Total number of main national yearly seizures: cannabis, heroin, cocaine, MDMA/XTC (Specialised Drug Department of the Judicial Police, 2010 - 2023)

*Note:* Cannabis seizures from 2010 to 2016 included herbal cannabis, cannabis resin and cannabis plants. From 2017 onwards, all seized cannabis products were included.

## 7.2. TRENDS IN DRUG PRICES

Ad hoc surveys with recreational drug users and high-risk drug users provide an insight into average prices of street drugs. The Pipapo project, conducted by the NGO 4Motion asbl, has reported the prices of recreational drugs for the past two years, offering an overview of the current illicit drug market for a variety of different substances. According to employees from the NGO 4Motion asbl, recreational drug users may benefit from a broader range of substances and degrees of puritiy in contrast to high risk drug users, allowing them to choose according to personal preference and price range (Table 7.1.). Similar observations were shared by employees from supervised drug consumption rooms, who reported that clients of these facilities noted a significant difference in the quality of drugs sold by "private" dealers compared to "street" dealers. According to the clients, "private" dealers seem to offer more expensive but "stronger" drugs, while "street" dealers seem to sell cheaper, lower-quality drugs that are often mixed with other substances. Comparable observations have been shared by law enforcement agents, stating that better quality drugs are usually sold at higher street prices. The figures below report the trends regarding average prices of the drugs mainly used by clients from the supervised drug consumption facilities[44] (heroin, cocaine, herbal cannabis and cannabis resin) (Fig. 7.4.).

According to recreational drug users:

> Average cocaine[45] prices per gram have slightly increased in 2024 compared to the previous year (2024: 77.0 € per gram; 2023: 72.3 € per gram). Among all substance prices reported by recreational drug users, cocaine exhibited one of the highest absolute price variations, with a difference of 70 € reported in 2024.

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44   Clients from the supervised drug consumption facilities will be referred to as "high-risk drug users".
45   Sample sizes for cocaine powder: 2024 (N = 27); 2023 (N = 13). In 2024, 1 sample referred to as cocaine "crystal" was included in the total sample.

> Cannabis[46] prices were reported for both herbal cannabis and cannabis resin. Prices per gram of cannabis resin were lower compared to prices per gram of herbal cannabis. According to recreational drug users, in 2023, the average price for herbal cannabis was 13 € per gram, while in 2024, the average price for the same form of cannabis was 10 €. The minimum of cannabis was identical in both years (10 € per gram). On the other hand, the average price per gram of cannabis resin was 6.6 € per gram in 2023, and decreased to 3.6 € per gram in 2024.

> Prices for MDMA[47] were reported either for MDMA powder/crystals or per individual ecstasy (MDMA) tablet. Concerning MDMA powder/crystals, the average price per gram was 26.4 € in 2023, which remained similar in 2024 with 25.6 € per gram. Large price variations were reported in 2023, due to two samples priced at 60 € per gram and 75 € per gram of MDMA. Concerning ecstasy (MDMA) tablets, the average price was 8.1 € per tablet in 2023 and 7.2 € per tablet in 2024. The maximum price per tablet was identical across both years, with 10 € per tablet.

> Additionally, price indications per gram of amphetamine (powder), ketamine (powder/crystals), 3-MMC (powder/crystals), 2C-B (tablet) as well as prices per LSD - blotter were reported by recreational drug users. Since the sample size of price indications for these substances varied between two and five indications per year, these prices should be interpreted with caution. The average amphetamine price per gram fluctuated between 3 € and 20 € in 2023 (N = 3), while in 2024 (N = 3), the prices fluctuated between 1 € and 60 €. With respect to ketamine, the price indications were more consistent for both years, with an average price per gram of 32.8 € in 2023 (N = 3) and 33 € in 2024 (N = 5). Average prices for the synthetic cathinone 3-methylmethcathinone (3-MMC) were slightly higher in 2024 (N = 5) compared to the previous year (N = 4) (2024: 27 € per gram; 2023: 21.4 € per gram). Regarding the hallucinogenic NPS 2C-B, the average prices reported in 2023 (N = 3) and 2024 (N = 5) were identical with 4.4 € per tablet. Lastly, prices for LSD were indicated as price per unit (blotter) and ranged from 8 € to 10 € in 2024 (N = 3), while the maximum price per blotter was 9 € in 2023 (N = 2).

> In 2023, individual price indications (N = 1) concerned the following substances: The price for one unit (blotter) of 1p-LSD was reported as 15 € per blotter. The price for one tablet of 4-Acetoxy-Dimethyltryptamine (4-AcO-DMT) was 7 € and one price indication for GHB was reported as 10 € per millilitre.

> In 2024, recreational drug users reported the following individual price indications: The price for one unit (blotter) of 1D-LSD[48] was reported as 65 € per blotter. Methadone powder was indicated as 30 € per gram and two individual price indications for Tusi[49] averaged at 67.5 € per gram. Lastly, one price indication for 2-MMC was reported as 17 € per gram.

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46   Sample sizes for herbal cannabis: 2024 (N = 4); 2023 (N = 10); sample sizes for cannabis resin: 2024 (N = 11); 2023 (N = 5).
47   Sample sizes for MDMA powder/crystals: 2024 (N = 11); 2023 (N = 12); sample sizes for ecstasy (MDMA) tablets: 2024 (N = 32); 2023 (N = 14).
48   One price indication of "<10€" for one blotter of 1p-LSD was excluded from the analysis.
49   Tusi: a pink-dyed powder composed from a mixture of different psychoactive substances, commonly referred to as "pink cocaine".

TABLE 7.1.

Trends in the prices of illicit drugs assessed among a sample of recreational drug users (4Motion asbl, 2024)

| Substance | Year | Minimum | Average | Median | Maximum |
|---|---|---|---|---|---|
| Cocaine powder (€/gr) | 2023 | 60.0 | 72.3 | 70.0 | 80.0 |
| | 2024 | 40.0 | 77.0 | 80.0 | 110.0 |
| Cannabis herb (€/gr) | 2023 | 10.0 | 13.0 | 10.0 | 25.0 |
| | 2024 | 10.0 | 10.0 | 10.0 | 10.0 |
| Cannabis resin (€/gr) | 2023 | 2.9 | 6.6 | 7.0 | 10.0 |
| | 2024 | 1.5 | 3.6 | 2.6 | 8.0 |
| MDMA powder/crystals (€/gr) | 2023 | 5.0 | 26.4 | 18.4 | 75.0 |
| | 2024 | 4.0 | 25.6 | 30.0 | 40.0 |
| Ecstasy (MDMA) (€/tablet) | 2023 | 2.5 | 8.1 | 10.0 | 10.0 |
| | 2024 | 1.6 | 7.2 | 8.0 | 10.0 |
| Amphetamine powder (€/gr) | 2023 | 3.0 | 11.0 | 10.0 | 20.0 |
| | 2024 | 1.0 | 21.0 | 2.0 | 60.0 |
| Ketamine powder/crystals (€/gr) | 2023 | 8.3 | 32.8 | 30.0 | 60.0 |
| | 2024 | 25.0 | 33.0 | 30.0 | 50.0 |
| 3-MMC powder/crystals (€/gr) | 2023 | 12.5 | 21.4 | 21.5 | 30.0 |
| | 2024 | 20.0 | 27.0 | 30.0 | 35.0 |
| 2C-B (€/tablet) | 2023 | 0.8 | 4.4 | 2.4 | 10.0 |
| | 2024 | 3.0 | 4.4 | 5.0 | 5.0 |
| LSD (€/blotter) | 2023 | 8.0 | 8.5 | 8.5 | 9.0 |
| | 2024 | 8.0 | 9.3 | 10.0 | 10.0 |

According to high-risk drug users:

> Average cocaine and heroin prices per gram have been decreasing since 2010. In 2022, the average price per gram of cocaine was 57.0 €, whereas the average price for one gram of heroin decreased to 24.5 € compared to previous years (2021: 50 €; 2020: 48 €). Data on prices, however, rely on small sample sizes and may not be representative. In 2023, only one communication regarding heroin prices indicated 15 € per gram. No data on the price per gram of cocaine has been recorded for 2023. When looking at prices from 2024, self-reported weight and price indications showed that on average, heroin (N = 30) was bought[50] for 66.3 € per gram and that in 37% (n = 11) of cases, people had bought 0.2 gr of heroin for an average price of 16.4 € (81.8 € per gram). In the case of cocaine (N = 26), the average price per gram was 75.8 € in 2024. In 46% (n = 12) of cases, individuals had purchased 0.2 gr of cocaine for an average price of 17.1 € (84.4 € per gram). These price indications suggest that on average, heroin and cocaine prices have slightly increased compared to previous years. However, clients that bought smaller quantities had spent on average more money per gram, compared to clients who bought larger quantities. These results show that the reported average of cocaine and heroin prices depend considerably on the weight of the units that were represented in the sample (Fig. 7.3.).

> In addition to price indications per weight, prices per "ball"[51] (boule) for cocaine and heroin without weight indication were reported as well in recent years. In 2024, the average price per ball of heroin (N = 14) was 19.6 € (2023: 23.7 €; 2022: 16.3 €). In contrast, one ball of cocaine (N = 14) was bought for 25.5 € on average in 2024, compared to 22.2 € in 2023 (2022: 19.3 €). As for the price indications by gram of heroin and cocaine, it is important to note that the proportion of smaller versus larger balls within the sample considerably influences the average prices per ball.

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50   One heroin sample was indicated as gifted / obtained for free (0 €), therefore excluded from the analysis.
51   A ball typically refers to a pre-packaged portion of approximately 0.2 to 0.5 grams of cocaine or heroin, or a mix of both substances with other adulterants, sold at street level. Prices per ball were communicated substantially more often by clients of low-threshold agencies compared to prices per gram of cocaine or heroin.

> According to a few indications made for cannabis prices in 2024, one gram of cannabis herb (n = 3) was purchased on average for 13 € and one gram of resin (n = 1) for 7 €. These numbers are comparable to average prices reported in 2018 and earlier (Fig. 7.4.), and to those reported by recreational drug users as observed by the national implementation of the European Web Survey on Drugs.

> In regard to Mephenon® (a synthetic opioid medication), one blister containing 10 Mephenon® tablets was bought on average for 3.5 € (0.35 € per tablet).

> Lastly, one price indication for ecstasy tablets was submitted by high-risk drug users, specifying a price of 10 € per XTC tablet.
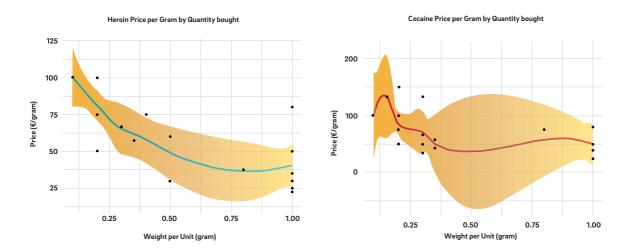


Heroin Price per Gram by Quantity bought

Cocaine Price per Gram by Quantity bought

**FIGURE 7.3.**

Relationship between the weight per unit (in gram) and the calculated price paid per gram (in euros) of heroin and cocaine (Abrigado CNDS, 2024)

*Note:* The data points represent individual observations, and the solid line represents the LOESS fit. The shaded area around the LOESS curve indicates the 95% confidence interval.
Prices for one purchase of 5 grams of heroin (25 €/gr) and one purchase of 5 grams of cocaine (60 €/gr) not shown for visualization purposes.

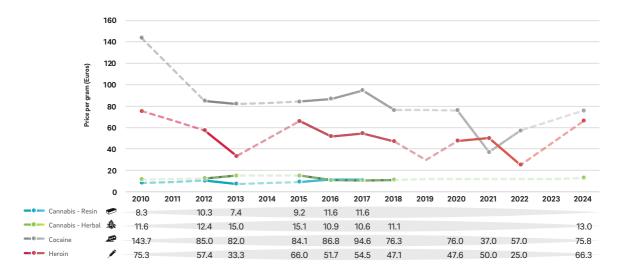| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cannabis - Resin | 8.3 | | 10.3 | 7.4 | | 9.2 | 11.6 | 11.6 | | | | | | | |
| Cannabis - Herbal | 11.6 | | 12.4 | 15.0 | | 15.1 | 10.9 | 10.6 | 11.1 | | | | | | 13.0 |
| Cocaine | 143.7 | | 85.0 | 82.0 | | 84.1 | 86.8 | 94.6 | 76.3 | | 76.0 | 37.0 | 57.0 | | 75.8 |
| Heroin | 75.3 | | 57.4 | 33.3 | | 66.0 | 51.7 | 54.5 | 47.1 | | 47.6 | 50.0 | 25.0 | | 66.3 |

FIGURE 7.4.

Trends in the prices of illicit drugs assessed among high-risk drug users (HRDUs) in Luxembourg
(Specialised Drug Department of the Judicial Police, 2010 - 2016; Abrigado CNDS, 2010 - 2024)

*Note:* In 2022, only cocaine and heroin prices were updated, whereas in 2023, only heroin prices (n=1; 15 €/gr - not reported in figure) were updated. The price indication for cannabis resin in 2024 (n=1; 7 €/gr) has not been reported in the figure. To visualise the years 2011, 2014, 2019 and 2023, missing values were filled in by using the average of the surrounding years.

## 7.3. TRENDS IN DRUG PURITY

The National Health Laboratory (LNS) provides purity data and toxicological analysis of psychoactive substances. This allows for trend analysis of the purity of drugs at the street level in Luxembourg.

The substances analysed by the National Health Laboratory and presented in this report are generally those that have been seized by the national Judicial Police or the national Customs and Excise Agency. In common cases, there is a time-lag between the seizure of a substance and its purity analysis by the National Health Laboratory. The statistical reporting by the PFLAD is based on laboratory analyses that have been conducted until the end of the calendar year 2024, though samples may have been seized during an earlier calendar year.

> Cannabis: the average purity of THC products[52] seized in Luxembourg has been (discontinuously) increasing at a moderate pace in recent years, with striking differences in minimum and maximum concentration of THC, and a high maximum concentration. Compared to values recorded 10 years ago, the average THC concentration in seized herbal cannabis has increased by nearly one half (+46%), whereas the average cannabis resin THC concentrations has nearly doubled in the same time period (+97%). Both substances have reached new record average concentrations in 2024, while the highest THC concentrations were found in butane hash oil extracts, with concentrations of more than 85% THC.

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52   Since 2018, seized cannabis with THC-levels below 0.3% are excluded from the purity analysis. Since 2024, seized cannabis with THC-levels below 1% are excluded from the purity analysis (see Chapter 1 for adapted drug policy and allowed maximum THC-levels of 1% in CBD products).

> Considering the legal THC concentration threshold of < 1% , the average THC concentration detected in any seized cannabis product reached 27.4% in 2024 (2023: 24.9%; 2022: 23.1%). The maximum THC concentration found in cannabis products was 88.7% during that year (2023: 87.8%; 2022: 73.4%; 2021: 63.0%). Regarding herbal cannabis in particular, the average concentration of THC increased yet again, from 15.0 in 2023 to 16.4 in 2024 (2022: 14.3%; 2021: 14.5%; 2020: 11.8%). The maximum concentration of THC found in herbal cannabis increased from 39.9% in 2022 to 45.6% in 2023, but declined slightly again in 2024 to 38.1% (2021: 50.6%; 2020: 37.6%). Looking at cannabis resin, the average concentration of THC was 33.0% in 2022 and 31.9% in 2023, reaching 33.5% in 2024 (2021: 31.2%; 2020: 23.8%) with maximum concentrations declining from 87.8% in 2023 to 37.4% in 2024 (2022: 73.4%; 2021: 63.0%; 2020: 57.3%).

> In 2024, four butane hash oil extracts were seized with an average concentration of 87.6% THC (min: 84.5% - max: 88.7%). In four other samples, a comparable product (cannabis wax) was analysed, revealing an average of 28.8% THC content (min: 2.8% - max: 42.3%).

> Regarding impurities and adulterants, a few cannabis samples were confirmed to contain one or more substances: One cannabis herb sample contained the synthetic cannabinoid Delta-8-Tetrahydrocannabinol, while one sample of cannabis candy contained 1.2% THC as well as traces of THCa (Tetrahydrocannabinolic acid) and CBD (cannabidiol). Two other samples (one cannabis herb and one resin-herb mixture) contained traces of cocaine. Additional synthetic cannabinoids were identified in various forms, which will be detailed in the subsequent section on new psychoactive substances (NPS).

> Heroin: Marked variations in average heroin purity have been observed over the past two decades. In the years following 2015, the average purity of heroin appeared to be relatively stable, fluctuating between 11% and 15%. In 2022, the average purity of heroin remained within this range, with a slight decrease compared to 2021 (2022: 14.1%; 2021: 14.8%; 2020: 13.4%). The average purity of seized heroin continued to decrease in 2023 compared to 2022 (11.8% in 2023), while it declined even further in 2024 (8.2% in 2024). Past years' analyses reveal a substantial fluctuation in the minimum and maximum purity of heroin found on the illicit drug market in Luxembourg (2024: min: 0.4% - max: 78.8%; 2023: min: 1.2% - max: 53.5%). The decrease in average heroin purity is likely associated with increased levels of added adulterants: In 2024, all heroin samples (with the exception of one sample) contained on average 48.9% paracetamol and 26.0% caffeine as adulterants (2023: 44.6% paracetamol and 22.8% caffeine). Among 37 samples (10.6% of cases) that contained traces of cocaine, nine samples also included diazepam and phenacetin, while two samples contained ketamine.

> Cocaine: Since 2014, cocaine purity has been increasing discontinuously with average values figuring around 50% in recent past years (2021: 56.6%; 2020: 51.0%; 2019: 50.4%; 2018: 52.9%). In 2024, the average cocaine purity reached 67.4%, remaining comparable to the values reported in 2023 and 2022 (2023: 69.7%; 2022: 65.7%). Despite the high average purity of cocaine, significant variations in purity levels were observed in 2024 with a minimum concentration of 0.98% and a maximum concentration of 100% (2023: min: 11.5% – max: 99.9%; 2022: min: 0.4% – max: 100%; 2021: min: 5.6% - max: 100.0%; 2020: min: 0.1% - max: 100.0%). Similar to 2023, levamisole and phenacetin were the most frequently found adulterants in cocaine samples in 2024, followed by caffeine and only a few samples with lidocaine. Four samples of cocaine seized contained amoxicillin (antibiotic medicine), while one sample contained 12.3% of heroin.

> Other stimulants: The average purity of amphetamine-type stimulants has fluctuated noticeably in the past years, primarily due to the relatively small sample sizes and the various forms of the drug seized by national law enforcement agencies. Typically, amphetamine tablets contain much less amphetamine compared to concentrations in powder/crystals or amphetamine pastes. In 2024, the only presence of powder/crystals and amphetamine pastes in the analysed samples resulted in an elevated average concentration of 42.0% (2023: 22.2%; 2022: 27.2%). Similar to previous years, variations in purity remained high (2024: min: 11.7% - max: 98.3%; 2023: min: 1.9% - max: 100%; 2022: min: 0.9% - max: 86.0%; 2021: min: 0.8% - max: 92.4%; 2020: min: 4.2% - max: 98.4%). In 11 of 12 samples, the laboratory results showed adulteration with caffeine (average: 45.7%).

> MDMA/XTC: With regard to MDMA/XTC, purity levels have been varying between 40% and 50% in the past five years. In 2024, the average purity of MDMA/XTC reached 46.6%, which was similar to values reported in the past two years (2023: 42.8%; 2022: 47.8%; 2021: 57.2%; 2020: 49.7%; 2019: 40.0%). It is worth noting that important differences in MDMA/XTC purity levels were identified in 2024, ranging from 15.5% to 94.6%. In 2024, crystal or powder forms of MDMA were substantially purer (2024: 83.2%; 2023: 74.1%) compared to MDMA/XTC tablets (2024: 34.3%; 2023: 26.4%). On average, a MDMA/XTC tablet weighed 444 mg and contained 149 mg MDMA in 2024 (2023: average tablet weight: 460 mg, average MDMA content per tablet: 117 mg).

> Hallucinogens: In 2024, only few seized substances were discovered that contained hallucinogens, including, mushrooms, and LSD blotters. The average concentration of active ingredient per LSD-blotter was 76.4 micrograms per blotter[53] in 2024 (min: 27 µg/blotter; max: 98.9 µg/blotter). These values should be interpreted cautiously considering the small sample size. At least 12 non-conventional hallucinogenic substances[54] that may be classified as NPS were found in 18 samples of seized substances in 2024.

> NPS and drug precursors: A range of other NPS and drug precursors were analysed by the National Health Laboratory in 2024. Out of all 242 samples classified as NPS or other substances, a total of 29 samples contained ketamine, whereas purity levels were provided for 12 of these ketamine samples. The average ketamine purity calculated from these samples was 78.8% (min: 27.5% - max: 95.6%). Eleven samples contained the synthetic stimulant chloromethcathinone, while five contained the synthetic stimulant methylmethcathinone. Eleven
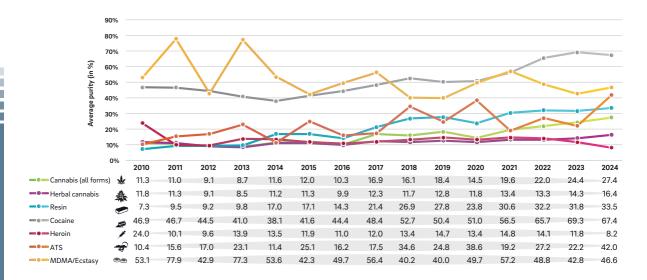


| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cannabis (all forms) | 11.3 | 11.0 | 9.1 | 8.7 | 11.6 | 12.0 | 10.3 | 16.9 | 16.1 | 18.4 | 14.5 | 19.6 | 22.0 | 24.4 | 27.4 |
| Herbal cannabis | 11.8 | 11.3 | 9.1 | 8.5 | 11.2 | 11.3 | 9.9 | 12.3 | 11.7 | 12.8 | 11.8 | 13.4 | 13.3 | 14.3 | 16.4 |
| Resin | 7.3 | 9.5 | 9.2 | 9.8 | 17.0 | 17.1 | 14.3 | 21.4 | 26.9 | 27.8 | 23.8 | 30.6 | 32.2 | 31.8 | 33.5 |
| Cocaine | 46.9 | 46.7 | 44.5 | 41.0 | 38.1 | 41.6 | 44.4 | 48.4 | 52.7 | 50.4 | 51.0 | 56.5 | 65.7 | 69.3 | 67.4 |
| Heroin | 24.0 | 10.1 | 9.6 | 13.9 | 13.5 | 11.9 | 11.0 | 12.0 | 13.4 | 14.7 | 13.4 | 14.8 | 14.1 | 11.8 | 8.2 |
| ATS | 10.4 | 15.6 | 17.0 | 23.1 | 11.4 | 25.1 | 16.2 | 17.5 | 34.6 | 24.8 | 38.6 | 19.2 | 27.2 | 22.2 | 42.0 |
| MDMA/Ecstasy | 53.1 | 77.9 | 42.9 | 77.3 | 53.6 | 42.3 | 49.7 | 56.4 | 40.2 | 40.0 | 49.7 | 57.2 | 48.8 | 42.8 | 46.6 |

FIGURE 7.5.

Trends on average purity of illicit drugs at street level (%) (National Health Laboratory, 2010-2024)

*Note:* From 2018 to 2024, cannabis products with THC-levels below 0.3% were excluded from the purity analyses (due to CBD products on the national market with maximum allowed THC-level of 0.3%). Since 2024, cannabis products with THC-levels below 1% are excluded (due to adapted law allowing maximum THC-levels of 1.0% in CBD products).

53  It should be noted that the sample size for LSD seizures was very small (N=4) while the measure of active ingredient (microgram per blotter) is heavily dependent on the LSD-blotter size.
54  Samples containing one or more of the following substances were classified as hallucinogens: 5-Meo-DALT, 1cP-LSD, 1p-LSD, 1V-LSD, 2C-EF, 4-HO-MET, 5-MeO-MiPT, Chloro-2,5-DMA, Dimethyltryptamine (DMT), N-Methyl-N-ethyltryptamine (MET), α-méthyltryptamine, βOH-2C-B.

tablets contained a mixture of MDMA, as well as cocaine and ketamine. A total of 40 samples contained a MDMA precursor[55] whereas 51 samples contained precursors[56] used for amphetamine and methamphetamine synthesis. Lastly, four soft candies and one sample of peanut puffs contained the synthetic cannabinoid hexahydrocannabinol acetate (HHC-O), while 13 samples contained yet other synthetic cannabinoids[57] or combinations thereof. In three samples, these synthetic cannabinoids were found impregnated on A4 paper, while four samples involved plant leaves. The remaining six samples containing synthetic cannabinoids were found in powder, crystal or liquid forms.

## 7.4. DRUG-RELATED CRIME

The number of police records for presumed offences against the modified 1973 drug law have been showing a discontinuous increase throughout the last 20 years (2001: 1,455; 2020: 2,968). However, during the past five years, the number of referred police records has continuously decreased, marking a downward trend with 1,670 drug law enforcement records reported in 2023 (2022: 1,786; 2021: 2,354; 2020: 2,968) (see Table 7.2.).

TABLE 7.2.

Number of national law enforcement records (Specialised Drug Department of the Judicial Police, 2010-2023)

| Year | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPJ | 134 | 165 | 44 | 17 | 9 | 80 | 45 | 21 | 51 | 212 | 64 | 22 | 71 | 2 |
| Police | 1,969 | 1,643 | 1,526 | 1,849 | 2,651 | 3,192 | 2,531 | 2,358 | 2,066 | 2,647 | 2,798 | 2,281 | 1,651 | 1,591 |
| Customs | 443 | 477 | 232 | 203 | 156 | 113 | 48 | 146 | 167 | 135 | 104 | 49 | 54 | 76 |
| **Total** | **2,546** | **2,225** | **1,802** | **2,069** | **2,816** | **3,385** | **2,624** | **2,525** | **2,284** | **2,994** | **2,968** | **2,354** | **1,786** | **1,670** |

Note: Police includes the « Service de Recherche et d'Enquête Criminelle » (Luxembourg ville, Esch-sur-Alzette, Diekirch, Grevenmacher).

In 2021, two missing values on PV service and 10 missing values on PV service in 2022. In 2023, one missing value on PV service.

The analysis of the 1,670 drug law enforcement records revealed a total of 1,911 offences[58] presumably committed in 2023 (2022: 1,899; 2021: 3,006; 2020: 3,558). Similar to previous years, in 2023 the vast majority of these drug law offences were related to personal use, purchase, or possession of illicit drugs (2023: 83%; 2022: 86%; 2021: 88%; 2020: 87%) (see Figure 7.6.).

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55  PMK ethyl glycidate, PMK methyl glycidate and PMK.
56  BMK methyl glycidate.
57  ADB-4-en-PINACA, ADB-BINACA, ADB-BUTINACA, CH-PIATA, Delta-8-Tetrahydrocannabinol, JWH-210, MDMB-4en-PINACA, MDMB-BUTINACA, THCP acetate.
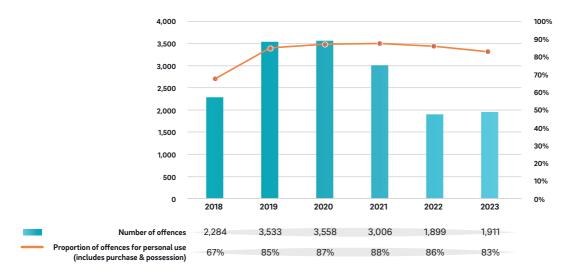58  N(offenders) < N(offences) as an offender might have committed multiple offences.

FIGURE 7.6.

Trends on proportion of offences due to drug related use, purchase or possession of illicit drugs for personal use (% of total offences)
(Specialised Drug Department of the Judicial Police, 2018 – 2023)

In 2023, the Specialised Drug Department of the Judicial Police reported 1,353 offenders involved in traffic and/or use of illicit substances, a number that is slightly above to the previous year's figure (2022: 1,305) (Table 7.3.).

TABLE 7.3.

Number of individual offenders (Specialised Drug Department of the Judicial Police, 2010-2023)

| Year | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPJ | 131 | 164 | 44 | 17 | 9 | 77 | 44 | 14 | 27 | 127 | 48 | 15 | 60 | 2 |
| Police | 1,960 | 1,632 | 1,517 | 1,846 | 2,623 | 3,158 | 2,481 | 1,825 | 1,583 | 1,719 | 1,619 | 1,557 | 1,187 | 1,286 |
| Customs | 439 | 407 | 221 | 200 | 147 | 110 | 41 | 130 | 145 | 106 | 58 | 47 | 52 | 65 |
| Total | 2,530 | 2,210 | 1,782 | 2,066 | 2,779 | 3,345 | 2,566 | 1,969 | 1,755 | 1,952 | 1,723 | 1,621 | 1,305 | 1,353 |

*Note:* Police includes the « Service de Recherche et d'Enquête Criminelle » (Luxembourg ville, Esch-sur-Alzette, Diekirch, Grevenmacher).
In 2022, six missing values for offenders.

The number of arrests for drug-related offences shows relative variations but are typically situated between 120 and 230 per year (see Fig. 7.7.). Compared to 2021, the number of arrests for drug-related offences has shown a slight increase in 2022, while a modest rise has been observed since then (2023: 188; 2022: 176; 2021: 173; 2020: 119). While cocaine may not have been the decisive factor leading to the arrest, it was still the most frequently mentioned substance in the police reports that documented an arrest (2023: 56.4%; 2022: 38.1%; 2021: 67.6%; 2020: 47.9%). Cannabis (herb and resin) was mentioned among 33.5% of all arrests (2022: 38.1%; 2021: 41.6%; 2020: 42.0%), while only 12.2 % of arrests included a mention of heroin (2022: 15.3%; 2021: 22.0%; 2020: 25.2%). These numbers show that since 2020, cocaine has consistently been involved most frequently in drug related arrests, followed by cannabis.
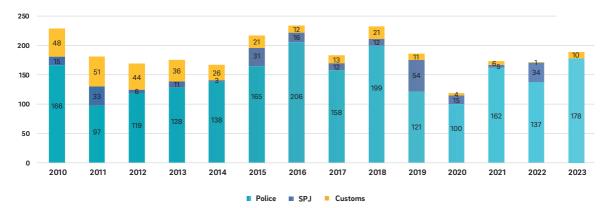
Distribution of the number of drug law offences related arrests per service (Specialised Drug Department of the Judicial Police, 2010-2023)

*Note:* Police includes the « Service de Recherche et d'Enquête Criminelle » (Luxembourg ville, Esch-sur-Alzette, Diekirch, Grevenmacher). For 2022, the total includes four people for whom the service is unknown (not shown in the graph).

## CHARACTERISTICS OF DRUG LAW OFFENDERS

> In 2023, the population of individual drug law offenders was composed of 89.1% males (84.1% in 2021; 83.8% in 2021; 86.9% in 2020), a proportion that has generally been varying between 79% and 90% during the past decade.

> People of foreign nationality represented the majority of drug law offenders (2023: 56.0%; 2022: 55.6%; 2021: 51.8%; 2020: 53.3%), people with the Luxembourgish nationality represented 38.1% of drug law offenders (2022: 37.3%; 2021: 40.4%; 2020: 42.6%), and those with unknown nationality a minority (2023: 5.9%; 2022: 7.1%; 2021: 7.8%; 2020: 4.1%).

> In 2023, minors accounted for 12.9% of the drug law offenders (2022: 9.0%; 2021: 12.0%; 2020: 9.0%). Compared to the years 2010 to 2023, the proportion of minors among individual drug law offenders slightly increased in recent years, while the total number of individual offenders decreased.

> In 2023, 22.3% of offenders were aged 19 years or below (2022: 19.2%; 2021: 23.4%; 2020: 20.2%), 39.2% were between the age of 20 and 29 years (2022: 34.8%; 2021: 38.1%; 2020: 42.4%), 23.6% between the age of 30 and 39 years (2022: 25.4%; 2021: 22.8%; 2020: 21.4%), and 14.9% above the age of 40 years (2022: 20.3%; 2021: 15.7%; 2020: 15.8%). The figures reported for 2023 are very similar to those reported for 2021, with a large majority of offenders being aged 29 years or younger (61.5%) while in 2022, the population was slightly older (54.0% aged 29 years or younger).

The routine data protocol of the national drug monitoring system (RELIS) that records persons entering treatment in a given year includes a series of drug-related offences' items based on self-report. The following results summarise the situation observed in the past years:

> In 2023, 70.3% of high-risk drug users indexed by specialised harm reduction or treatment services reported at least one episode of conflict with law enforcement agencies during their lifetime (2022: 80.7%; 2021: 82.1%; 2020: 83.3%) and 42.5% reported multiple law enforcement contacts (2022: 56.3%; 2021: 62.5%; 2020: 61.8%).

> Among the valid RELIS respondents in 2023, 89.8% (2022: 72.8%; 2021: 75.9%; 2020: 79.8%) showed one or more law enforcement contacts for whom the reason of the law offence is known.

> The proportion of contacts with law enforcement for reasons other than presumed drug law offences (e.g., petty crime such as criminality linked to drug supply or fights) has slightly increased in recent years (2023: 46.1%; 2022: 42.9%; 2021: 35.0%; 2020: 37.1%).

In total, 23.0% of indexed RELIS population already served one single prison sentence during lifetime (2022: 18.0%; 2021: 24.3%; 2020: 17.4%), whereas the proportion of the RELIS population having served more than one prison sentence decreased to 19.3% in 2023 (2022: 29.6%; 2021: 39.9%; 2020: 42.3%), while 57.7% reported to have never been in prison (2022: 52.4%; 2021: 32.4%; 2020: 40.4%).

## 7.5. DRUGS AND DRIVING

In the Grand Duchy of Luxembourg driving, operating, or being in control of a motor vehicle while impaired by alcohol or other drugs (including those prescribed by physicians), to a level that renders the driver incapable of operating a motor vehicle safely in traffic, is considered a criminal law offence (Ministère d'Etat, 2011). In collaboration with the national Judicial Police, the forensic toxicology department of the National Health Laboratory (LNS) has been investigating the presence of drugs among (suspicious) driving law offenders in traffic over the past years.

> Results from testing samples delivered by the national Judicial Police from 2012 onwards show that cannabis detection has been most common, followed by cocaine, amphetamine-type substances (ATS), and opioids[59] when testing for psychoactive substances among drivers.

> 2023 data reveal that among the 363 examinations performed (2022: 349; 2021: 332; 2020: 265), 169 (46.6%) tested positive for cannabis (2022: 178; 51.0%; 2021: 203; 61.1%; 2020: 172; 64.9%), 28 (7.7%) for cocaine (2022: 61; 17.5%; 2021: 64; 19.3%; 2020: 53; 20.0%), one (0.3%) for opioids (2022: 61; 17.5%; 2021: 10; 3.0%; 2020: 11; 4.2%), and five (1.4%) for ATS (2022: 9; 2.6%; 2021: 11; 3.3%; 2020: 6; 2.3%). Compared to previous years, these numbers are slightly lower, especially for cocaine detection where only half as many cases were tested positive in comparison to 2022. In total, 35 examinations revealed that more than one substance was used before driving a motor vehicle[60] (see Fig. 7.8.).

> With the introduction of a new drug-test to detect controlled drugs or alcohol by saliva samples among drivers of motor vehicles in traffic by mid-2012 ("Drugwipe 5S"), accompanied by a respective law change (Ministère d'Etat, 2015), both the number and the validity of the tests performed increased (therefore comparisons to data from previous years are to be avoided). Figure 7.9. depicts a rising trend for the number of examinations, whereas the proportion of positive cases detected for driving under the influence of drugs has dropped considerably in 2023 compared to previous years. While the proportion of positive tests varied between 85% and 94% from 2016 to 2022, the proportion of positive tests decreased again to 66% in 2023. For accurate interpretation, it is important to note that the increase in traffic is partly due to a growing population, and also influenced by a significant rise in driving license applications and new vehicle registrations in the Grand Duchy of Luxembourg (STATEC, 2023).

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59  The examinations performed by the LNS were focused on detecting the presence of morphine, the predominant metabolite of heroin. It should be noted that other opioids, like codeine, may also produce positive results in morphine tests.
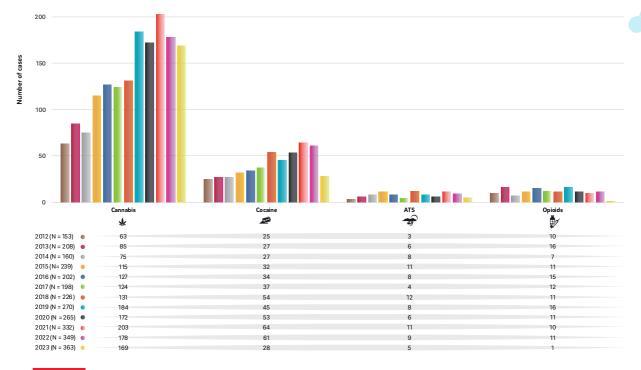60  Data about the detected drugs is not available.

| | Cannabis | Cocaine | ATS | Opioids |
|---|---|---|---|---|
| 2012 (N = 153) | 63 | 25 | 3 | 10 |
| 2013 (N = 208) | 85 | 27 | 6 | 16 |
| 2014 (N = 160) | 75 | 27 | 8 | 7 |
| 2015 (N = 239) | 115 | 32 | 11 | 11 |
| 2016 (N = 202) | 127 | 34 | 8 | 15 |
| 2017 (N = 198) | 124 | 37 | 4 | 12 |
| 2018 (N = 226) | 131 | 54 | 12 | 11 |
| 2019 (N = 270) | 184 | 45 | 8 | 16 |
| 2020 (N = 265) | 172 | 53 | 6 | 11 |
| 2021 (N = 332) | 203 | 64 | 11 | 10 |
| 2022 (N = 349) | 178 | 61 | 9 | 11 |
| 2023 (N = 363) | 169 | 28 | 5 | 1 |

Number of cases tested positive for the presence of controlled drugs when driving (National Health Laboratory, 2012 – 2023)

*Note:* In 2022, 37 examinations revealed more than one substance used prior to driving a motorised vehicle, whereas in 2023, 35 revealed more than one substance (not shown in the graph)



| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of examinations | 153 | 208 | 160 | 239 | 202 | 198 | 226 | 270 | 265 | 332 | 349 | 363 |
| % of positive examinations | 66 | 64 | 73 | 71 | 91 | 89 | 92 | 94 | 91 | 87 | 85 | 66 |

Evolution of driving under the influence of drugs: rate of positive cases (%) among the total number of tests performed (National Health Laboratory, 2012 – 2023)

Data from an EU-wide study led by the European Road Safety Observatory (ERSO, 2023) suggest that the above-mentioned high positive rates for drug use prior to driving might be, at least partially, due to the non-randomised testing of drivers in Luxembourg. According to the report from 2023, only 4% of Luxembourgish respondents stated driving within 1 hour of taking drugs other than medicine in the previous 30 days. The EU-average reported for this question was 5% (ERSO, 2023).

# ACKNOWLEDGEMENTS

# CONFLICT OF INTEREST

No conflict of interest has been declared by the authors.

# LIST OF ABBREVIATIONS

| Abbreviation | Full Name |
| --- | --- |
| 2C-B | 4-Bromo-2,5-dimethoxyphenethylamine |
| 3-CMC | 3-Chloromethcathinone |
| 3-MMC | 3-Methylmethcathinone |
| 4-AcO-DMT | 4-Acetoxy-dimethyltryptamine |
| ADHD | Attention Deficit and Hyperactivity Disorder |
| ATS | Amphetamine-type stimulants |
| BE | Belgium |
| CBD | Cannabidiol |
| CePAS | Centre psycho-social et d'accompagnement scolaires |
| CePT | Centre de Prévention des Toxicomanies |
| CH | Switzerland |
| CHdN | Centre Hospitalier du Nord |
| CHEM | Centre Hospitalier Emile Mayrisch |
| CHL | Centre Hospitalier du Luxembourg |
| CHNP | Centre Hospitalier Neuro-Psychiatrique |
| CNAPA | Centre National de Prévention des Addictions |
| CNDS | Comité National de Défense Sociale |
| CNS | Caisse Nationale de Santé |
| CPG | Centre Pénitentiaire de Givenich |
| CPL | Centre Pénitentiaire de Luxembourg |
| CPU | Centre Pénitentiaire d'Uerschterhaff |
| CTM | Centre Thérapeutique Manternach |
| CZ | Czech Republic, the |
| DE | Germany |
| DIAM | Diacetylmorphine treatment |
| DUCK | DrUg ChecKing |
| ECDC | European Centre for Disease Prevention and Control |
| EHIS | European Health Interview Survey |

| | |
|---|---|
| **EMCDDA** | European Monitoring Centre for Drugs and Drug Addiction |
| **EQDP** | European Questionnaire on Drug use in Prison |
| **ERSO** | European Road Safety Observatory |
| **ES** | Spain |
| **EU** | European Union |
| **EUDA** | European Union Drugs Agency |
| **EWSD** | European Web Survey on Drugs |
| **FR** | France |
| **GBL** | Gamma Butyrolactone |
| **GHB** | Gamma-hydroxybutyrate |
| **GMR** | General Mortality Registry |
| **GPs** | General Practitioners |
| **HAT** | Heroin Assisted Treatment |
| **HBSC** | Health Behaviour in School-Aged Children |
| **HBV** | Hepatitis B Virus |
| **HCV** | Hepatitis C Virus |
| **HIV** | Human Immunodeficiency Virus |
| **HRDUs** | High-risk drug users |
| **HRS** | Hôpitaux Robert Schuman |
| **ICD** | Inter-ministerial Committee on Drugs |
| **ICD** | International Classification of Diseases |
| **IOMM** | Incremental OAT Multiplier Method |
| **IS** | Iceland |
| **JDH** | Fondation Jugend- an Drogenhëllef |
| **LC-MS/MS** | Liquid Chromatography-Tandem Mass Spectrometry |
| **LC-QToF** | Liquid Chromatography-Quadrupole Time-of-Flight Mass Spectrometry |
| **LIH** | Luxembourg Institute of Health |
| **LIST** | Luxembourg Institute of Science and Technologies |
| **LNS** | Laboratoire National de Santé |
| **LSD** | Lysergic acid diethylamide |
| **LT** | Lithuania |
| **LU** | Luxembourg |

| | |
|---|---|
| **LV** | Latvia |
| **MDMA** | 3,4-Methylenedioxymethamphetamine |
| **MOPUD** | Service mobile de prévention pour les consommateur.trice.s de drogues |
| **N2O** | Nitrous oxide |
| **NGOs** | Non-governmental organizations |
| **NL** | Netherlands, the |
| **NPS** | New psychoactive substances |
| **NSP** | Needles and syringes distribution programme |
| **OAT** | Opioid agonist treatment |
| **OUs** | High-risk Opioid Users |
| **PCR** | Polymerase Chain Reaction |
| **PFLAD** | Point Focal Luxembourgeois de l'Agence de l'Union Européenne sur les Drogues (EUDA) |
| **PFLDT** | Point Focal Luxembourgeois de l'Observatoire des Drogues et des Toxicomanies (EMCDDA Luxembourg Focal Point) |
| **PWID** | People who inject drugs |
| **PWUD** | People Who Use Drugs |
| **RELIS** | Réseau Luxembourgeois d'Information sur les Stupéfiants et les |
| **SCAN** | Analytical Chemistry Service of the Luxembourg National Health Laboratory |
| **SCORE** | Sewage analysis CORe group — Europe |
| **SD** | Standard Deviation |
| **SI** | Slovenia |
| **SPJ** | Service de Police Judiciaire |
| **SPMP** | Service psychiatrique en milieu pénitentiaire |
| **SR** | Special Registry |
| **SREC** | Service de Recherche et d'Enquête Criminelle |
| **STI** | Sexually Transmitted Infections |
| **THC** | Tetrahydrocannabinol |
| **THC-COOH** | 11-Nor-9-carboxy-delta-9-tetrahydrocannabinol |
| **UNAIDS** | Joint United Nations Programme on HIV/AIDS |
| **WWTPs** | Wastewater treatment plants |
| **XTC** | Ecstasy |

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