



PROBLEM DRUG USE IN CORK CITY

A STUDY ON PREVALENCE AND HARMS

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List of abbreviations

AIC	Akaike information criterion
CHO	Community Healthcare Organisation
CI	Confidence interval
CLDATF	Cork Local Drug and Alcohol Task Force
CREC	Clinical Research Ethics Committee
CTL	Central Treatment List
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ESRI	Economic and Social Research Institute
EU	European Union
EUDA	European Union Drugs Agency
GP	General Practitioner
HIPE	Hospital In-Patient Enquiry
HRB	Health Research Board
HRCDC	Health Research Consent Declaration Committee
HSE	Health Service Executive
LHO	Local Health Office
NDRDI	National Drug-Related Deaths Index
NDTRS	National Drug Treatment Reporting System
NHIS	National Health Information Systems
NSRF	National Suicide Research Foundation
OST	Opioid substitution therapy
PDU	Problem drug use
RDATF	Regional Drug and Alcohol Task Force
SDCF	Supervised drug consumption facility
UCC	University College Cork
UN	United Nations
UNWDR	United Nations World Drug Report
WHO	World Health Organization

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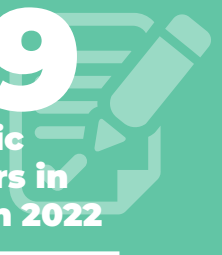
EXECUTIVE SUMMARY

Problem drug use (PDU) is defined as recurrent drug use that is causing harm to an individual or is placing them at a high probability or risk of suffering harm. Substances associated with PDU include opioids, cocaine (powder and crack), amphetamines, benzodiazepines, Z-drugs and gabapentinoids. PDU can lead to many harms for populations and individuals such as increased criminal activity, drug-related litter, increased risk of infectious diseases passed on from shared syringes and needles, substance use disorders, overdoses and death.

One of the five strategic goals within the Irish national drugs strategy is to “develop sound and comprehensive evidence-informed policies and actions”. However, to date, studies on PDU in Ireland have largely been conducted at a national level or have concentrated on Dublin city. A proper assessment of PDU in Cork city is therefore needed. Thus, the objectives of this research were to provide estimates on the scale of PDU in Cork city using the most recent available data, and to compare trends over time.

Findings from a four-source capture-recapture analysis estimated that there were 859 (95% confidence interval [CI]: 774–1,079) problematic opioid users in Cork city in 2022, which equates to a prevalence rate of 5.59 (95% CI: 5.04–7.02) opioid users per 1,000 population. In 2022 almost one-third of opioid users in Cork city were unknown to services. Between 2019 and 2022 the prevalence of opioid use remained relatively stable, with a majority of users being male and between 35 to 64 years of age. However, the needle exchange programme in Cork city has shown a general increase in the number of syringes exchanged since 2019, with an average of 6,685 syringes being provided each month from pharmacy-based sites in 2023. Data from household surveys demonstrate an increase in the use of cocaine (including crack) and amphetamines, with these increases being noticeably pronounced among young adults. The main problem drug for cases entering treatment for PDU in Cork city has shifted; since 2019 trends indicate a gradual reduction in the number of cases entering treatment for opioids, with an increase in the number of cases accessing treatment services for cocaine use.

859
problematic
opioid users in
Cork city in 2022



For the years 2019–2023, benzodiazepines were the main drug implicated in non-fatal overdose cases in Cork city, followed by opioids, with an average of one opioid overdose occurring each week. Between 2018 and 2021 there was a total of 487 self-harm presentations related to PDU by Cork city residents; benzodiazepines were the main drug implicated in self-harm presentations (63.2%), followed by opioids (30.6%), gabapentinoids (11.9%) and cocaine (9.0%). During this period there was a total of 140 poisoning deaths due to PDU recorded, with an average of 35 deaths each year. Opioids were the main drug implicated in poisoning deaths (75.7%), followed by benzodiazepines (59.3%), gabapentinoids (27.9%) and cocaine (14.3%).

The results from this study show that PDU is taking place in Cork city, with a number of associated harms. Though Cork city has a variety of harm reduction services that deal with education, assessment, treatment and post-treatment support, the disconnect between problem drug users and these programmes may benefit from additional services. Ongoing research in this area will be crucial for effective service planning and to allow policymakers to evaluate the impact of strategies aimed at reducing drug-related harms.

OPIOIDS

In total, there were an estimated

859

PROBLEMATIC OPIOID USERS

in Cork city in **2022**

The majority of opioid users were male

74.5% Male

61.7% were 35–64 years of age

**61.7%
35–64yrs**



COCAINE AND AMPHETAMINES

almost

4% young adults



**RECENT USE OF COCAINE
IN 2019–20 COMPARED
TO 1.3% DURING 2014–15**

almost

2% young adults



**RECENT USE OF
AMPHETAMINES IN 2019–20
COMPARED TO 0.4% IN 2014–15**

HARMS

2019–2023

benzodiazepines were the main drug implicated in non-fatal overdose cases in Cork city, **followed by opioids**, with an average of one opioid overdose occurring each week

2018–2021

there was a total of **487 self-harm presentations related to problem drug use** by Cork city residents; benzodiazepines were the main drug implicated in self-harm presentations (63.2%), followed by opioids (30.6%), gabapentinoids (11.9%) and cocaine (9.0%)

2018–2021

there was **an average of 35 deaths in Cork city each year due to problem drug use**; opioids were the main drug implicated in poisoning deaths (75.7%), followed by benzodiazepines (59.3%), gabapentinoids (27.9%) and cocaine (14.3%)

INTRODUCTION AND BACKGROUND

Substance use accounts for a substantial burden of disease globally.¹ In the United Nations (UN) 2023 World Drug Report (UNWDR) it was estimated that 296 million people had used a drug in 2021, which was a 23% increase on the previous decade.² The word ‘drug’ in the UNWDR refers to any substances controlled under the International Drug Control Conventions.² Importantly, the UNWDR found that in 2021, 37.5 million people had a drug use disorder and could be considered problem drug users.²

The European Union Drugs Agency (EUDA), formerly the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), defines problem drug use (PDU) as “recurrent drug use that is causing actual harm (negative consequences, including dependence, but also other health, psychological or social problems) to the person or is placing the person at a high probability/ risk of suffering such harms”.³ PDU can lead to many harms for populations and individuals such as increased criminal activity, drug-related litter, increased risk of infectious diseases passed on from shared syringes and needles, substance use disorders, overdoses and death.^{2,4,5}

Globally, harm reduction approaches such as syringe/needle exchanges, drug testing, take-home/over-the-counter naloxone and education to inform on harms and reduce the stigma associated with drug use are used to lessen the economic, social and health impacts of PDU.^{6,7,8} There are currently 40 sanctioned supervised drug consumption facilities (SDCFs) in North America (38 in Canada, one active and one set to open in 2024 in the United States of America) and two in Australia (located in Sydney and Melbourne).^{9,10} In 2023, 10 European Union (EU) countries had one or more SDCFs (approximately 90 as of 2022).⁶ Importantly, in addition to syringe and needle provision (which can reduce the number of infectious diseases passed on from shared drug taking paraphernalia) and blood-borne virus and drug testing, SDCFs can provide clinical care, immediate overdose response, connection to services (primary care, community support) and access to certain treatments.^{8,10,11,12,13,14} Other factors associated with SDCFs are a reduced number of ambulance call-outs in the areas of their location and less public drug use.^{15,16,17,18,19}

The Irish national drugs strategy *Reducing Harm, Supporting Recovery: A health-led response to drug and alcohol use in Ireland 2017-2025* was launched in July 2017. The strategy’s vision is for “A healthier and safer Ireland, where public health and safety is protected and the harms caused to individuals, families and communities by substance misuse are reduced and every person affected by substance use is empowered to improve their health and wellbeing and quality of life.” The strategy contains a 50-point action plan for supporting individuals, families and communities through programmes, policy awareness and education.²⁰ Harm reduction services for PDU now available in Ireland operate programmes from fixed treatment clinic sites, in addition to outreach work provided by regional authorities and community-based organisations.²⁰ Initiatives undertaken include provision of alcohol wipes, sterile water, citric acid filters, spoons, condoms, naloxone and methadone therapy, as well as rehabilitation, education and community/family support.²⁰ In addition, there are pharmacies providing a needle exchange service in a majority of the Regional Drug and Alcohol Task Force (RDATF) areas within Ireland and a medically supervised injecting facility opened in Dublin in December 2024.²¹ These initiatives are comparable to those used in global and EU harm reduction programmes.

To date, studies on PDU in Ireland have largely been conducted at a national level or have concentrated on Dublin city, as a majority of PDU has historically taken place within inner-city Dublin.^{22,23,24} However, research suggests that PDU is also occurring in Cork city.^{25,26} One of the five strategic goals within the national drugs strategy is to “develop sound and comprehensive evidence-informed policies and actions”.²⁰ A proper assessment of the scale of PDU in Cork city is therefore needed for effective service planning and to allow policymakers to evaluate the impact of strategies aimed at reducing drug-related harms. In 2024, the Health Service Executive (HSE) Cork and Kerry and Cork City Council contracted the School of Public Health, University College Cork (UCC), to conduct a study on PDU in Cork city, the results of which are presented here. Specifically, the objectives of this research were to provide estimates on the prevalence of PDU, number of syringes exchanged, numbers in treatment, non-fatal overdose cases, self-harm related to PDU and drug-related deaths in Cork city using the most recent available data, and to compare trends over time.



METHODS

This project took place from July 2024 to January 2025 and used data provided from multiple sources. The aim was to gain a better understanding of how PDU has changed in Cork city over time, in a valid, reliable and verifiable way, using the most up-to-date data available at the time.

The literature review focused on recent scientific research on PDU available from the database of the National Drugs Library (*available at: <https://www.drugsand alcohol.ie>*), as well as from organisations such as the UN, World Health Organization (WHO) and EUDA. Articles published in scientific journals between 1989 and 2024, accessible through PubMed and Google Scholar search engines, were additionally consulted. Government databases and news articles were also analysed to provide relevant information and context for this report.

Capture-recapture analyses were performed to estimate the number of opioid users in Cork city for the years 2019–2022. These analyses incorporated three data sources from opioid substitution therapy (OST) records obtained from the Irish Central Treatment List (CTL), which includes treatment clinics, General Practitioners (GPs) and prisons. The fourth data source was provided by the Probation Service in Ireland. Information from the HSE national Pharmacy Needle Exchange Programme was used to compare the number of syringes exchanged from pharmacy-based sites in Cork city between 2019 and 2023.

Data collected during the 2014–15 and 2019–20 Irish National Drug and Alcohol Surveys were used to examine trends in the prevalence of recent cocaine and amphetamine use. Information on cases treated for PDU in Cork city from 2019 to 2023 was obtained from the National Drug Treatment Reporting System (NDTRS). The number of non-fatal overdose cases due to PDU in Cork city for the years 2019–2023 was collated by the Hospital In-Patient Enquiry (HIPE) computer-based health information system. Data on the number of self-harm presentations by Cork city residents involving opioids, cocaine, amphetamines, benzodiazepines, Z-drugs and gabapentinoids for the years 2018–2021 were obtained from the National Self-Harm Registry, which is maintained by the National Suicide Research Foundation (NSRF). The number of poisoning deaths due to PDU in Cork city for the years 2018–2021 was acquired from the National Drug-Related Deaths Index (NDRDI).

Ethical approval to conduct the capture-recapture analyses was sought from the Clinical Research Ethics Committee (CREC) of Cork Teaching Hospitals. Consent declaration was obtained from the Irish Health Research Consent Declaration Committee (HRCDC) as, given the nature of the research, it was not possible to retrospectively collect individual consent.

project took place from

July 2024 to January 2025

Capture-recapture analyses | recent scientific research on PDU



WHAT IS PROBLEM DRUG USE?

As previously discussed, the EUDA defines PDU as recurrent drug use that is causing harm to an individual or is placing them at a high probability or risk of suffering harm.³ This case definition is intended to best identify those in need of treatment and intervention and is not intended to include experimental and occasional drug users. The EUDA further specifies PDU as injecting drug use or long duration/regular use of substances such as opioids, cocaine and/or amphetamines.³ This type of use often causes behavioural and physiological changes that may lead to the inability of an individual to control use of the drug, despite the harms it may be causing.²⁷ PDU can begin due to a new prescription medication (or one given by another person who has a prescription) or by experimenting with drugs alone or in a social setting.²⁷ Certain substances, for example opioids, have a higher risk of causing PDU as they are considered highly addictive and more often lead to overdose, as a larger dose is needed each time to get high.²⁷ Due to a person's dependence (physiological and/or psychological) and changes in behaviour, PDU can be difficult to treat.

PEOPLE WHO USE AND MOTIVATIONS FOR USE

Studies have consistently shown that men are more likely to use drugs than women and that, in most age groups, men also have higher rates of dependence.²⁸ Nonetheless, women are just as prone as men to develop PDU if they are using drugs.²⁸ Those who are most likely to develop PDU are persons with a family history of substance use (genetic predisposition), one or more mental health disorders, those who lack support (e.g. difficult family situations, lack of parental supervision), persons who have experienced trauma and chronic stress, individuals who initiate drug taking at an earlier age (as this is believed to cause physiological changes) and those who take a more highly addictive substance (e.g. opioids and cocaine).^{27,29}

Personal circumstances, personality traits, peer-pressure and socioeconomic status may all influence a person's initiation to drug use.³⁰ When a person continues to take a drug which has not been prescribed to them for therapeutic purposes they typically do so to achieve a perceived positive effect that might be psychological (e.g. acceptance in a social setting) and/or physiological (e.g. a sense of euphoria or numbness), or to combat a perceived negative effect (e.g. to reduce anxiety, depression or deal with trauma).³⁰ As these effects continue to occur with drug taking, the individual continues to reinforce the connection between the drug and the perceived benefit, which may lead to PDU.³⁰

TYPES OF SUBSTANCES USED

This report focuses on four main categories of drugs: opioids, cocaine (powder and crack), amphetamines (prescription and illegal) and 'street tablets' (the non-medical use of prescription drugs). A description of these drugs and Irish national data regarding their use is included below, as well as their common names, most common methods of consumption and harms associated with their use.

OPIOIDS

This term refers to natural compounds derived from the poppy plant as well as synthetic and semi-synthetic compounds with the same properties.³¹ Opioids, which include heroin, morphine, methadone, codeine, hydrocodone, fentanyl and tramadol, are addictive, sedating, narcotic drugs. While some of these drugs have valid medical purposes, their misuse as 'street drugs' can lead to many health and social issues for users and society. When these drugs are used, they may be taken orally, smoked, injected or snorted.^{31,32,33} Harms associated with problematic opioid use include:

Physiological dependence leading to severe withdrawal symptoms³⁴

Physical symptoms such as weight loss, drowsiness and frequent flu-like symptoms³⁴

Increased risky behaviours to the detriment of the person's safety, health, personal relationships and financial/job security³⁴

Overwhelming emotional and physical cravings to take opioids that interfere with daily life and responsibilities³⁴

Increased risk of blood-borne infections such as HIV and viral hepatitis due to injecting³⁵

Overdoses that can cause a coma, permanent brain damage or death due to a lack of oxygen to the brain³³



Opioid use in Ireland

In the Irish context, the primary opioid misused is heroin. Data from the NDTRS, reported by the Health Research Board (HRB) to the EUDA as part of the treatment demand indicator, show that 29.3% of people accessing drug treatment services in Ireland were treated for problematic opioid use in 2023, with heroin use comprising the majority of these cases (86.0%).³⁶ The proportion of people accessing treatment services with opioids as their main problem drug has declined from 45.0% in 2017 to 29.3% in 2023.³⁶ Data from the NDTRS also show that in 2022, 28.1% of those treated for problematic opioid use reported injecting as their primary route of administration. Other common routes of administration for cases entering treatment for opioid use were smoking (56.2%) and eating/drinking (12.5%).⁷ Synthetic opioids such as methadone, buprenorphine and fentanyl are used to a lesser extent, while recent information suggest that non-medical use of prescription opioids remains low in Ireland.^{37,38}

Research undertaken in 2019 estimated that there were 19,875 opioid users in Ireland during that year (aged 15–64 years), which equates to a prevalence rate of 6.68 per 1,000 population (95% confidence interval [CI]: 6.57–7.27). Almost six in ten of problematic opioid users in 2019 lived in Dublin; the majority of users were male (72.3%) and more than two-thirds (72.9%) were in the older 35–64-year-old age group.²⁵ Comparing these data to a study conducted in 2014 (Table 1) shows that the overall prevalence of problematic opioid use in Ireland between 2014 and 2019 remained stable. There was a slight shift in the distribution of problematic opioid users in Dublin compared to the rest of Ireland; the prevalence of opioid use decreased slightly in Dublin and increased slightly in the rest of Ireland, but this difference was not statistically significant. There was, however, a significant decrease in the number of problematic opioid users aged 15–24 years as well as those aged 25–34 years, while there was an increase in the number of opioid users aged 35–64 years. There was no significant change in the proportion of male/female problematic opioid users between 2014 and 2019.

Table 1. Comparison of opioid use prevalence estimates in Ireland, 2014 and 2019

2014	Estimate	95% CI	Rate per 1,000	95% CI
Co Dublin	13,458	12,564–14,220	15.15	14.14–16.00
Rest of Ireland	5,530	5,406–8,023	2.53	2.47–3.67
15–24 years	1,092	1,076–1,234	1.88	1.85–2.13
25–34 years	6,672	6,578–7,539	8.84	8.71–9.98
35–64 years	11,224	11,065–12,681	6.46	6.37–7.30
Male	13,022	12,838–14,713	8.52	8.40–9.63
Female	5,966	5,882–6,741	3.86	3.81–4.36
Total	18,988	18,720–21,454	6.18	6.09–6.98
2019	Estimate	95% CI	Rate per 1,000	95% CI
Co Dublin	11,729	11,298–12,944	12.72	12.25–14.03
Rest of Ireland	8,146	7,885–9,160	3.97	3.84–4.47
15–24 years	730	717–794	1.35	1.32–1.46
25–34 years	4,650	4,567–5,055	7.48	7.35–8.13
35–64 years	14,495	14,238–15,759	8.01	7.87–8.71
Male	14,370	14,115–15,623	9.76	9.59–10.61
Female	5,505	5,407–5,985	3.67	3.60–3.99
Total	19,875	19,522–21,608	6.68	6.57–7.27

Source: Hanrahan et al. (2022)

COCAINE

Cocaine is a tropane alkaloid derived from the leaves of the coca plant.³⁹ This drug is a stimulant and there are a number street names for cocaine such as blow, coke, flake, snow, crack or rock. It is typically consumed through snorting, injecting or, in the case of crack cocaine, smoked.³⁹ General harms associated with cocaine use include:

Psychological symptoms such as anxiety, irritability and paranoia³⁹

General physical symptoms such as restlessness, dilated pupils, loss of appetite and an irregular heartbeat³⁹

More severe physical symptoms including sudden convulsions, cardiac arrest, stroke and, with long-term use of inhaled cocaine, erosion of the upper nasal cavity³⁹

As with opioid use, there are increased risky behaviours and overwhelming cravings³⁹

Overdose due to an increase in tolerance which may lead to some of the severe physical symptoms noted above or death³⁹

Cocaine use in Ireland

Results from national surveys undertaken in Ireland have demonstrated an increase in cocaine use over time (Figure 1).³⁸ Between 2014–15 and 2019–20, the percentage of survey respondents aged 15–64 years who reported using cocaine (including crack) at some point in their lives increased from 7.8% to 8.3%. As was observed in previous surveys, in 2019–20 more men reported using cocaine in their lifetime when compared to women (11.6% versus 5.1%). In particular there were notable increases in recent (last-year) and current (last-month) use of cocaine among young adults; last-year prevalence increased from 2.9% in 2014–15 to 4.8% in 2019–20, while current use increased from 0.9% in 2014–15 to 1.5% in 2019–20.



Problem Drug Use in Cork City



Figure 1. Lifetime, last-year and last-month prevalence of cocaine use (including crack) in Ireland, by year, 2002–03, 2006–07, 2010–11, 2014–15 and 2019–20

Source: Mongan et al. (2021)

In Ireland, cocaine is mainly used in powder form, followed by crack cocaine form.⁴² The most common routes of administration are snorting, followed by a small amount of users eating/drinking and injecting.⁴⁰ With crack cocaine, smoking is the preferred method, followed by a small number of users injecting the drug.⁴⁰



AMPHETAMINES

Amphetamines are psychostimulant drugs that are both legal (prescription medications used to treat various conditions) and illegal substances that may come in various forms, such as tablets, powder/paste crystals and liquid.⁴¹ Common prescription amphetamines include amphetamine, dextroamphetamine, lisdexamfetamine and methamphetamine; common street names include crank, speed, ice, meth and uppers.^{41,42} They are consumed through swallowing, dabbing onto gums, inhaling, injecting or smoking.^{41,42} Some general harms associated with the use of amphetamines include:

Appetite decrease, weight loss and tooth decay^{41,42}

Skin flushing, a high body temperature and skin sores^{41,42}

Sleep loss, memory loss, problems with thinking clearly, paranoia and hallucinations^{41,42}

Restlessness and tremors, changes in mood and emotional problems
(violent behaviour, depression and suicide)^{41,42}

Irregular heartbeat, increased heart rate, increased blood pressure, heart attack,
stroke and death⁴²



Amphetamine use in Ireland

As with cocaine, results from national surveys conducted in Ireland show an increase in the use of amphetamines over time and that men are more likely to use amphetamines compared to women (Figure 2).³⁸ In 2014–15, 0.6% of young adults aged 15–34 years surveyed reported using amphetamines in the last year, compared to 2.3% of young adults in 2019–20.

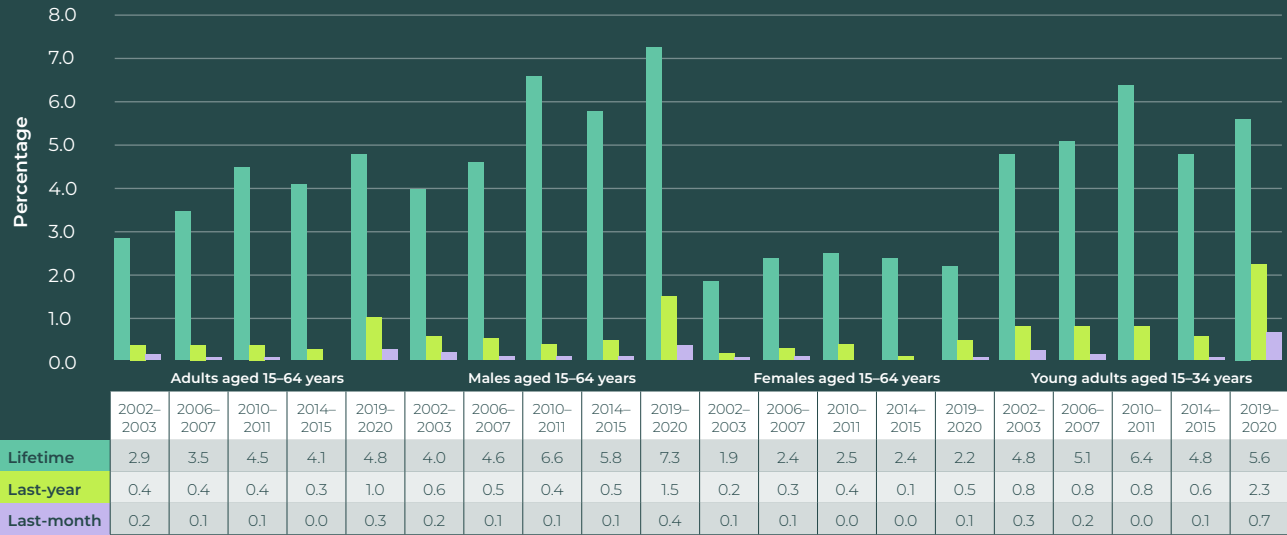


Figure 2. Lifetime, last-year and last-month prevalence of amphetamine use in Ireland, by year, 2002–03, 2006–07, 2010–11, 2014–15 and 2019–20

Source: Mongan et al. (2021)

STREET TABLETS

This term refers to any capsule or tablet which contain (or which the user believes to contain) prescription medications that they may not have acquired directly from a medical professional.⁴ Some examples of street tablets include benzodiazepines (flurazepam, alprazolam and diazepam), Z-drugs (zopiclone, zolpidem and zaleplon) and gabapentinoids (pregabalin and gabapentin). They are most often taken orally but may also be injected, smoked or administered rectally.⁴ Importantly, street tablets are typically taken at much higher doses than the normal medical dose.⁴ Some general harms of street tablet use include:

Benzodiazepines may cause short-term memory loss and dependence⁴

Z-drugs may cause impaired judgement and dexterity, confusion and forgetfulness⁴

Gabapentinoids may cause adverse effects on the central nervous system⁴

When street tablets are mixed with other drugs, they can increase the risk of fatal overdose due to respiratory failure⁴

Street tablet use in Ireland

Treatment data suggest that benzodiazepines are the most common type used in Ireland. When looking at those in treatment who indicated use of street tablets as their primary problem drug, the number of cases treated for benzodiazepine use increased by 70.2%, from 868 cases in 2017 to 1,477 in 2023. Among all cases treated for drug use in Ireland over the same period, the number of cases treated for Z-drug use fluctuated from between 0.5% and 0.9% of cases. In 2023 a total of 206 cases (1.6%) commenced treatment for problem use of pregabalin.³⁶



Converging signals of the ongoing non-medical use of prescription medications among clients of community-based harm reduction service agencies in Dublin were noted in 2018. These included significant levels of street tablet use among service clients and reports of online purchasing of tablets for the Irish market.⁴ The user groups identified included high-risk opioid users, prison populations, people with complex and multiple needs and young people. Among these groups, the motivations for using street tablets were for their intoxicating effects, to enhance desired effects from illicit substances, to help withdrawal symptoms, to improve sleep and to reduce stress. In Ireland, street tablets are taken whole or are ground up and mixed in order to be smoked or injected.⁴ The most common route of administration is orally followed by injecting.⁴

A Trendspotter study conducted in 2021 observed that street tablet use is being normalised in some communities in Ireland due to easy availability and low cost.⁴ The research also noted an increase in the number of non-fatal overdose cases involving benzodiazepines and antiepileptic and sedative-hypnotic drugs in Ireland between 2015 and 2018 and an increase in the number of poisoning deaths involving benzodiazepines and gabapentinoids; between 2012 and 2021 deaths with benzodiazepines implicated increased by 45.0%, while deaths with gabapentinoids/antiepileptics implicated increased by 410.5% (Figure 3).⁴³ This increase was largely due to deaths involving pregabalin, which increased from 14 deaths in 2013 to 83 deaths in 2021. Pregabalin was not routinely included in post-mortem toxicology screening by the State Laboratory before 2013.

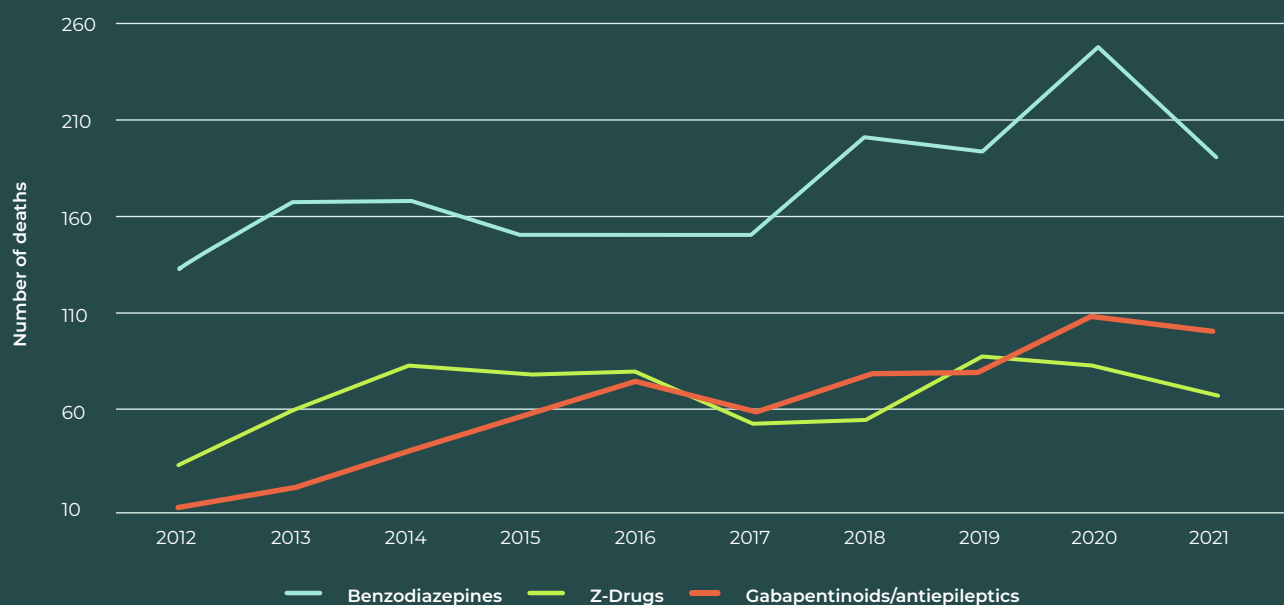


Figure 3. NDRDI data showing trends in poisoning deaths in Ireland involving benzodiazepines, Z-drugs and gabapentinoids/antiepileptics, by year, 2012–2021

Source: Kelleher et al. (2024)



PROBLEM DRUG USE IN CORK CITY

OPIOIDS

Capture-recapture method

Measuring the prevalence of problematic opioid use is challenging as, given the nature of this population, a simple head count is not feasible.²⁵ Problematic opioid users may have no fixed abode or contact with any service provider. Because drug users fear stigmatisation and are often marginalised in society, the EUDA recommends the use of indirect approaches.³

Capture-recapture analysis is useful for estimating the size of hidden populations, such as problematic opioid drug users. It generally requires the use of two or more lists of known drug users. The degree of overlap between these lists allows statistical models to be created that can predict the size of the uncaptured population. For this study we used data collected between January 2019 and December 2022 from the CTL, divided into three sources based on treatment clinics, GPs and prison data; the Probation Service provided the fourth source. The data sources chosen are suitable for this type of analysis due to the high degree of overlap between data from the CTL and from the Probation Service, which is due to the frequent transferring of care between clinics, GPs and prison treatment services.⁴⁴

The Central Treatment List

The CTL contains data on all patients who are receiving OST in Ireland. The CTL is a well-maintained, national database that distinguishes between patients who are treated through clinics, their GPs and in prison, and therefore can be divided into three separate data sources.

The Probation Service

Data were compiled by the Probation Service through a data scraping exercise using agreed terms on databases that make up the Probation Service Case Tracking System. A list of terms that indicate opioid use (“opioid”, “opiate”, “methadone”, “oramorph”, “oxycodone”, “fentanyl”, “heroin”, “tramadol”, “codeine” and “oxy”) was used for the data scraping process on five separate databases to extract the information.

The extracted raw data were processed by the Probation Service statistician in an Excel spreadsheet using SAS software. The data were reviewed to ensure that a person was counted only once for each year of study and that there were no missing data. Data were then provided through a secure channel to the research team.

Figure 4 illustrates the principle behind the capture-recapture method for a four-source model. The overlap between the four sources creates 11 distinct areas of overlap and four areas with no overlap. Poisson log-linear models are then fitted to the data in order to estimate the number of individuals who were not present in any data source.

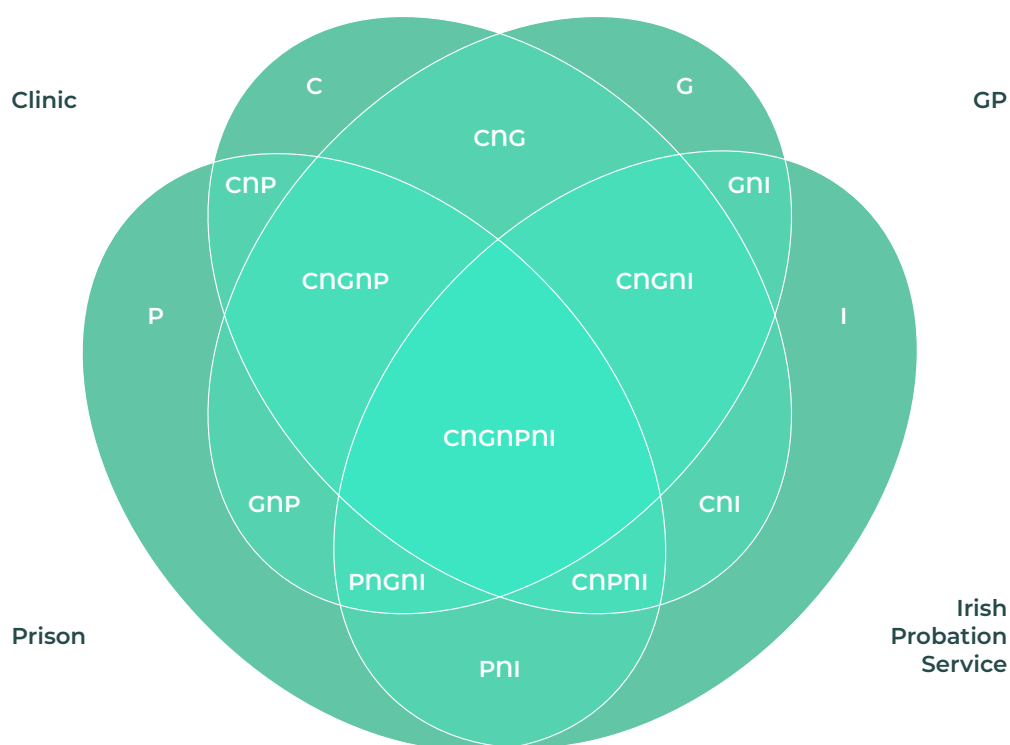


Figure 4. Venn diagram illustrating the overlap and non-overlap of data sources used for a capture-recapture analysis

Note: “n” denotes the intersection between two or more sources.

C = Clinic Central Treatment List data source

G = GP Central Treatment List data source

P = Prison Central Treatment List data source

I = Probation Service data source



Matching and data analysis

The following information was required for matching cases between lists and for stratifying data: name, date of birth, sex and address. The datasets were cleaned for consistency and a unique identifier was generated based on initials, date of birth and sex. Unique identifiers were sorted and exact duplicates were removed. Cases were matched between source lists and all exact matches were considered a match and fixed on this list. Near matches were also considered in order to allow for errors in data entry; near matches included those with ± 1 or ± 10 in the day, month or year fields, and reversal of day/month order for identifiers with the same initials, sex and address. Other near matches considered were variations in the spelling of names or inconsistent classification of sex between the data sources.

Individuals were designated an age based on a mid-year (30 June) capture date. Geographical location of individuals was chosen according to the area of their most recent capture or their most likely correct address. This was based on the completeness of the address (i.e. a specific address was preferred to those who gave their address as “no fixed abode”), as well as the frequency an address recurred across the data sources. For this report an address in Cork city was designated as any address within the latest geographical boundary map produced by Cork City Council (available at: <https://www.corkcity.ie/en/council-services/public-info/boundary-extension/maps-of-the-new-city/>). Prisoners were assigned the address on their treatment record (for most prisoners this was their home address and for those with no fixed abode it was the prison address). Individuals with no address provided were assigned to the location where they receive OST.

Data analysis was conducted using the R statistical package (<https://www.R-project.org/>). Employing the capture-recapture method, Poisson log-linear models were applied to the overlapping data and source-by-source interaction terms were tested by adding them to the base model in all possible combinations.⁴⁵ The best model for estimating the size of the hidden population was determined by comparing the deviance to the χ^2 distribution and the Akaike information criterion (AIC) value.⁴⁶ The simplest model with the lowest AIC value that provided a credible estimate was used. Rates per 1,000 population were calculated using population data from the 2022 census (available at: www.cso.ie).

RESULTS

In Table 2, data from the four sources show that there were 610 problematic opioid users aged 15–64 years known to services in Cork city in 2022, with an estimated 249 users not known to services (hidden population). The prevalence estimate of opioid users in 2022 was between 774 and 1,079; the point estimate was 859, suggesting a prevalence rate of 5.59 (95% CI: 5.04–7.02) problematic opioid users per 1,000 population.

In 2022, it was estimated that 74.5% of problematic opioid users in Cork city were male, with almost two-thirds (61.7%) being 35–64 years of age. Just under one-third (31.4%) were between 25–34 years of age, while 6.9% were aged 24 years or less.

Table 2. Total estimated number of opioid users by age and sex in Cork city, 2022

Variable	Known	Estimate	95% CI	Rate per 1,000	95% CI
15–24 years	35	59	53–74	1.90	1.70–2.38
25–34 years	228	270	243–339	7.80	7.02–9.79
35–64 years	347	530	478–666	6.03	5.44–7.57
Male	453	640	577–804	8.45	7.62–10.62
Female	157	219	197–275	2.81	2.53–3.53
Total	610	859	774–1,079	5.59	5.04–7.02

Table 3 shows a comparison of problematic opioid use prevalence estimates in Cork city for the years 2019, 2020, 2021 and 2022. For each year of study, a majority of opioid users were male and were in the older 35–64-year-old age group. An examination of 95% CI estimates suggests a relatively stable prevalence of problematic opioid use in Cork city from 2019 to 2022, while the estimated hidden population appears to have declined (Figure 5).

Table 3. Comparison of opioid use prevalence estimates in Cork city, by year, 2019–2022

Variable	2019		2020		2021		2022	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
15–24 years	68	61–83	50	45–59	41	38–49	59	53–74
25–34 years	302	270–367	358	323–420	289	265–344	270	243–339
35–64 years	594	531–722	562	508–659	450	413–536	530	478–666
Male	716	639–870	750	677–880	597	548–711	640	577–804
Female	248	222–301	220	199–258	183	168–218	219	197–275
Total	964	861–1,171	970	876–1,138	780	716–929	859	774–1,079



Figure 5. Comparison of the estimated hidden population of opioid users in Cork city, by year, 2019–2022

NUMBER OF SYRINGES EXCHANGED

The Irish national drugs strategy aims to reduce the prevalence of blood-borne viruses among people who inject drugs by expanding needle exchange provision to include community pharmacy-based programmes. In October 2011 the HSE rolled out the national Pharmacy Needle Exchange Programme, which is a partnership initiative between the Elton John AIDS Foundation, the Irish Pharmacy Union and the HSE. Once pharmacies have signed a service level agreement with the HSE, their contact details are passed on to the relevant HSE services so that those services can promote access to sterile injecting equipment at the participating pharmacies and accept referrals for investigation and treatment. As previously mentioned, there are pharmacies providing a needle exchange service in each RDATE area in Ireland, apart from those covering counties Dublin, Kildare and Wicklow, which are served by a mix of static and outreach needle exchange programmes. At the end of 2023 there were 98 pharmacies providing a needle exchange service.

Data from the HSE indicate that in each year, five pharmacies delivered a needle exchange service in Cork city between 2019 and 2023. Trends over time (Figure 6) demonstrate an increase in the number of syringes provided, with 80,218 syringes exchanged in 2023 compared to 67,129 in 2019, the year before the COVID-19 pandemic. There was an average of 6,685 syringes provided each month from pharmacy-based sites in 2023.



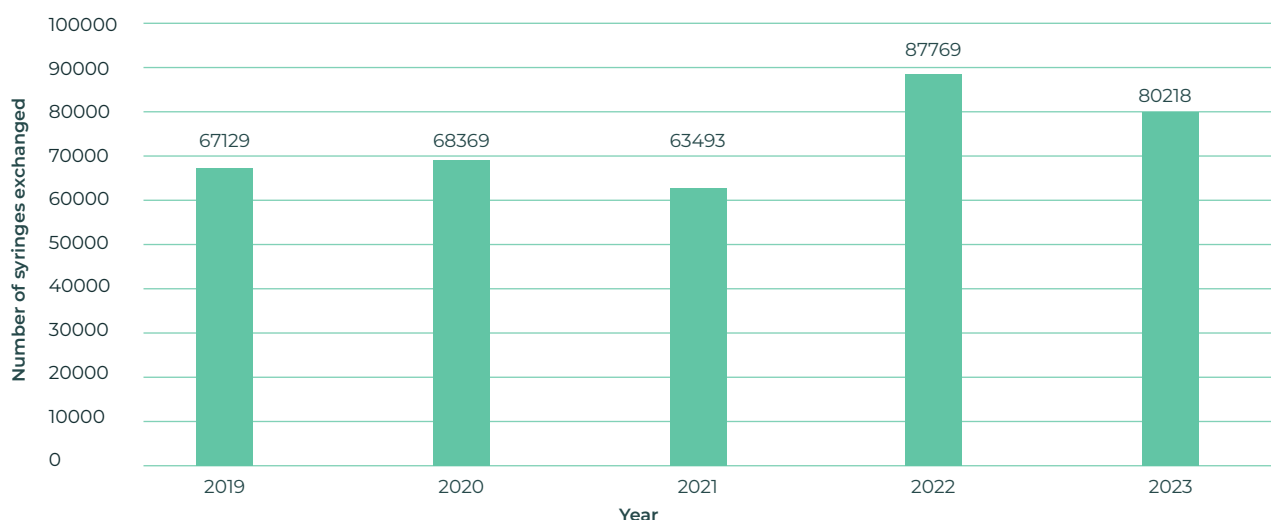


Figure 6. Number of syringes exchanged in Cork city from pharmacy-based sites, by year, 2019–2023

Source: HSE (2024)

COCAINE AND AMPHETAMINES

The first survey on drug use in the general population was carried out in Ireland in 2002–03. The survey was repeated in 2006–07, 2010–11, 2014–15 and 2019–20.³⁸ These national surveys followed best practice guidelines recommended by the EUDA. A sample of randomly selected households throughout Ireland was chosen for each survey and a questionnaire, based on the European Model Questionnaire, was administered in face-to-face interviews with respondents aged 15 years and over.⁴⁷ The samples are weighted by sex, age and region to ensure that they are representative of the general population. The main measures reported are lifetime use ('ever used'), last-year use ('recent use') and last-month use ('current use').

In this report, data on recent use of cocaine and amphetamines from the 2014–15 and 2019–20 surveys are presented to illustrate trends in the use of these drugs over time. It should be noted that it was not possible to do a breakdown for Cork city; the data reported show prevalence estimates for Community Healthcare Organisation (CHO) area 4 (Cork and Kerry).

Figures 7 and 8 compare data from the 2014–15 and 2019–20 surveys with regard to last-year cocaine (including crack) and amphetamine use. The results indicate an increase in the use of cocaine during this period. This increase was noticeably pronounced among young adults aged 15–34 years of age, with almost 4% of young adults who participated in the 2019–20 survey reporting use of cocaine in the last year compared to 1.3% in 2014–15. An increase in the prevalence of amphetamine use was also observed, with almost 2% of young adults reporting recent use of amphetamines in 2019–20 compared to 0.4% in 2014–15.

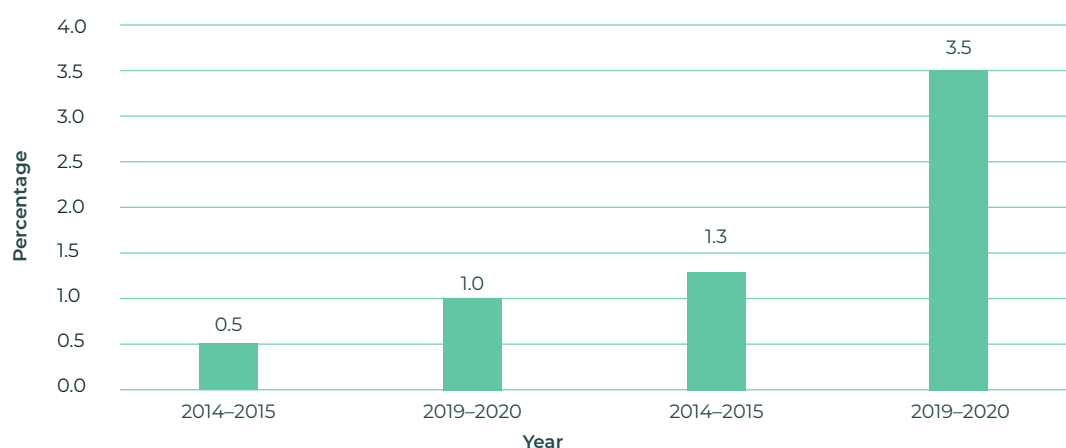


Figure 7. Trends in last-year prevalence of cocaine use (including crack) in CHO area 4, 2014–15 and 2019–20

Source: HRB (2024)

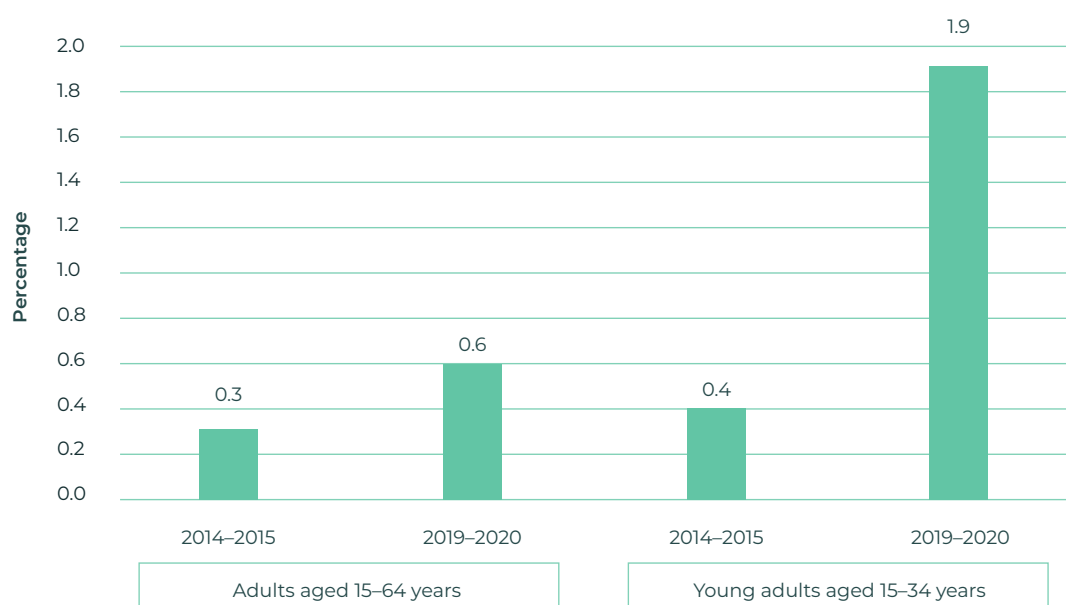


Figure 8. Trends in last-year prevalence of amphetamine use in CHO area 4, 2014–15 and 2019–20

Source: HRB (2024)

TREATED PROBLEM DRUG USE

The NDTRS is the Irish national epidemiological surveillance database that records and reports on treated problem drug and alcohol use in Ireland. Established in 1990, the NDTRS is maintained by the National Health Information Systems (NHIS) of the HRB on behalf of the Department of Health.

For the purposes of the NDTRS, treatment is broadly defined as any activity which aims to ameliorate the psychological, medical or social state of individuals who seek help for their substance use problems. Clients who attend needle exchange services only are not included in this reporting system. Drug treatment options include one or more of the following: medication, brief intervention, counselling, group therapy, family therapy, psychotherapy, complementary therapy and/or life-skills training. Compliance with the NDTRS requires that data be collected for each new client coming for first treatment and for each previously treated client returning to treatment for PDU in a calendar year.

The NDTRS data analysis shown in this report includes all cases resident in the HSE Local Health Office (LHO) areas Cork North Lee and Cork South Lee who were treated for PDU from 2019 to 2023. The figures reflect entries into treatment in those calendar years and do not include the number of cases continuing in treatment from preceding years.

Table 4 shows the number of cases entering treatment in Cork city for the use of any drug during the years 2019–2023. Trends demonstrate a decrease in the number of cases accessing treatment services, with 660 cases entering treatment in 2023 compared to 838 cases reported in 2019, the year before the COVID-19 pandemic. However, lower numbers reported since 2019 are likely influenced by poorer participation levels in the NDTRS rather than a true decrease in treatment demand.

Table 4. Number of cases entering treatment for drug use resident in Cork North Lee and Cork South Lee LHO areas, by year, 2019–2023

	2019	2020	2021	2022	2023
Number of cases	838	700	603	660	660

Source: NDTRS (2024)

Table 5 shows the main problem drug (among the drug groups examined) for cases entering treatment in Cork city from 2019 to 2023. For the 660 cases reported in 2023, 239 (36.2%) entered treatment for cocaine use, while 197 (29.8%) and 56 (8.5%) cases entered treatment for opioid and benzodiazepine use, respectively. Since 2019, trends indicate a gradual reduction in the number of cases entering treatment for opioids and benzodiazepines, with an increase in the number of cases accessing treatment services for cocaine use. In 2023, cocaine overtook opioids as the main problem drug for cases entering treatment in Cork city.

Table 5. Main problem drug for cases entering treatment for drug use resident in Cork North Lee and Cork South Lee LHO areas, by year, 2019–2023

Main problem drug	2019	2020	2021	2022	2023
Opioids	307	236	204	224	197
Cocaine	178	204	151	212	239
Amphetamines	~	~	6	~	~
Benzodiazepines	87	71	58	62	56
Z-drugs	~	~	0	0	~
Gabapentinoids	~	~	~	0	~

Source: NDTRS (2024)

Note: For reasons of confidentiality cells with between 1 and 5 treatment entrants are suppressed, these cells are replaced with ~.

Table 6 shows the number of cases entering treatment who reported ever injecting a drug for the years 2019–2023. In 2023, 18.0% (n=119) of cases entering treatment in Cork city reported ever injecting. During the data collection period the highest number of cases entering treatment who reported ever injecting a drug occurred in 2019, with almost one-quarter (n=200; 23.9%) of treatment entrants reporting ever injecting in that year.

Table 6. Injecting status for cases entering treatment for drug use resident in Cork North Lee and Cork South Lee LHO areas, by year, 2019–2023

Ever injected	2019	2020	2021	2022	2023
Yes	200	154	112	145	119
No	618	542	484	499	523
Did not wish to answer	0	0	0	0	~
Not known	20	~	7	16	17
Total	838	700	603	660	660

Source: NDTRS (2024)

Note: For reasons of confidentiality cells with between 1 and 5 treatment entrants are suppressed, these cells are replaced with ~.

HARMS ASSOCIATED WITH PROBLEM DRUG USE IN CORK CITY

NON-FATAL OVERDOSE CASES

The HIPE scheme is a computer-based health information system managed by the Economic and Social Research Institute (ESRI) in association with the Department of Health and the HSE. It collects demographic, medical and administrative data on all admissions, discharges and deaths from hospitals in Ireland. Each HIPE discharge record represents one episode of care; each discharge of a patient, whether from the same or a different hospital, with the same or a different diagnosis, gives rise to a separate HIPE record. The scheme therefore facilitates analysis of hospital activity rather than incidence of disease. HIPE does not record information on individuals who attend emergency departments but are not admitted as inpatients.

Monitoring of drug-related acute emergencies in the Irish context refers to all admissions for non-fatal overdoses to acute general hospitals in Ireland. For this report, Cork city hospitals include the following: Cork University Hospital, Mercy University Hospital and Mallow General Hospital.

Table 7 shows positive findings of substance use among overdose cases in Cork city for the years 2019–2023. For each year of study, benzodiazepines were implicated in the greatest number of overdose cases, followed by opioids and antiepileptic and sedative-hypnotic drugs, which include Z-drugs and gabapentinoids. From 2019 to 2023 there was an average of one opioid overdose in Cork city each week. The highest number of overdose cases for each drug group examined (with the exception of amphetamines) occurred in 2020, at the height of the COVID-19 pandemic.

Table 7. Non-fatal overdose cases in Cork city according to the main drug implicated, by year, 2019–2023

Drug	Year of discharge				
	2019	2020	2021	2022	2023
Opioids	54	65	52	47	60
Cocaine	7	24	10	~	11
Amphetamines	~	~	13	~	~
Benzodiazepines	79	103	66	67	80
Antiepileptic and sedative-hypnotic drugs	22	37	24	16	30

Source: HIPE, Healthcare Pricing Office (2024)

Note: For reasons of confidentiality cells with between 1 and 5 discharges are suppressed, these cells are replaced with ~.

Cork city hospitals include the following: Cork University Hospital, Mercy University Hospital and Mallow General Hospital.

SELF-HARM RELATED TO PROBLEM DRUG USE

The National Self-Harm Registry Ireland was established in 2000 by the NSRF working in collaboration with the School of Public Health, UCC. The Registry was set up at the request of the Department of Health and is funded by the HSE National Office for Suicide Prevention; it is the world's first national registry of cases of intentional self-harm presenting to hospital emergency departments. Self-harm is defined as ‘an act with non-fatal outcome in which an individual deliberately initiates a non-habitual behaviour that without intervention from others will cause self-harm, or ingests a substance in excess of the prescribed or generally recognised therapeutic dosage, and which is aimed at realising changes that the person desires via the actual or expected physical consequences’.⁴⁸

Data are recorded via a cloud-based clinical data management platform and all methods of intentional self-harm, as listed in the 10th Revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) codes of X60–X84, are included (i.e. intentional drug overdoses). Accidental overdoses of medicinal or illegal drugs (e.g. individuals who used additional medications in the case of illness or who used drugs for recreational purposes, without any intention to self-harm) and individuals who are dead on arrival at hospital as a result of suicide, are not included.

Self-harm presentations by Cork city residents are primarily to Cork University Hospital and Mercy University Hospital. In this analysis some data for Mercy University Hospital are missing due to the HSE cyber attack which occurred in May 2021. This may have an impact on the number of presentations for 2021 displayed in the table below.

Table 8 shows the number of self-harm presentations by Cork city residents according to each examined drug group. Between 2018 and 2021 there was a total of 487 presentations recorded by the National Self-Harm Registry; it is worth noting that individual presentations may have more than one drug implicated. Benzodiazepines were the main drug implicated in self-harm presentations (n=308; 63.2%), followed by opioids (n=149; 30.6%) and gabapentinoids (n=58; 11.9%); cocaine was implicated in 9.0% (n=44) of self-harm episodes during the data collection period.

Table 8. Number of self-harm presentations by Cork city residents for specific drug groups, by year, 2018–2021

Drug	Year of presentation				Total
	2018	2019	2020	2021	
Opioids	46	37	38	28	149
Cocaine	9	7	16	12	44
Amphetamines	~	~	0	~	~
Benzodiazepines	84	82	98	44	308
Z-drugs	~	7	~	~	19
Gabapentinoids	15	20	15	8	58
Total number of presentations*	136	130	138	83	487

Source: National Self-Harm Registry Ireland (2024)

Note: For reasons of confidentiality cells with between 1 and 5 presentations are suppressed, these cells are replaced with ~.

*Column totals do not add up as an individual presentation may have more than one drug implicated.

DRUG-RELATED DEATHS

Data on poisoning deaths in Cork city due to PDU were collected for the years 2018–2021 from the NDRDI. Established in 2005, the NDRDI, which is maintained by the HRB, is an epidemiological database that records all deaths by drug poisoning, and deaths among people who use drugs in Ireland, extending back to 1998. Coronial files are the main data source for the NDRDI. Other NDRDI data sources include the general mortality register (via the Central Statistics Office), acute hospitals data (via the HIPE System) and the national OST register (via the CTL). The HSE Primary Care Reimbursement Service has recently come onboard as a fifth source, however, their data are not included in this report.

All data are matched across sources to avoid duplication and to enable a complete census of drug-related deaths nationally. The NDRDI's definition of a poisoning death is a death directly due to the toxic effect of one or more drugs on the body as indicated by a death certificate. The NDRDI data analysis shown in this report includes all cases resident in the HSE LHO areas Cork North Lee and Cork South Lee, regardless as to whether an individual died in those LHO areas.

Table 9 shows the number of drug poisoning deaths in Cork city according to the examined drug groups. Between 2018 and 2021 there was a total of 140 deaths recorded by the NDRDI, with an average of 35 deaths occurring each year; just as in the case of self-harm presentations, individual deaths may have more than one drug implicated. Opioids were the main drug implicated in poisoning deaths (n=106; 75.7%), followed by benzodiazepines (n=83; 59.3%) and gabapentinoids (n=39; 27.9%). During the four-year period cocaine was implicated in 14.3% (n=20)

of poisoning deaths. As with non-fatal overdose cases, the highest number of poisoning deaths was recorded in 2020, with 43 deaths due to PDU occurring in Cork city during that year.

Table 9. Number of drug poisoning deaths in Cork city (Cork North Lee and Cork South Lee LHO areas) for specific drug groups, by year, 2018–2021

Drug	Year of death				Total
	2018	2019	2020	2021	
Opioids	25	28	34	19	106
Cocaine	~	10	6	~	20
Amphetamines	0	0	0	0	0
Benzodiazepines	22	18	27	16	83
Z-drugs	~	~	~	~	11
Gabapentinoids	8	8	15	8	39
Total number of deaths*	29	38	43	30	140

Source: NDRDI (2024)

Note: For reasons of confidentiality cells with between 1 and 5 deaths are suppressed, these cells are replaced with ~.

*Column totals do not add up as an individual death may have more than one drug implicated.



DISCUSSION

In this study we examined PDU in Cork city using the most recent available data. Findings from a four-source capture-recapture analysis estimated that there were 859 (95% CI: 774–1,079) problematic opioid users in Cork city in 2022, which equates to a prevalence rate of 5.59 (95% CI: 5.04–7.02) opioid users per 1,000 population. Between 2019 and 2022 the prevalence of opioid use remained relatively stable, with a majority of users being male and between 35 to 64 years of age. However, the needle exchange programme in Cork city has shown a general increase in the number of syringes exchanged since 2019, with an average of 6,685 syringes being provided each month from pharmacy-based sites in 2023. Data from household surveys demonstrate an increase in the use of cocaine (including crack) and amphetamines in CHO area 4, with these increases being noticeably pronounced among young adults. Information from the NDTRS show that the main problem drug for cases entering treatment in Cork city for PDU has shifted; since 2019 trends indicate a gradual reduction in the number of cases entering treatment for opioids, with an increase in the number of cases accessing treatment services for cocaine use.

For the years 2019–2023, benzodiazepines were the main drug implicated in non-fatal overdose cases in Cork city, followed by opioids, with an average of one opioid overdose occurring each week during this period. Between 2018 and 2021 there was a total of 487 self-harm presentations related to PDU recorded by the National Self-Harm Registry; benzodiazepines were the main drug implicated in self-harm presentations, followed by opioids, gabapentinoids and cocaine. There was a total of 140 poisoning deaths in Cork city due to PDU recorded by the NDRDI between 2018 and 2021, with an average of 35 deaths each year. Opioids were the main drug implicated in poisoning deaths, followed by benzodiazepines, gabapentinoids and cocaine.

Our finding that the prevalence of opioid use has remained relatively stable in Cork city over time is mirrored in Irish national data. Results from national studies have also consistently shown that a majority of opioid users in Ireland are male and between 35 to 64 years of age.^{25,49} National data from NDTRS have demonstrated a steady decrease in the number of problematic opioid users aged 15–24 years and aged 25–34 years receiving treatment, alongside an increase in the number of those aged 35–64 years, over time.⁵⁰ The observed ageing cohort effect may reflect improved harm reduction services allowing problematic opioid users to live longer. Additionally, changes in drug use behaviours are evident, with problematic opioid users initiating opioid use later in life and seeking treatment at later stages.⁵¹

The reason for the low prevalence of opioid use among younger age groups remains speculative. Qualitative research in Dublin indicates that many young people now view heroin extremely negatively and that, even among adolescents engaged in extensive polydrug use, a significant number avoid heroin.^{37,52,53} Similar trends in other European countries suggest that younger individuals may be wary of opioids after witnessing the harmful effects of heroin on previous generations.^{54,55} However, when interpreting these findings it is important to consider recent data from the 2019–20 Irish National Drug and Alcohol Survey, which show an increase in the use of stimulant drugs (cocaine and amphetamines) since 2014–15.⁴⁰ This increase was particularly notable among younger age groups. A similar trend is evident in Irish treatment data, where cocaine has become the most common primary drug of concern among new treatment entrants.⁵⁶ Additional research indicates a rise in the use of non-prescribed medications ('street tablets') among young people.⁴ Consequently, observed trends in opioid use among younger age groups may reflect a shift towards other more accessible and inexpensive drugs that are perceived to be less harmful than opioids.

Notably, although data from the NDTRS show that the number of people entering treatment for benzodiazepine use declined between 2019 and 2023, for each year of study benzodiazepines accounted for the greatest number of non-fatal overdose cases in Cork city, followed by opioids and antiepileptic and sedative-hypnotic drugs, which include Z-drugs and gabapentinoids. Benzodiazepines were also the main drug implicated in self-harm presentations, followed by opioids and gabapentinoids. In addition, although opioids were the main drug implicated in poisoning deaths between 2018 and 2021, benzodiazepines were implicated in over half (59.3%), and gabapentinoids in over one-quarter (27.9%), of poisoning deaths during this period. Cocaine was implicated in 14.3% of poisoning deaths. Polydrug use remains a consistent factor in the harms associated with PDU and has contributed to an increase in drug-related deaths in Ireland.⁴ A common reason for combining medications with heroin is to amplify desired effects. However, this also increases the risk of harm, as the combination may create breathing difficulties and can reverse tolerance that may have built up against the effects of heroin on breathing.^{57,58,59} The literature clearly shows that individuals who use opioids also appear to use benzodiazepines, Z-drugs and gabapentinoids, in particular pregabalin, to achieve quicker euphoric highs and to reduce withdrawals.^{60,61}

The HSE Cork and Kerry Community Healthcare and Cork Local Drug and Alcohol Task Force (CLDATF) currently fund a number of projects that aim to address PDU harms and meet emerging needs. These include services such as information and awareness raising, assessment, care planning, case management, brief interventions, advocacy, onward referral, community-based counselling, holistic therapies, OST and pre- and post-treatment support.⁶² There are also programmes with a focus on young people, support for families/parents/concerned persons, those who are using on the street and/or are homeless, as well as students, minority groups (Travellers, migrants, asylum seekers, prisoners/former prisoners) and those in lower socioeconomic groups.⁶² Furthermore, in addition to two residential addiction facilities located on the outskirts of Cork city, the Tabor Group provides a Continuing Care Programme for clients who have completed treatment to assist with their recovery, as well as a community-based programme.⁶³ Following an increase in drug-related overdoses linked to synthetic opioids across Dublin Social Inclusion services throughout November 2023, the Mercy University Hospital established a Cork-based interagency Early Warning Emerging Trends Group to monitor and report overdose clusters in real time. Naloxone (intranasal spray and intramuscular) is available as a measure against opioid overdose and is obtainable by prescription and/or through drug treatment support programmes.⁶⁴

As previously mentioned, a medically supervised injecting facility opened in Dublin in December of 2024 and an evaluation of the pilot will take place at six-month and 18-month periods, in line with planning permission and a licence to operate per the Misuse of Drugs (Supervised Injecting Facilities) Act 2017. A SDCF is also being considered for Cork city after a delegation from Cork City Council, the HSE and An Garda Síochána travelled to Lisbon to learn from the drug policy there.⁶⁵ It should be noted that, with the exception of naloxone, syringe, needle and other drug taking paraphernalia provision (available through pharmacies and outreach work), current harm reduction strategies in Cork city are mainly focused on education, assessment, treatment and support services pre- and post-treatment.

Importantly, though results from this research suggest a decrease in the ‘hidden’ population of opioid users over time, in 2022 it was estimated that almost one-third of problematic opioid users in Cork city were unknown to services. Consequently, a SDCF in Cork city might provide a connection point in the PDU harm reduction system for individuals who are not in treatment. This could create a safe environment for problem drug users by providing clean syringes and needles, blood-borne virus and drug testing, basic first aid assessment, information on the

dangers of polydrug use, counselling and immediate overdose response. A SDCF might also enable positive interactions with the harm reduction system which could provide a signpost to services and supports available, including access to treatments, such as OST. Other potential benefits to the local environment could be a reduction of drug-related litter in Cork city and the number of open-air 'drug dens'.^{66,67}

These outcomes, however, would be highly dependent on the local applicability of the SDCF, as viability and effectiveness will depend on local contexts and circumstances. Research has shown that SDCFs – and harm reduction strategies more generally – are in no way universal solutions that can be implemented in any given local context.^{68,69} In order to maximise their effectiveness, studies have emphasised the importance of adequately tailoring interventions to the specific setting and needs of a community, rather than implementing them as a “one size fits all” solution.^{70,71,72} Thus, if a decision is made to create a SDCF in Cork city, it will be important that it is done in a way that reflects the city and its unique needs. In addition, there are several essential operational issues that would need to be considered such as location, capacity, coverage, opening hours and eligibility criteria (i.e. target group).^{68,69}

It is worth recognising that while findings from this study indicate that PDU is occurring in Cork city, and that the number of syringes exchanged from pharmacy-based sites has increased over time, treatment data suggest that a majority of problem drug users in Cork city (and Ireland) are likely not injecting drug users, or opioid users. Consequently, the name and scope of the SDCF would be important factors to consider, and it may be that a drug consumption room (static or mobile), rather than a site operating solely as an injecting facility per se, would be better suited according to the specific needs of problem drug users in Cork city. A communication strategy aimed at educating the city and surrounding communities on the potential benefits of a SDCF would also be critical to inform and engage all relevant stakeholders involved. Finally, continued assessment of PDU in Cork city will be needed to allow policymakers to evaluate the impact of strategies aimed at reducing drug-related harms.



This report is the first to assess the scale of PDU in an Irish city other than Dublin and provides a template for how future studies may be conducted in other Irish and European cities using available data sources; the use of different databases also creates a comprehensive representation of PDU for multiple metrics. Also, this research employs methods recommended by the EUDA, which are well-supported by peer-reviewed literature.³ Capture-recapture analysis – a validated method for estimating the prevalence of hidden or hard-to-reach populations, such as problematic opioid users – is a key component of this study. In addition, the recency of some of the data allowed this report to be as up-to-date as possible.

Despite the strengths outlined above, this study also has limitations that warrant consideration. In particular, it is necessary to consider the inherent assumptions of capture-recapture analysis. These assumptions can be summarised as follows:

- 1. Closed population: Achieving complete closure in human capture-recapture studies is challenging due to possible inward and outward migration and the occurrence of deaths during the study period. To minimise this issue, we used one-year sampling frames.**
- 2. Individual matching: The data sources used are not explicitly designed for research or capture-recapture analysis. Individuals lack a unique identifier in the source data and errors may have occurred upon data entry, leading to unintentional matching errors.**
- 3. Independence of captures: Complete independence between captures in different data sources is unlikely, as problematic opioid users exhibit diverse drug use behaviours. Long-term OST patients may be less likely to appear in multiple data sources, while those with numerous acute treatment episodes may appear in several sources.**
- 4. Homogeneity of capture probabilities: Capture probabilities may not be consistent across all individuals in the population, further complicating the analysis.**

Regarding opioid use prevalence estimates, it is also important to be aware of this study's reliance on the overlap between data sources, especially when dealing with small numbers of individuals. Even slight differences in these numbers can significantly affect estimates, particularly for subgroups with fewer known problematic opioid users, such as the 15–24-year-old age group and females. Therefore, the point estimates presented in this report should be interpreted with caution.

Additional limitations should also be considered. For example, as highlighted above, some of the data shown in this report are very recent, while other sources of data are older. Another data-related limitation is the geographical area that the data refer to; some sources were more specific to Cork city while others included larger areas and other counties. In addition, this report does not capture all harms associated with PDU, such as criminal activity, drug-related litter, blood-borne virus infection, employability, financial issues/loss of job or psychological strains. Also, for some of the drugs examined, our data do not indicate whether medications were legitimately prescribed. Finally, outside of the drug groups addressed in this report, there are other drugs (nitazenes and ketamine, for example) that are trending to become, or are already, a problem.^{73,74}

In conclusion, this study shows that PDU is taking place in Cork city, with a number of associated harms. Though the prevalence of opioid use remained relatively stable between 2019 and 2022, in 2022 it was estimated that almost one-third of problematic opioid users in Cork city were unknown to services. Data demonstrate an increase in the use of cocaine and amphetamines and that overdoses, self-harm presentations and drug poisoning deaths due to opioid, benzodiazepine and antiepileptic and sedative-hypnotic drug use are occurring in Cork city, as elsewhere in Ireland. Although Cork city has a variety of harm reduction services that deal with education, assessment, treatment and post-treatment support, the disconnect between problem drug users (in particular, the 'hidden' population of problem drug users) and these programmes may benefit from a SDCF and the additional services it could provide. Ongoing research in this area will be crucial for effective service planning and to allow policymakers to evaluate the impact of strategies aimed at reducing drug-related harms.



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PROBLEM DRUG USE IN CORK CITY

A STUDY ON PREVALENCE AND HARMS

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