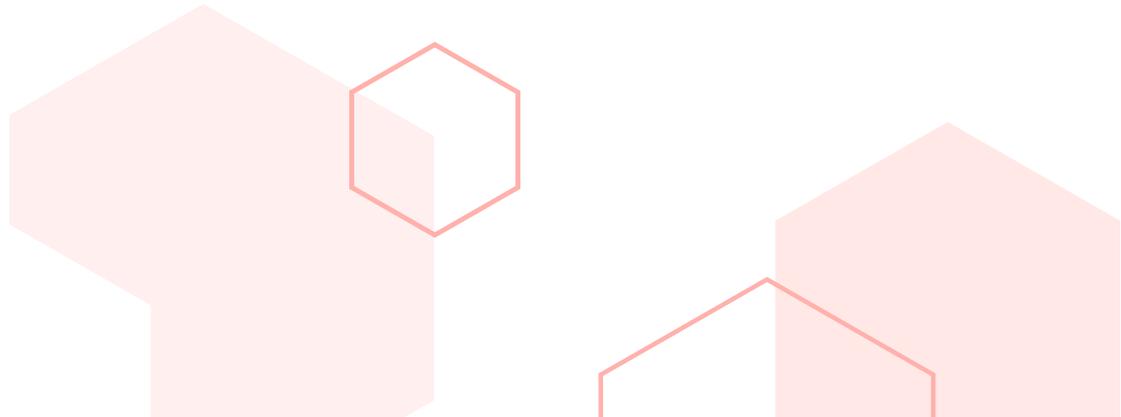




Emergency Medical Treatment (EMT)

Patients admitted to the accident and emergency department (A&E) of a hospital responsible for the provision of medical and surgical care to patients arriving in need of immediate care



SSA SOCIETY FOR THE
STUDY OF
ADDICTION

 **Drug
Science**

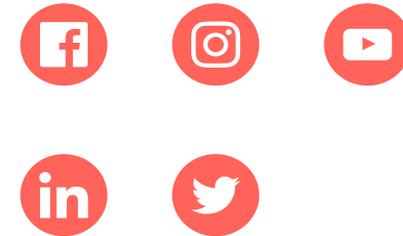


Drug Science was formed by a committee of scientists with a passionate belief that the pursuit of knowledge should remain free of all political and commercial interest.

Founded in 2010 by Professor David Nutt, following his removal from his post as Chair of the Advisory Council on the Misuse of Drugs, Drug Science is the only completely independent, science-led drugs charity, uniquely bringing together leading drugs experts from a wide range of specialisms to carry out ground-breaking research into drug harms and effects.

The Drug Science mission is to provide an evidence base free from political or commercial influence, creating the foundation for sensible and effective drug laws.

Equipping the public, media and policy makers with the knowledge and resources to enact positive change. Drug Science want to see a world where drug control is rational and evidence-based; where drug use is better informed and drug users are understood; where drugs are used to heal not harm.





The mission of the Society is to broaden and promote the scientific understanding of addiction, and we particularly aim to help clinicians and policy makers get research evidence into practice.

We support education, training and development of individuals in the field. We disseminate research via our journals, conferences and by supporting third-parties' projects and conferences; also, via our website and social media.



Alcohol and 'other drug use'



Alcohol and 'other drug use' is a global phenomenon.



Recreational drug use (including alcohol consumption) may be defined as the use of any psychoactive substance for pleasure.



Substance misuse may be defined as the use of psychoactive substances in a way that is harmful or hazardous to health.



Alcohol is the most commonly consumed drug and alcohol misuse presents a huge burden on society.



For the purposes of this slide deck the term 'drug use' will include alcohol use unless explicitly excluded.



Despite their psychoactive properties, Caffeine and Nicotine have been excluded from this presentation.



A common misconception is that alcohol is not a drug as it is legally available. The word 'drug' is defined as a medicine or other substance which has a physiological effect when ingested or otherwise introduced into the body. Alcohol fits into this definition due to its depressant effects on the central nervous system (CNS).

Commonly used illegal drugs

Traditionally recognised illegal drugs are classified by the Misuse of Drugs Act 1971 in the UK. The most commonly used are:

Cannabis	Cocaine	3,4-Methylenedioxy methamphetamine (MDMA)
Amphetamine	LSD	Ketamine
Psilocybin mushrooms	Prescription medications such as benzodiazepines, opiates	Heroin

Novel psychoactive substances (NPS, “legal highs”) NPS are compounds designed to mimic existing established recreational drugs. They can be grouped into four main categories:

Stimulants Hallucinogens
Cannabinoids Depressants

The Psychoactive Substances Act 2016 makes it an offence to produce, supply, import/export NPS. It is illegal to possess with intent to supply or possess on custodial premises (prison).

Recreational drug use vs Addiction

Recreational

Recreational drug use is the use of drugs for pleasure or leisure.

Although many people will experiment with substance use, only a minority will develop an addiction.

X

Addiction

Drug addiction (substance use disorder) is a disease that affects a person's brain and behaviour and leads to an inability to control the use of a legal or illegal drug including the misuse of prescribed medication.

However, it's important to appreciate how both the recreational use, and misuse, of drugs may result in EMT.

How does drug use result in EMT?

EMT can occur as a result of acute or chronic drug use:

- 1 Acute toxicity / acute intoxication
- 2 Psychological or psychiatric complications of alcohol/drug use
- 3 Long term effects of chronic alcohol/drug misuse
- 4 Effects associated with withdrawal
- 5 Conditions associated with ingestion/intoxication e.g injuries, trauma, assaults, road traffic accidents, domestic violence

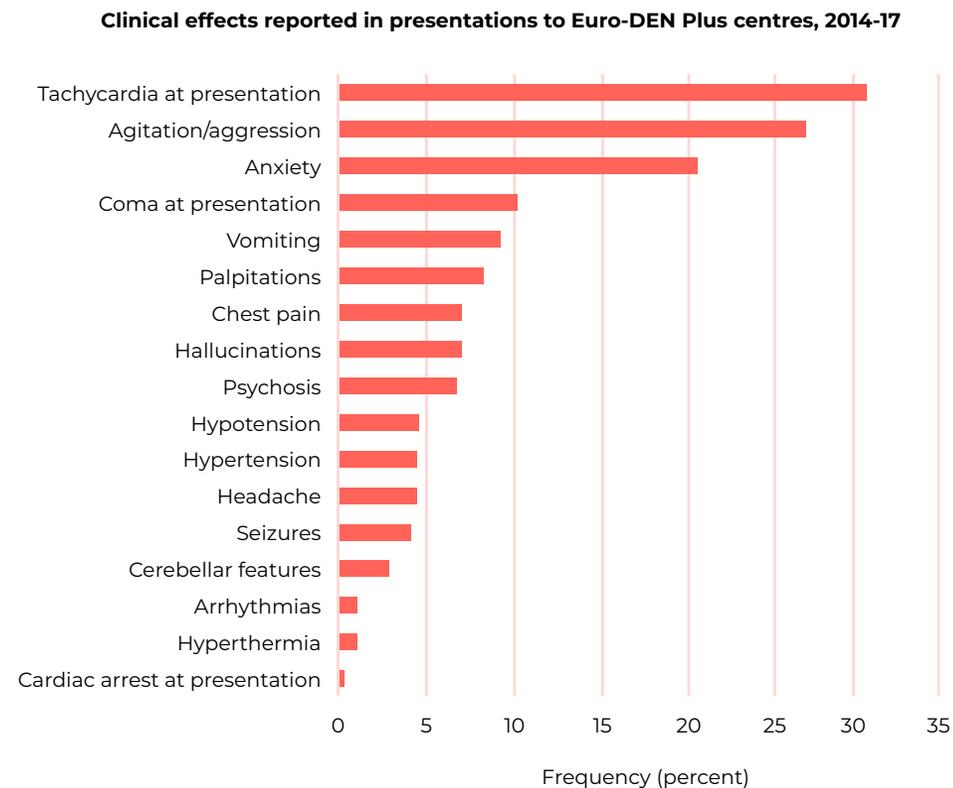
Tachycardia

Heart rate over 100 bpm

Arrhythmias

Irregular heart rate/rhythm

Clinical effects reported in presentations at EMT (**Full report**)



What factors influence the rates of EMT?



Type of drug and the **associated health risks**



Poly drug use

(the use of multiple drugs at the same time)

Novel Psychoactive Substances:
New developing drugs with a lack of safety data



Pre-existing **mental and behavioural disorders**

Time of day



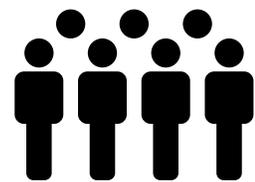
(day vs night)



Geographical location

(hospital catchment area and local patterns of use)

Age and Sex



Specific groups of population

(clubbers, young people, LGBTQ+)

Recreational drug scene



Drug trends (dynamic nature of recreational drug use)



'Bad' batches of drugs

What medical care and support does EMT provide?



Emergency healthcare



Referral/signpost to drug treatment services



Symptomatic and supportive care



Potential for analytical drug testing



Harm reduction



Data on the drugs most commonly requiring EMT



Only brief intervention/ opportunity for health promotion

What's the impact of alcohol and drug related EMT?



Burden on health care systems (including ambulance services) – resources and cost



High pressure on healthcare staff (EMT frequency during night shifts, behavioural disturbances/violent behaviour induced by drugs)

What are the benefits from recording the drugs involved in EMT?



Calculating the immediate harms of various psychoactive substances



Follow drug trends including use and harms



Create drug-related red alerts if there are high risk drugs in circulation. These are known as 'early warning systems' (EWS)

The **EU Early Warning System**, operated by the EMCDDA and Europol, plays a central role in supporting national- and EU-level preparedness and responses to new psychoactive substances (NPS).

Charities such as **the Loop** in the UK distribute drug warnings on substances they have tested and believe to be a cause for concern (i.e. contaminants or high strength).

Read about the **local drug warning system** set up in **Manchester**.

What data sources are there for the prevalence of drug use and records on EMT?

There are different sources of data on drug use and EMT, and each are associated with their own benefits and limitations.

Therefore, several data sets will be explored to provide a comprehensive overview of drug use and EMT in the UK and globally.



UK-based records

Office for National Statistics for the **prevalence of drug use**, NHS digital for the prevalence of **alcohol consumption**, NHS digital for hospital admissions for **alcohol** and **other drugs**



GLOBAL DRUG SURVEY

The Global Drug Survey is the world's largest anonymous drug survey, the most recent data collection included in this resource is made up of over 110,000 respondents



European Monitoring Centre for Drugs and Drug Addiction

The EMCDDA for **prevalence of drug use** and hospital admissions associated with the **Euro-DEN Plus project**

What are the limitations with interpreting EMT data?

The drug involved in the EMT is either reported by the patient (or a bystander), determined by the clinical presentation of the patient, and/or toxicological screening. There may be discrepancy between toxicological data and the information provided concerning the ingested substance



Differences in reporting between countries



Reporting bias due to population sample in the different sources of data



Differences in inclusion/exclusion criteria with different data sets



'Missing' data



Under reporting due to the legal status of these substances

Drug use according to the Global Drug Survey

What is the Global Drug Survey?



A report produced from over data of over **110,000 people**



from over **25 countries**

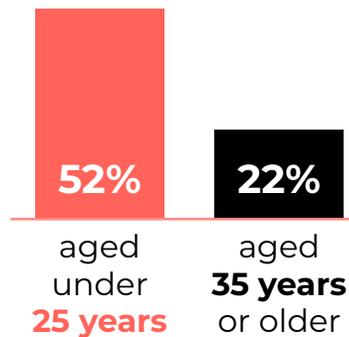
An issue with this data, is that the data-set is self-selecting. The 'stereotypical' respondent of this survey is detailed below:

66% of respondents were male 

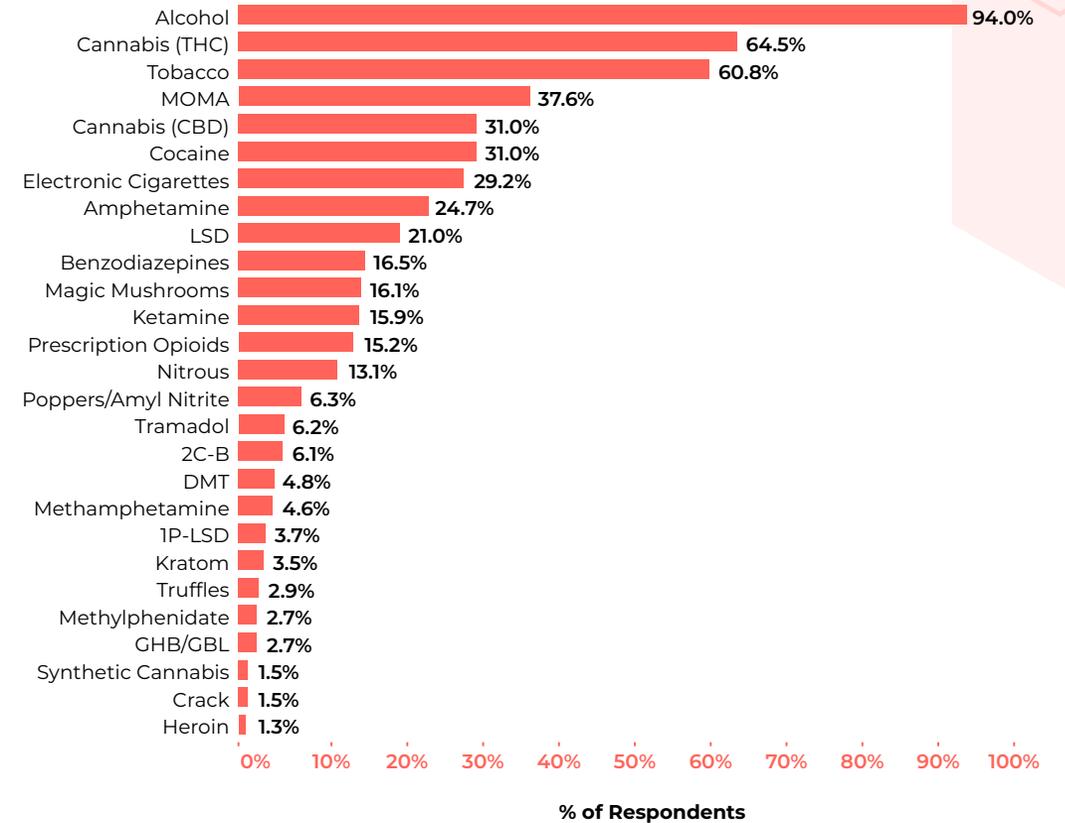
87% of respondents were white

54% reported going clubbing 4 or more times per year

38% had at least an  undergraduate degree as their highest level of educational attainment

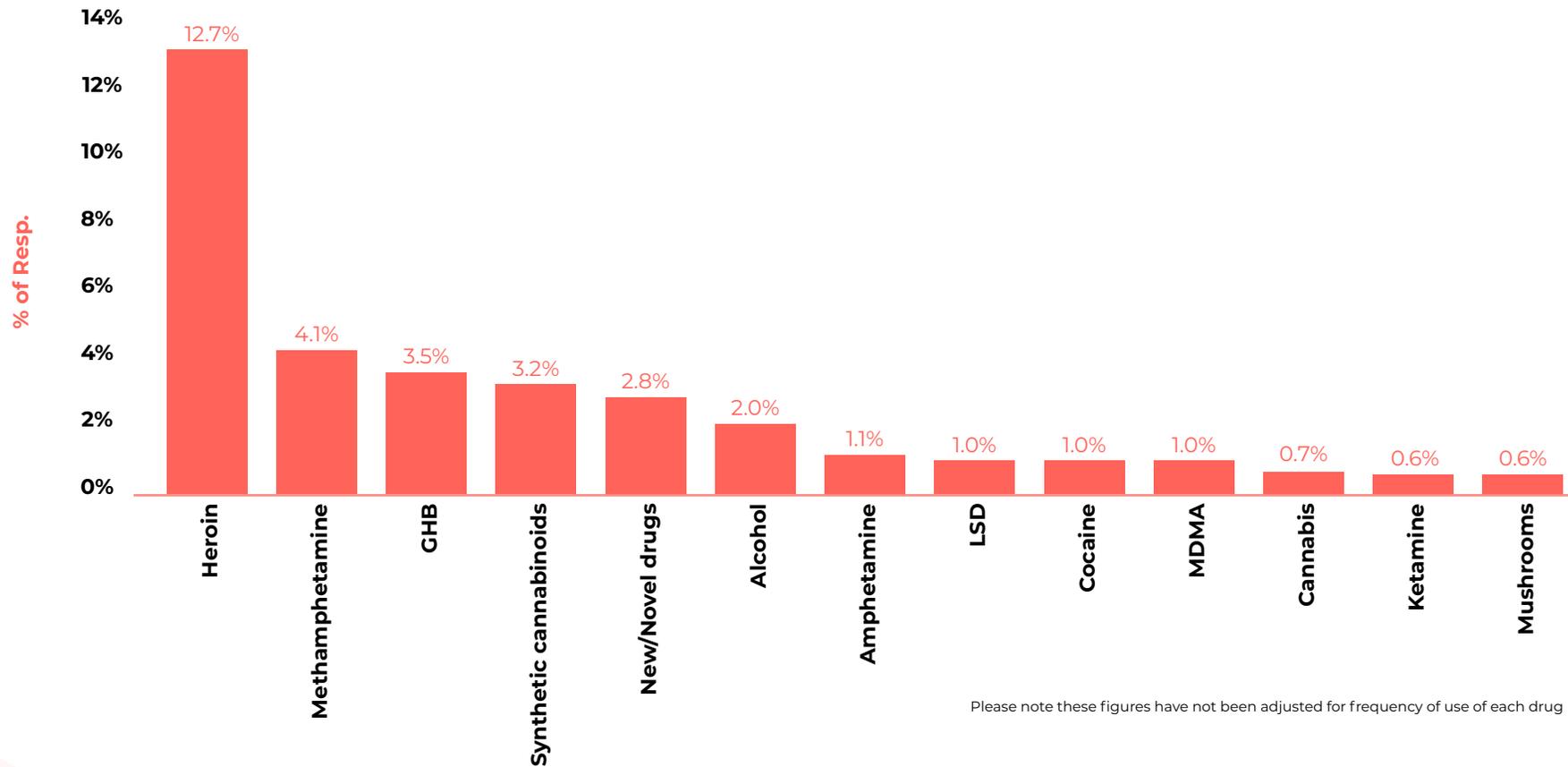


Use of drugs in the last 12 months to demonstrate prevalence



EMT according to the Global Drug Survey

Percentage of people reporting having sought EMT following use of different drugs in the last 12 months.



Please note these figures have not been adjusted for frequency of use of each drug

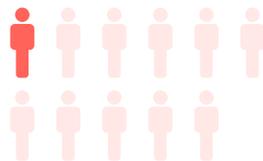
The ranking based on reported EMT incidence was as follows:

1. Heroin
2. Methamphetamine
3. GHB/GBL
4. SCRA (Synthetic cannabinoid receptor agonists)
5. Other novel drugs
6. Alcohol
7. Amphetamine
8. LSD/MDMA/Cocaine
9. Cannabis
10. Ketamine
11. Magic Mushrooms

Prevalence of drug use in the UK according to the Office for National Statistics

Report for trends in drug use across England and Wales for March 2019-March 2020

Key points:



1 in 11 adults aged 16 to 59 years had taken a drug in the last year

9.4% approximately 3.2 million people



Around one in five adults aged 16 to 24 years had taken a drug in the last year

21% approximately 1.3 million people

3.4% of adults

aged 16 to 59 years had taken a Class A drug in the last year (approximately 1.1 million people)

7.4% of adults

aged 16 to 24 years had taken a Class A drug in the last year (approximately 67,000 people)

2.1% of adults

aged 16 to 59 years and 4.3% of adults aged 16 to 24 years were classed as "frequent" drug users (had taken a drug more than once a month in the last year)

Data are from the Crime Survey for England and Wales. Survey of around 50,000 people.

Alcohol use in England

In England in 2018

82% of adults

drank alcohol in the past 12 months, with

49% of adults

drinking at least once a week.

'Any drug' is comprised of powder cocaine, crack cocaine, ecstasy, LSD, magic mushrooms, heroin, methadone, amphetamines, cannabis, tranquillisers, anabolic steroids and any other pills, powders or drugs, ketamine, methamphetamine.

Overview of drug use in Europe according to the EMCDDA

European Drug Report – Trends and Developments 2020 commissioned by the EMCDDA provides data on the drug situation in Europe.



Approx.
96 million or 29% of adults

in the EU are estimated to have used illegal drugs at least once in their lifetime



57.8 million
males



38.4 million
females



Cannabis most commonly used drug

(prevalence 5X that of other substances)

Approx. lifetime use estimated below

Cannabis

27.2%

54.6 million males and 35.7 million females

Cocaine

5.4%

12.1 million males and 5.8 million females

MDMA

4.1%

9.1 million males and 4.6 million females

Amphetamines

3.7%

8.1 million males and 4.1 million female

Heroin

0.35%

estimated 1.3 million high risk opioid users



Alcohol (data from here) use in Europe:

All adults (15-64) last year alcohol use

77.6%

Young adults (15-34) last year prevalence use

77.2%



Any illegal drug use in Europe (data from here):

All adults (15-64) last year alcohol use

6.9%

Young adults (15-34) last year prevalence use

13.7%

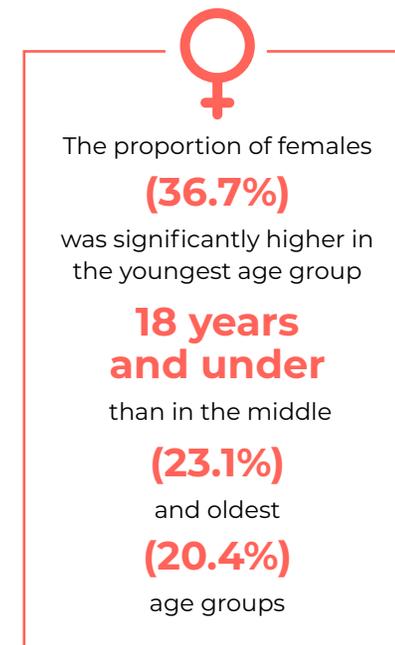
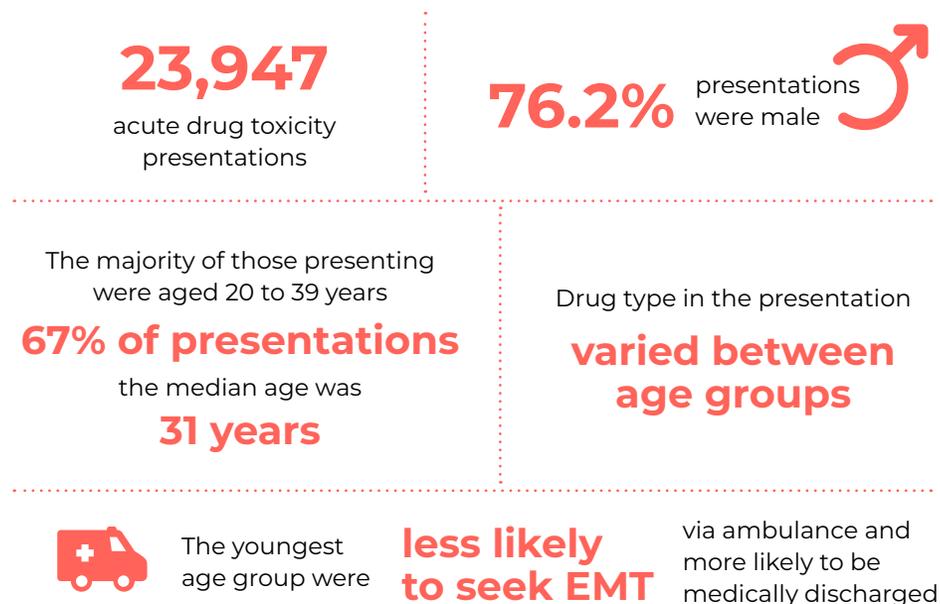
The EMCDDA =
The European Monitoring Centre for Drugs and Drug Addiction

Overview of EMT in Europe – the Euro-DEN Plus project

The European Drug Emergencies Network (Euro-DEN) was first established in October 2013 as a 2-year project with the aim to gain knowledge on illicit drug and NPS toxicity and other harms. The project continued as the Euro-DEN Plus project since 2015 with the support of the EMCDDA. The project gathers data from hospital emergency departments across sentinel centres in Europe.

The **report** summarises the Euro-DEN Plus data for the 4-year period from 1 January 2014 to 31 December 2017 from the 32 Euro-DEN Plus centres in 21 countries that were collecting data during that period.

Key points from report:



Inclusion criteria: presentations are included if the patient has a history of use or clinical features consistent with acute toxicity directly related to illicit drug/NPS use or misuse of a prescription/over-the-counter medicine. Exclusion criteria: drug-related presentations are excluded if they are not directly related to acute established illicit/recreational drug or NPS toxicity (e.g. cases of trauma, infection or drug withdrawal) or are the result of self-harm. Cases of alcohol intoxication on its own are also excluded, but data on whether or not alcohol has been co-used in an acute drug/NPS toxicity presentation are collected.

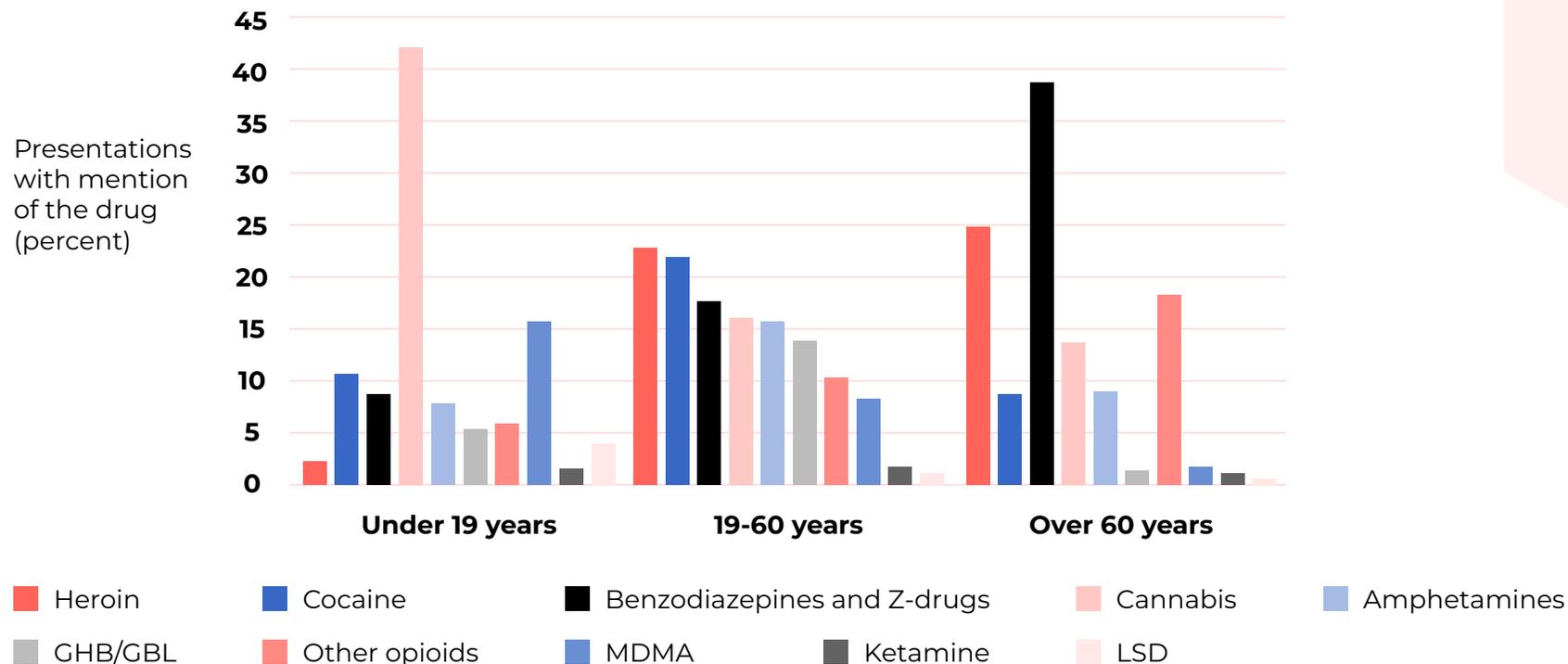
Euro-DEN Plus project – Breakdown by age

EMT presentations were split into three age groups:

- **18 years and under (5.8%)**
- **19-60 years (92.3%)**
- **Over 60 years (1.0%)**
- **Not recorded (0.9%)**

Presentations with mention of the drug (percent)

Proportions of people within each age group reporting each drug in Euro-Den Plus presentations, for selected substances, 2014-17

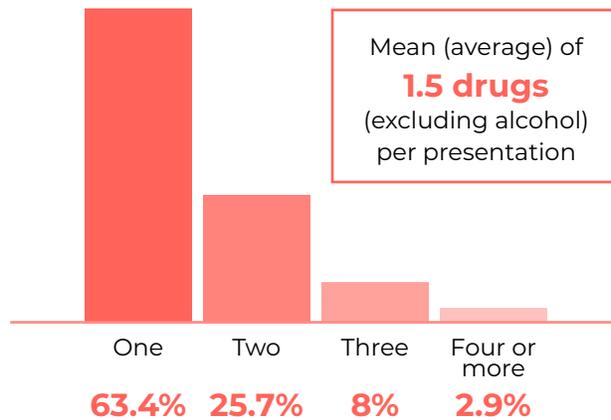


Note: A presentation can be associated with more than one drug and thus the total of each age group may be greater than 100%. The drugs are ordered according to frequency in the middle age group.

Euro-DEN Plus project – Breakdown by drugs

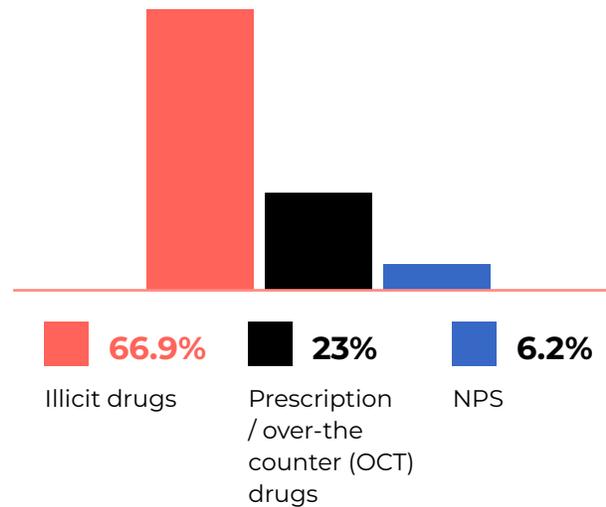
Total EMT presentations: 23.947

Number of drugs involved in EMT presentations:

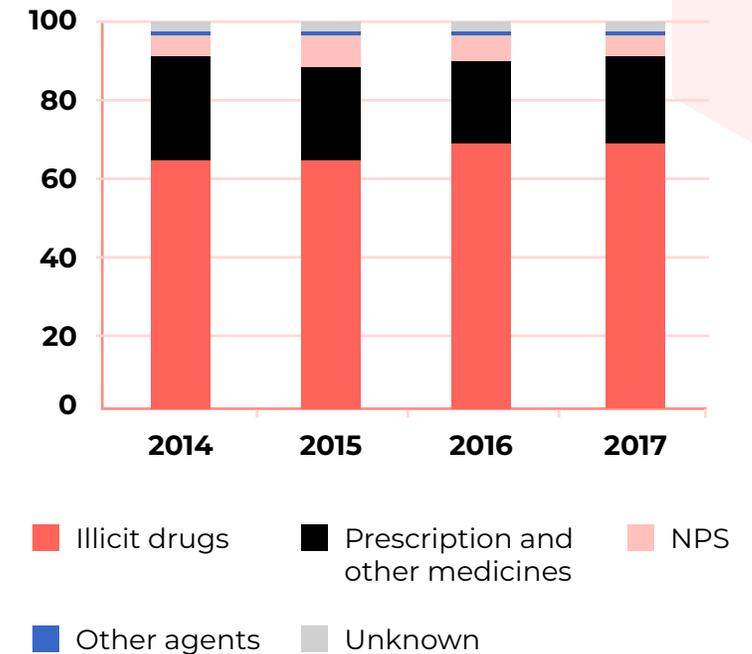


Whether or not alcohol was involved in the EMT presentation was only recorded in 16.860 presentations (**70.4 % of the total**). In these presentations alcohol had been used in **59.0%**.

Frequency of drugs involved in presentations over 4 years:



Frequency distribution of the main drug groups among all drugs identified in Euro-DEN Plus presentations, 2014-17

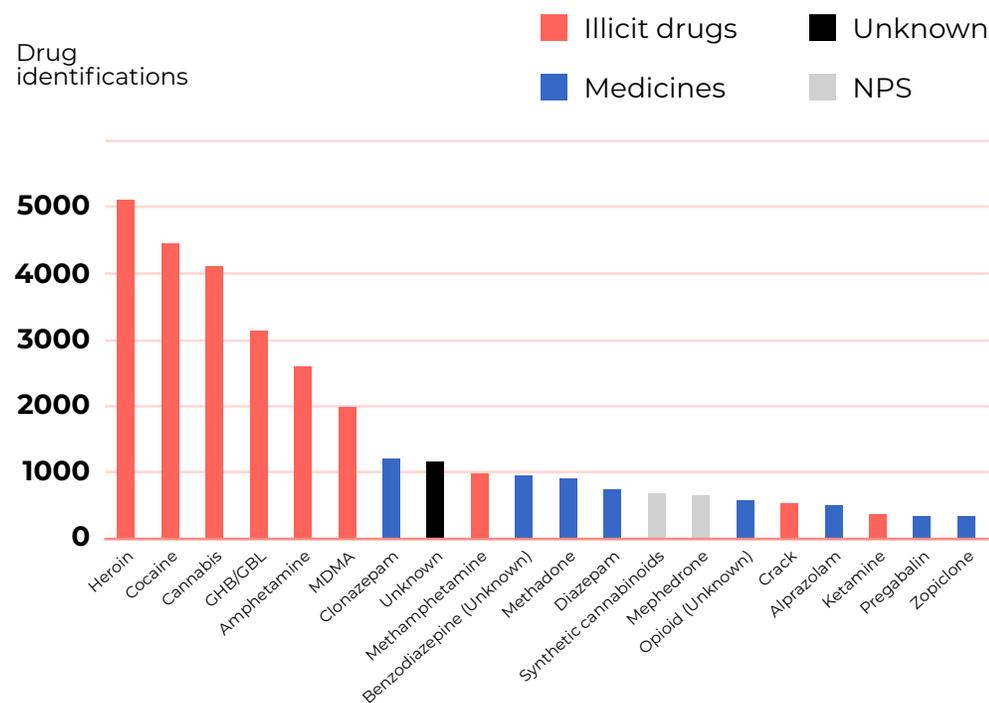


Euro-DEN Plus project – Top 20 drugs

Key take home messages from top 20 drugs:

- Heroin
 - Cocaine
 - Cannabis
 - GHB/GBL
 - Amphetamine
 - MDMA
- Most frequently reported drugs.**
Reflects health risk (heroin) and high prevalence of use (cocaine and cannabis)
-
- GHB/GBL
- Fourth most frequently reported drug.**
However, data suggests low prevalence of use in general population and most cases are reported by one London centre which serves extensive area of nightlife activity.
-
- Clonazepam
 - 'Benzodiazepine unknown or unspecified'
 - Diazepam
 - Alprazolam
- Of the 20 most frequently reported drugs, 4 are benzodiazepines, with a total of 3,513 reports, and clonazepam is the seventh most frequently reported drug.**
This shows the prevalence of these medicines in drug-related acute poisonings.

Top 20 drugs involved (number of reports) in Euro-DEN Plus presentations, 2014-2017



Note: Out of 36 232 drugs reported (excluding alcohol) involved in 23 947 presentations.



Euro-DEN Plus project – Heroin

Health risks of heroin resulting in EMT



Heroin use is considered one of the riskiest drugs



People who use heroin tend to have poor overall health and many experience mental health disorders



Heroin overdoses lead to the slowing down of breathing which can be fatal



Medical consequences of chronic injection (infections such as botulism) and bloodborne diseases (HIV and hepatitis B/C) associated with people who inject drugs

EMCDDA data on prevalence

Prevalence estimated at

1.3 million

high-risk opioid users (0.4% of the EU population) amongst adults (15-64) = relatively low prevalence of use

At national level, estimates of high-risk opioid use range from less than

1 to more than 8 users per 1 000 population aged 15-64.

The five most populous countries in the European Union (Germany, Spain, France, Italy, United Kingdom), account for three quarters (75%) of this estimate.

EMT Euro-DEN Plus project (4 year)

5268 presentations

22% of all presentations during the 4-year period

There was variation in EMT presentations reporting heroin consumption between centres.

However, heroin was the drug most frequently involved in

Oslo and Dublin.





Euro-DEN Plus project – Cocaine

Health risks of cocaine resulting in EMT



Patients with acute cocaine toxicity may present with tachycardia, dysrhythmia, hypertension, and coronary vasospasm.



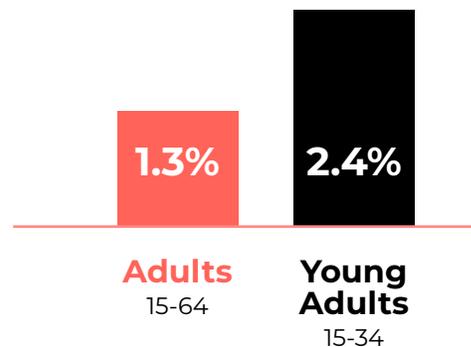
This may result in acute coronary syndrome, stroke, and death in more severe cases.



Behavioural disturbances frequently reported

EMCDDA data on prevalence

Prevalence - Last year use:



Relatively **High Prevalence** of use

EMT Euro-DEN Plus project

In-depth study of the

17 371 Euro-DEN Plus presentations

between October 2013 and December 2016

3 002 (17.3 %) of all presentations involved **cocaine**

2 600 Powder Cocaine	376 Crack Cocaine	26 Both
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Euro-DEN Plus project – Cannabis

Health risks of cannabis resulting in EMT



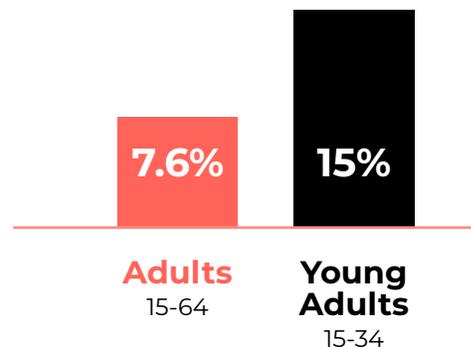
Adverse effects of cannabis that may result in EMT include behavioural disturbances (panic, anxiety, paranoia, confusion) psychiatric disorders, central and peripheral nervous system disorders, acute intoxication, respiratory system disorders and cardiovascular disorders



Fatal risk is considered very low

EMCDDA data on prevalence

Prevalence - Last year use:



Highest Prevalence 
of use of all illegal drugs

EMT Euro-DEN Plus project (4 year)

4 153 presentations

17.3 % of all presentations during the 4-year period

737

(3.1%) of all presentations involved

synthetic cannabinoids

The majority of the presentations involving a synthetic cannabinoid were seen in the

United Kingdom and Malta



Euro-DEN Plus project – GHB/GBL

Health risks of GHB/GBL resulting in EMT



GHB produces mixed stimulant/sedative effects, with a dose-dependent increase in sedation and dizziness



At higher doses, **GHB** can lead to severe coma, cardiorespiratory depression, and death



It's 'easy' to overdose on GHB because an extra half-millilitre of GBL or half-gram of GHB on top of a moderate dose can make you fall into a deep sleep where you could potentially choke to death on your own vomit



Co-ingestion of GHB with other drugs increases the health risk

Prevalence

There is a

lack of EMCDDA data

regarding the prevalence of GHB/GBL.

GHB/GBL use is associated with a

subset of drug users.

Anecdotal evidence

suggests that use of the drugs is fairly widespread on the,

UK club scene

particularly in gay clubs, but GHB/GBL is yet to become prevalent amongst the general drug-taking population.

EMCDDA report:

Norway reported last year prevalence of GHB use at 0.3% for adults (16-64) and 0.7 % for young adults (16-34); Poland reported last year prevalence of GHB use at 0.1 % for adults (15-64) and 0.2 % for young adults (15-34).

EMT Euro-DEN Plus project (4 year)

GHB/GBL is among the most frequently reported drugs in the Euro-DEN Plus dataset, involved in

13.1% of presentations.



However, it is important to note that most cases are reported by one

London centre.

This centre serves an extensive area of nightlife activity, where the drug is more commonly used, and this is reflected in the type of acute toxicity episodes seen in the centre.



Euro-DEN Plus project – detailed breakdown of GHB/GBL data

Co-ingested substances (% of presentations):



50%

Alcohol



36%

Amphetamines



12%

Cocaine



8%

Cannabis

Clinical features (% of presentations):



39%

Altered behaviour



34%

Reduced consciousness



14%

Anxiety

The severity:

43.4%

mild cases requiring no treatment

14.6%

severe cases requiring admission to intensive care

6.9%

mechanical ventilation



No deaths were reported

GHB/GBL presentations involving other substances (alcohol or drugs) were more likely to involve vomiting and 'other cardiovascular features' (e.g. palpitations, chest pain, arrhythmias), a greater need for treatment and a longer length of hospital stay.

[Full paper here](#)



Euro-DEN Plus project – Amphetamines

Health risks of amphetamines resulting in EMT



Patients may present with diverse psychiatric and medical problems ranging from seizures, arrhythmias and extreme psychosis.



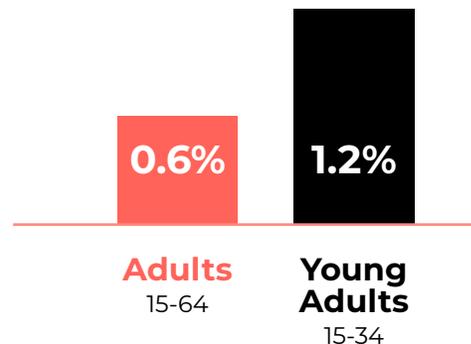
Overdose and toxicity strike inconsistently among new, occasional, chronic, and binge users.



Tachycardia, hyperthermia, volume depletion, agitation, seizures, and rhabdomyolysis are sentinel findings.

EMCDDA data on prevalence

Prevalence - Last year use:



EMT Euro-DEN Plus project (4 year)

5th most frequently reported drug

Approx.

2600

Euro-DEN Plus project – MDMA

Health risks associated with MDMA

 Dehydration

 Heat stroke and hyperthermia (in rare cases people have suffered heart attacks and strokes)

MDMA and polysubstance use

Almost all MDMA presentations occurred in the context of polysubstance use

Only **4.4%** of presentations involved use of MDMA alone

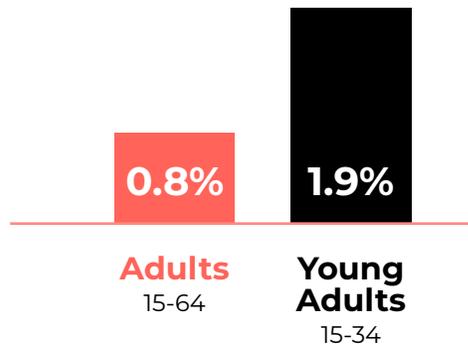
Whereas **36.4%** involved use of one substance on its own

Most common substance coingested with MDMA

Alcohol (70.4% of MDMA presentations involving other substances), followed by **cocaine** (25.6%), **cannabis** (14.6%), **amphetamine/methamphetamine** (14.1%), **benzodiazepines/Z-drugs** (7.2%), **GHB/GBL** (6.8%) and **ketamine** (5.3%).

EMCDDA data on prevalence

Prevalence - Last year use:



How does MDMA kill?

Read about the effects of contaminants and polydrug use.

EMT Euro-DEN Plus project (4 year)

2 013

of the 23 947 presentations = 8.4 %

Frequency of MDMA presentations varied across centres

from over **10%** Belgium, Czechia, Denmark, France, Slovakia and the United Kingdom

less than **5%** Bulgaria, Finland, Germany, Latvia, Lithuania, Norway and Poland



Euro-DEN Plus project – Prescription medications

The misuse of prescription drugs means taking a medication in a manner or dose other than prescribed.

The risks will vary according to the specific prescription drug.

Type of prescription drug in the Euro-DEN Plus

The misuse of 209 different prescription medicines were reported in EMT presentations. The four most commonly misused prescription drugs reported by the Euro-DEN plus project are shown in the table.

Type of prescription drug	% of all 23 947 Euro-DEN Plus presentations	% of presentations involving only prescription medicines
benzodiazepines	6.3	51.3
opioids	6.1	50.1
Z-drugs	1.2	9.8
GABA-ergic drugs	0.9	7.3

The first column represents the proportion of all Euro-DEN Plus presentations (23 947 presentations) which reported the prescription drug. The second column represents the proportion of each drug within the presentations involving only prescription medicines (6 207 presentations).

EMCDDA data on prevalence

There is a lack of EMCDDA data on the prevalence of misuse of prescription drugs in Europe.

A study across 5 EU countries (Denmark, Germany, Great Britain, Spain, and Sweden) with participants aged 12-49 can provide some insights.

Estimates of lifetime and past-year prevalence of nonmedical prescription drug use for:

Opioids	Sedatives	Stimulants
13.5 and 5%	10.9 and 5.8%	7 and 2.8%

EMT Euro-DEN Plus project (4 year)

6 207 presentations

(25.9 %) involved the misuse of at least one prescription medicine

Of these almost half

2 876 presentations

(46.3% — 12% of all presentations) involved only prescription medicines

People presenting with toxicity in which only prescription medicines were involved were slightly older (median age 34 year) than those presenting overall (median age 31 years), and the proportion of women was higher (31.6 % in the prescription-only group, compared with 23.8 % for all Euro-DEN Plus presentations).

Considerable variation between Euro-DEN Plus centres in the proportion of presentations involving only prescription medicines.

Euro-DEN Plus project – NPS

Health risks associated with synthetic cannabinoids.



In a **study** from the Global Drug Survey comparing the EMT risk between natural cannabis and synthetic cannabinoids, the relative risk associated with the use of synthetic cannabinoids was 30 times higher than that associated with cannabis



Can cause aggression, seizures and respiratory failure



NPS are rapidly changing and therefore it is difficult to know all the health risks.

EMT Euro-DEN Plus project (4 year)

NPS were involved in only

9.1%

of all 23 947 presentations (accounting for 6.2% of all drug identifications)

Significant geographical variation

6 centres **16 centres** **6 centres**

reporting no presentations involving an NPS

reporting less than 5 % of presentations involving an NPS

reporting more than 20 % of presentations involving an NPS

The two most common categories of NPS involved in the presentations were

cathinones and synthetic cannabinoids

7 centres reported presentations involving mephedrone

London, Dublin and York reported most mephedrone presentations



9 centres reporting presentations involving synthetic cannabinoids

London, Gdańsk and Munich reported most synthetic cannabinoid cases



Euro-DEN Plus project – Deaths

Total deaths

101 deaths

overall fatality rate of 0.4%



47

occurred within the emergency department



54

after admission to hospital



32

of the deaths occurred 24 hours or more after hospital presentation



68 of 101

patients (67.3 %) — arrived in the emergency department in cardiac arrest

Demographics of deaths



males (consistent with the sex profile of the presentations)

Median age

36 years

those who died were slightly older than the cohort as a whole (median age 31 years, could be because of the predominance of opioids and heroin in presentations that result in death)

Drugs involved



Opioids

53 deaths

(25 with heroin and 15 with methadone)



Stimulants

31 deaths

(most commonly involving cocaine, amphetamine or MDMA)



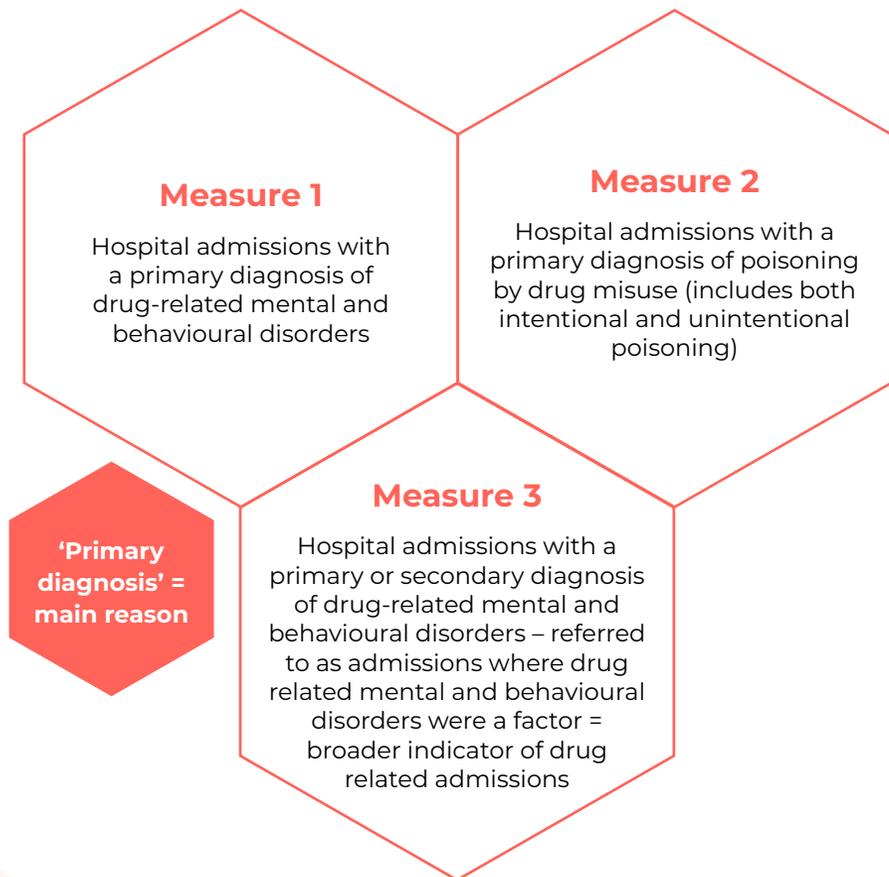
NPS

10 deaths

most common NPS was mephedrone, which was involved in 5 deaths. A synthetic cannabinoid was reported in only one death (in combination with methadone)

UK EMT - Data for drug-related EMT

3 measures are recorded by NHS England



Measure 1 and 2 admissions

were around 5 times more likely in the most deprived areas, compared to the least deprived areas.

Measure 3 admissions

were over 8 times more likely in the most deprived areas, compared to the least deprived areas.

2019/20 Data from NHS England



7,027 hospital admissions

for **drug*-related mental and behavioural disorders** = a rate of 12.5 per 100,000 population.



16,994 hospital admissions

for **poisoning by drug* misuse** = a rate of 30.5 per 100,000 population.



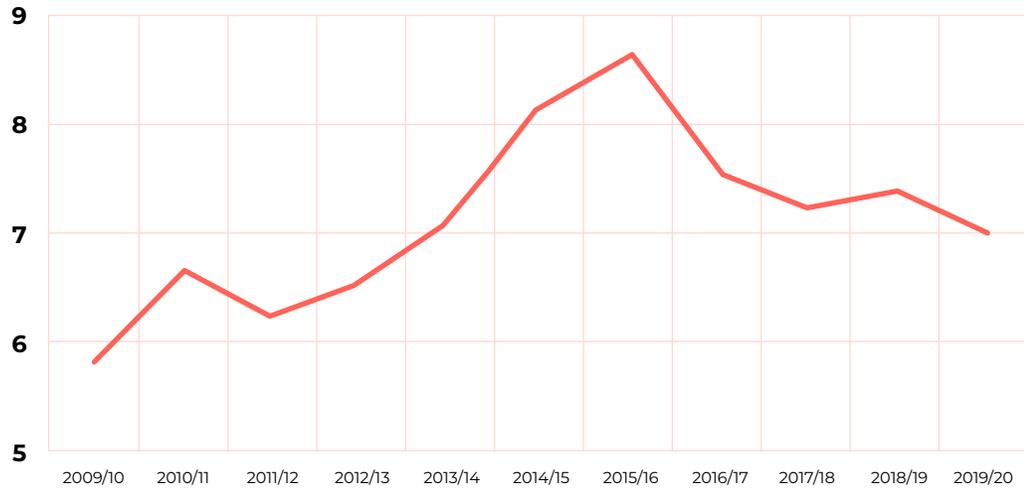
99,782 hospital admissions

with a **primary or secondary diagnosis of drug*-related mental and behavioural disorders** = a rate of 180.5 per 100,000 population

*Drug' here refers to those listed as controlled under the Misuse of Drugs Act 1971. Data on whether alcohol is a contributing factor in these EMT admissions is not provided

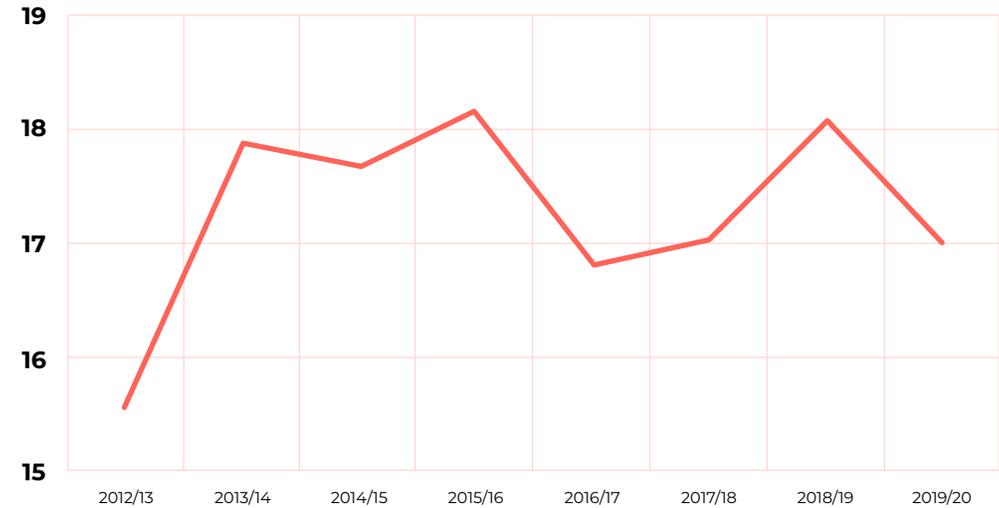
UK EMT – Trends in data for drug-related EMT

Admissions for drug-related mental health and behavioural disorders by year (1,000's)



— Drug related mental and behavioural disorders

Admissions for poisoning by drug misuse by year (1,000's)



— Poisoning by drug misuse

Data from NHS England

UK EMT – Data for alcohol EMT

2 measures are recorded by NHS England

1. Narrow measure

Where the main reason (e.g., alcohol-related disease, injury or condition) for admission to hospital was attributable to alcohol. Best indication of trends in alcohol-related hospital admissions

2. Broad measure

Where the primary reason for hospital admission or a secondary diagnosis (e.g. alcohol-related external cause) was linked to alcohol. Gives an indication of the full impact of alcohol on hospital admissions and the burden placed on the NHS

NHS reveals record-breaking number of alcohol-related hospital admissions

Data from NHS England (01 Jan 2018 to 31 Dec 2018)

Narrow measure



In 2018/19 there were

358,000
estimated admissions

where the main reason for admission to hospital was attributable to alcohol.



This is
6% higher
than
2017/18 and
19% higher
than 2008/09



This represents
2.1%
of all hospital admissions which has changed little in the last 10 years and was
2.2%
in 2008/09

Broad measure



There were almost

1.3 million
estimated admissions

where the primary reason for hospital admission or a secondary diagnosis was linked to alcohol.



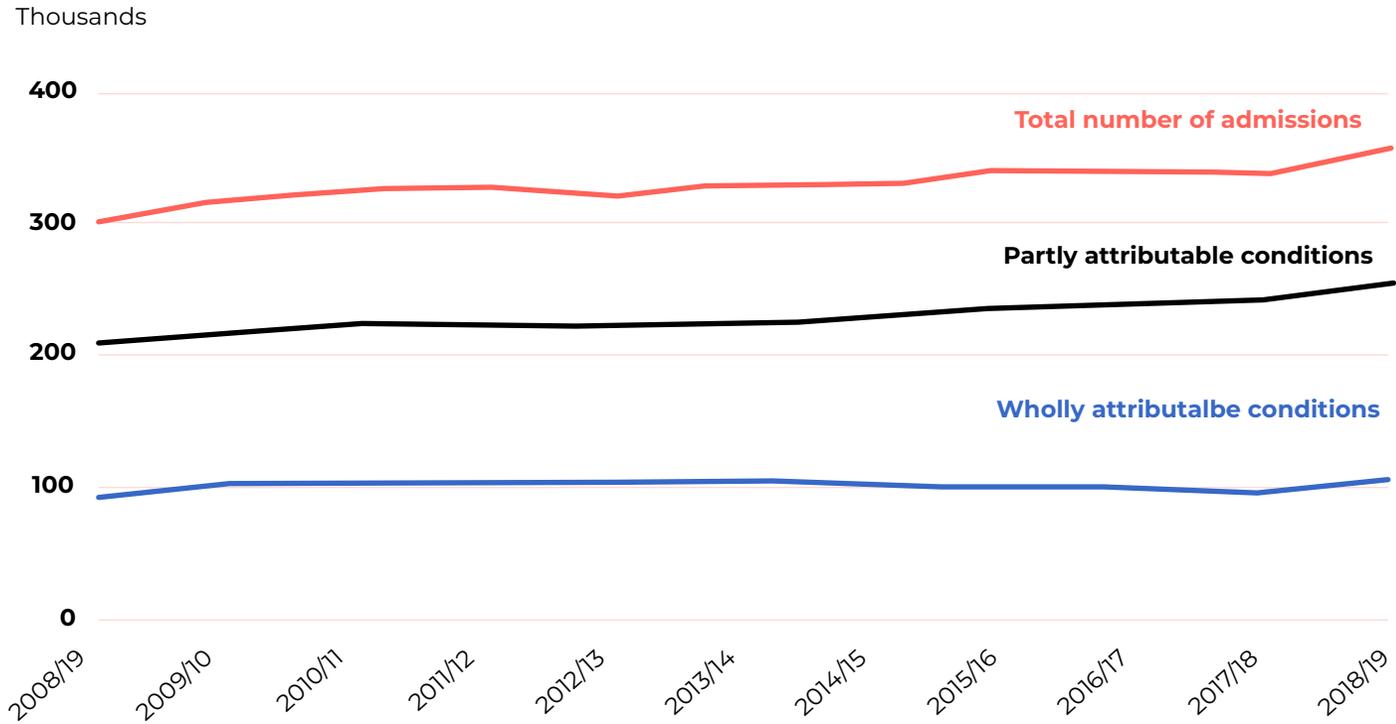
This is
8% higher
higher than
2017/18 (broad measure)



Changes over a longer time period will partly reflect improvements in recording of secondary diagnoses

This represents
7.4% of all hospital admissions

UK EMT – Trends in data for alcohol EMT



Data from
NHS England

UK EMT – Data for drug-related EMT

Scotland hospital admissions data: 2018/19



Rate of drug-related hospital stays in Scotland

260 stays

per 100,000 population.

Rate of drug-related general acute hospital stays

219 stays

per 100,000 population.

Rate of drug-related psychiatric hospital stays

41 stays

per 100,000 population between 2018/19.

NB that Scotland has different definitions on hospital admissions compared to NHS England

Drug type involved in hospital admissions:



133 stays per 100,000

population associated with opioids in Scottish hospitals (general acute or psychiatric).



Multiple/ other drugs

64/100,000 population



Sedatives/ hypnotics

39/100,000 population



Cannabinoids

33/100,000 population



Cocaine

31/100,000 population



Hospital stay rates for each of these drug types have

increased since 2013/14

Since 2013/14, the most common age group among people with a drug-related hospital stay (general acute or psychiatric) has been

35-44 years



Patient rates for this group increased ninefold from

56 to 501 patients

per 100,000 population between 1996/97 and 2018/19

In 2018/19, approximately half of the patients with a drug-related general acute or psychiatric hospital stay lived in the

20%

of most deprived areas in Scotland.

UK EMT – Data for drug-related EMT

Data for alcohol EMT in Scotland



In 2018/19 there were

38,370
alcohol-related
hospital admissions

(stays) in general acute and psychiatric hospitals in Scotland, similar to the previous year (38,199).



Men were

2.5 times
more likely

than women to be admitted to general acute hospitals for alcohol-related conditions (971 per 100,000 population compared to 377).



The vast majority of patients

93%
admitted with
alcohol-related
conditions

are treated in general acute hospitals (35,685) with a further

2,685
patients in
psychiatric
hospitals.



People in the most deprived areas were

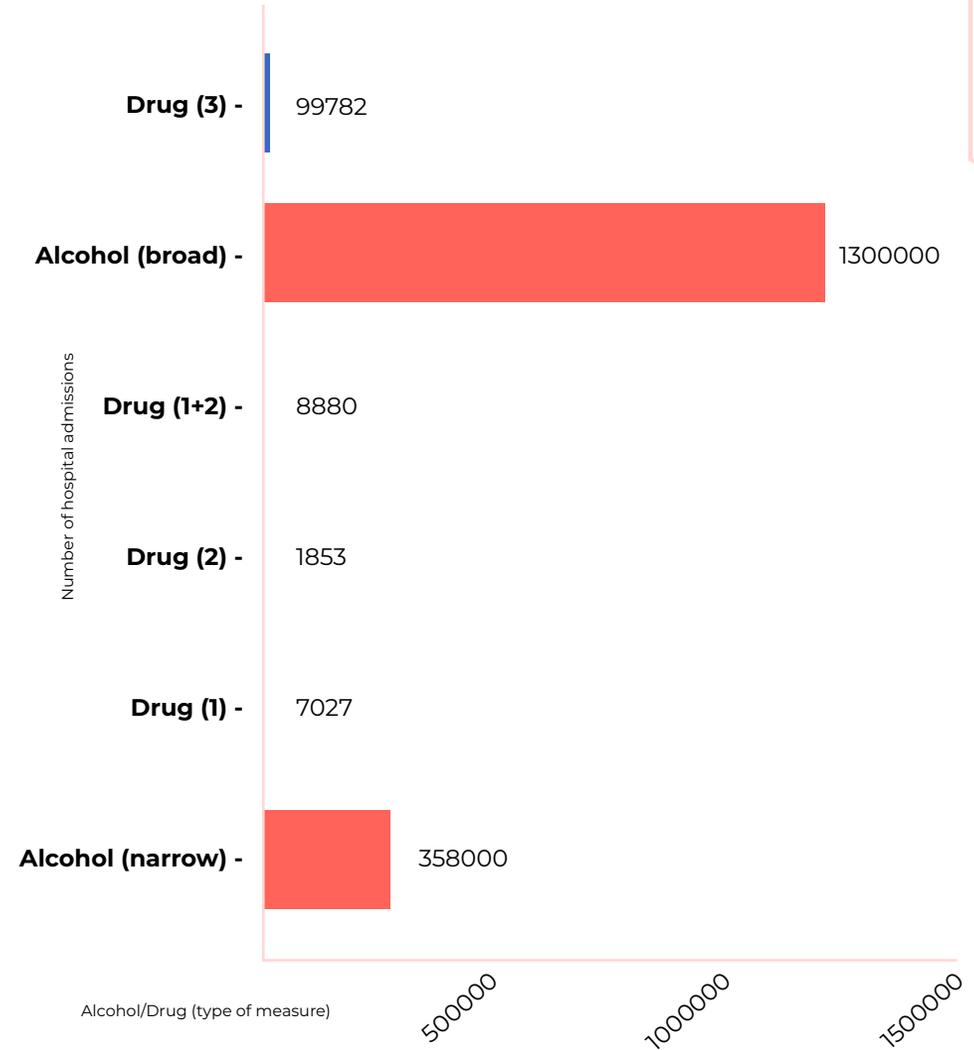
6 times
more likely

to be admitted to general acute hospitals for an alcohol-related condition than those in the least deprived areas (1,059 per 100,000 population compared to 167).

How do hospital admissions for alcohol and drugs compare?

Graph to show the hospital admissions as a result of alcohol and drug misuse. See previous slides for definitions of each type of measure. Drug measure 1 and 2 are a cumulative representative of the narrow alcohol measure.

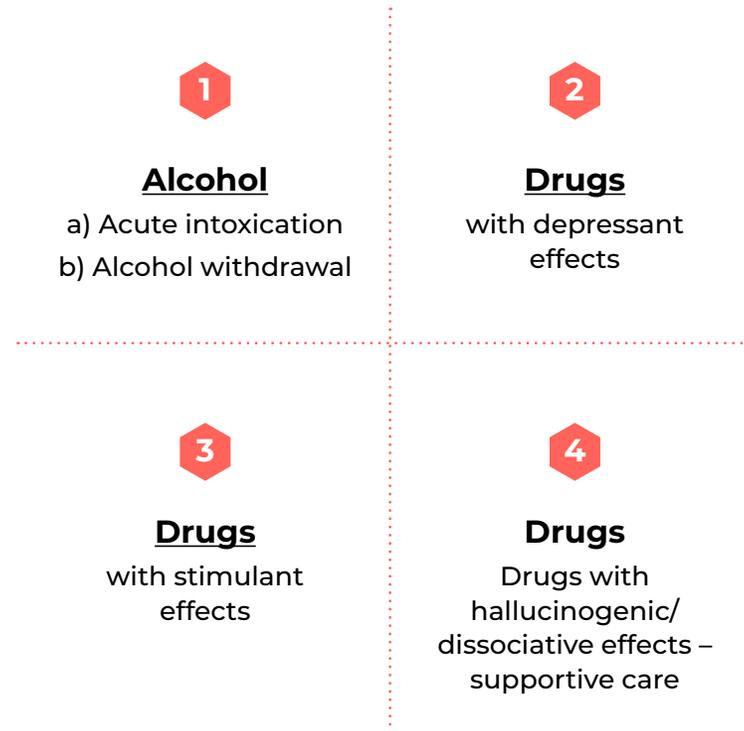
Alcohol **data from NHS England** (01 Jan 2018 to 31 Dec 2018) Drug **data from NHS England** (2019/2020).



Management of patients seeking EMT

- The symptoms and signs associated with acute intoxication/withdrawal are dependent on the drug/drugs ingested.
- Often limited or no history is available. It is important to gain as much information as possible and frequently the only history available may come from the paramedics.
- All patients should have an alcohol, tobacco and illicit drug use history recorded and appropriate health promotion advice given.
- Screening and brief interventions aim to identify current or potential problems with substance use and motivate those at risk to change their substance use behaviour.
- Detailed information and advice on the management of toxicity for most substances are available 24/7 from the National Poisons Information Service.

Clinical management of EMT falls into 4 broad categories:



Factors that may inhibit disclosure of alcohol and drug related issues in the emergency department:

Social stigma

Potential impact on employment

Fear of involvement of police or social services

Patients may not always present at the time of injury

Best practice guidelines for drug misuse and EMT

ABC approach

ABC and its variations are an approach applicable in all clinical emergencies for immediate assessment and treatment.

A	Airway (& Cervical spine)	<p>Is the airway clear? Administer high flow oxygen as required.</p> <p>Consider added noises:- snoring suggests partial airway obstruction. This may occur due to reduced conscious level. Always consider alternative causes of reduced GCS (e.g. hypoglycaemia, head injury, sepsis).</p> <p>- Patients who have used stimulants may have seizures. This may occur due to hyponatraemia, cerebral oedema or intracranial bleeds secondary to rapid increases in blood pressure.- Gurgling may occur due to blood from facial trauma or vomit. Patients with reduced GCS may require airway support. Patients with evidence of a head injury and reduced GCS should be assumed to have a cervical spine injury and have appropriate immobilisation applied.</p>
B	Breathing	<p>What are the respiratory rate and oxygen saturations? Is there equal air entry bilaterally? Are there any added sounds in the lung fields? Patients who have vomited are at risk of aspiration.</p> <p>Chest trauma may occur following collapse / falls. Look for bruising or deformity, reduced air entry or asymmetrical chest wall movement.</p> <p>Ingestion of depressants may result in reduced respiratory rate, low oxygen levels and hypoventilation leading to respiratory acidosis – these patients will require supported ventilation.</p> <p>Consider naloxone administration in suspected opiate overdose.</p>
C	Circulation	<p>What is the pulse rate and blood pressure?</p> <p>Alcohol may be associated with atrial fibrillation following acute or chronic use. Chronic alcohol use is associated with hypertension. Consider occult injury in patients who are acutely intoxicated. Falls may result in chest/abdominal/ pelvic injuries or fractures. Patients may not always report pain.</p> <p>Depressant ingestion may result in hypotension but consider other causes including trauma and sepsis. Consider occult injury in patients who are acutely intoxicated. Falls may result in chest/abdominal/ pelvic injuries or fractures. Patients may not always report pain. Patients with tachy/bradyarrhythmia will require a 12 lead ECG and cardiac monitoring. Treat as per ALS (Advanced Life Support) algorithms.</p> <p>Stimulant ingestion may cause marked tachycardia and hypertension. 12 lead ECG should be performed and cardiac monitoring applied. First line treatment for tachycardia and hypertension is benzodiazepines.</p>
D	Disability	<p>Is the patient alert? (AVPU /Glasgow Coma Score (GCS) (alert, voice, pain, unresponsive)</p> <p>Is the patient moving all 4 limbs equally? Pupil examination: Size, symmetry, reactivity – dilated pupils are often present following stimulant use, pinpoint pupils are suggestive of opiates but may also be seen with GHB/GBL.</p> <p>Does the patient have external evidence of a head injury? Patient with reduced GCS and evidence of head injury will require CT brain to exclude intracranial bleed as a cause for reduced GCS.</p> <p>Assess tone and check for clonus. Patients may exhibit increased tone and clonus. If present, patients may be at risk of rhabdomyolysis - check serum creatine kinase, renal function and monitor urine output.</p> <p>Blood glucose checked as alternative cause of reduced GCS.</p>
E	Exposure	<p>Check patient for other injuries</p> <p>Temperature: risk of hyperthermia. Patients with temperatures above 39 degrees should be actively cooled. Advice should be sought from National Poisons Information Service.</p>

Acute alcohol intoxication

Clinical signs



Dependent on the amount of

alcohol consumed

May include

smell of alcohol, slurred speech, ataxia, lethargy, vomiting, erratic behaviour and emotional lability.

Severe alcohol intoxication may result in reduced

GCS (Glasgow Coma Score) and collapse.

Acute management



Acutely intoxicated patients are managed supportively in the majority of cases.



Patients with reduced GCS and vomiting may be at risk of airway compromise and aspiration pneumonia.



In severe cases, advanced airway protection with intubation and ventilation may be required.



In the presence of head injury, patients with reduced GCS should have a CT brain performed to exclude intracranial causes of reduced GCS.



All patients should have blood glucose checked and monitored due to the risk of hypoglycaemia.

The Glasgow Coma Scale (GCS) is the most common scoring system used to describe the level of consciousness in a person.

Alcohol withdrawal

Prompt recognition of alcohol withdrawal and rapidly administered treatment is required to reduce morbidity and mortality.

Clinical signs

Mild cases



Nausea or vomiting, tremor, anxiety, and sweating

Severe cases



Auditory, visual or tactile hallucinations, autonomic instability (including tachycardia and pyrexia)

Severe complications



Seizures, Delirium Tremens (DT's) or Wernicke's Encephalopathy

Alcohol withdrawal

Withdrawal symptoms that occur when individuals who are physiologically dependent on alcohol stop or cut back on their alcohol consumption (this may occur within a few hours of the last drink)

Delirium Tremens

- Occurs in approximately 5% of patients with alcohol withdrawal, usually 2-3 days following cessation of alcohol.
- Untreated it has a high morbidity and mortality rate of 15-20%.
- Characteristic symptoms = severe tremor, alteration in consciousness, acute confusion, autonomic instability (tachycardia and fever) and severe hallucinations.
- Early detection and management will usually prevent onset.

Wernicke's Encephalopathy

- Symptoms (occur in only 10% of patients) = acute confusion, ataxia and ophthalmoplegia
- Due to acute deficiency of thiamine, treatment involves rapid restoration with high dose intravenous thiamine administration = prevents Korsakoff's Syndrome.

Alcohol withdrawal



Baseline blood tests

Full blood count, renal profile, liver function tests, amylase, coagulation screen and magnesium levels



First line treatment is administration of benzodiazepines:

Long acting oral benzodiazepine such as chlordiazepoxide is preferred severe withdrawal

Symptoms may require the administration of a parenteral (intravenous) benzodiazepine, such as diazepam or lorazepam

Acute management



To rule out...

Sepsis = chest x-ray and urinalysis

Central infections = CT brain +/- Lumbar puncture.

Spontaneous bacterial peritonitis = ascitic tap for microbiology, culture and sensitivity



Administration of high dose parenteral B vitamins (Pabrinex) is generally suggested

Aims to prevent Wernicke's encephalopathy.



Seizure and status epilepticus are managed as per Advanced Life Support guidelines for seizure management.

In patients with significant liver disease, there is an increased risk of toxicity from benzodiazepines, due to changes in metabolism and clearance. All patients must have their pulse, blood pressure, pulse oximetry, respiratory rate and GCS monitored closely to identify potential toxicity from benzodiazepines. Patients should be regularly assessed using a validated scoring system for alcohol withdrawal.

Other drugs EMT – depressants

Opiates

Heroin or prescription opiates including morphine, fentanyl, methadone, oxycodone, codeine, dihydrocodeine and others

Clinical signs

- Acute toxicity = respiratory depression, coma and collapse
- Physical consequences of intravenous use of heroin = deep vein thrombosis, (BBV) related illness, accidental arterial puncture
- Withdrawal syndrome
- Failure to recognise and treat severe opiate toxicity may result in respiratory arrest and subsequent death.

Clinical care

- Naloxone = opioid receptor antagonist that competitively binds to opioid receptors in the brain = blocks the effects of opioids
- Naloxone should be titrated to response as it may precipitate acute withdrawal in opiate dependent patients.
- Ideally, naloxone should be administered intravenously to facilitate accurate titration. Attaining intravenous access may be difficult in intravenous drug users, due to venous damage from repeated puncture and injection. Naloxone may also be administered intramuscularly, although absorption is highly variable via this route, making it difficult to titrate to response.

Benzodiazepines

Diazepam, temazepam, lorazepam, alprazolam and others

Clinical presentations

- Acute toxicity = drowsiness, ataxia, slurred speech, and reduced consciousness
- Symptoms may be increased by the co-ingestion of alcohol or other CNS depressants
- Severe toxicity = may result in hypotension and bradycardia

Clinical care

- EMT within one hour of ingestion = potential for administration of activated charcoal
- Supportive care = close monitoring of respiratory rate, oxygenation, blood pressure and level of consciousness (GCS). The majority of patients do not require any treatment.
- Co-ingestion of alcohol or other CNS depressants = may result in vomiting or significant respiratory depression.
- Reduced GCS may inhibit the patient's ability to adequately protect themselves from aspiration. Consequently, intubation and ventilation may be required.
- Flumazenil = benzodiazepine antagonist. Its use is generally confined to iatrogenic benzodiazepine overdose. Its use in pre-hospital overdose is not advised unless under the expert advice of the National Poisons Unit. Flumazenil administration in mixed overdose may reduce the seizure threshold and result in difficulty in controlling seizures should they occur.

Gamma Hydroxybutyrate (GHB)/ Gamma butyrolactone (GBL)/ 1,4 butanediol (1,4BD)

Clinical presentations

- Severe toxicity = may result in coma, respiratory arrest, seizures or death if supportive care is not initiated promptly. Bradycardia and miosis are also common signs.
- Withdrawal in the case of dependence: Aside from the risks of acute toxicity, users may develop physical dependence with regular use.
- Withdrawal symptoms = include agitation, anxiety, tremor, seizures, and marked neuropsychiatric symptoms including hallucinations and psychosis. In severe cases, patients may require high doses of benzodiazepines and/or intubation and ventilation to manage withdrawal syndromes.

Clinical care

- Acute toxicity = supportive care, patients may be monitored in the resuscitation room
- Severe cases = respiratory depression or vomiting will require intubation and ventilation.

Other drugs EMT – stimulants

Stimulants

Amphetamines, ecstasy (MDMA), cocaine, mephedrone, benzylpiperazine, novel psychoactive substances such as 4-MA & MPA.

Clinical signs

Anxiety, palpitations, chest pain, sweating, disorientation, agitation, hallucinations/delusions, psychosis.

Tachycardia, hypertension, hyperpyrexia (increased temperature), neuromuscular excitability (bruxism [jaw-grinding], clonus, increased tone), dilated pupils, seizures and altered GCS.

Acute management

Supportive care should be initiated using an ABC approach.



The first line treatment of tachycardia and hypertension is benzodiazepines.



Benzodiazepines may also help with agitation.



Patients who complain of chest pain should have a 12 lead ECG and a chest x-ray. Benzodiazepines can be used as a treatment.



Patients should have their temperature monitored and may require active cooling if temperature rises above 38 degrees.

Other drugs EMT – hallucinogenic/dissociative

Hallucinogenic (psychedelic)

LSD

Magic Mushrooms (psilocybin)

2C series

Dissociative

Ketamine - MXE - PCP - DXM

Clinical signs

Distortions in body image, sensory perception, and time perception, rapid, intense alterations in mood, and increased intensity of any emotions, fear and paranoia, aggression, difficulty communicating, thought loops, heightened suggestibility.

Supportive care



Supportive care should be initiated using an ABC approach



Non-judgemental support



Listening and empathy is key



Non directive or confrontational

More on psychedelic support from [PsyCare UK](#) [here](#)

Read about the [Fireside Project](#), a [psychedelic peer support line](#), [here](#)

NB some hallucinogenic/dissociative drugs have stimulant/depressant effects, which may need to be clinically managed as appropriate. This slide focuses on the supportive care.

Brief intervention

The brief intervention helps the patient think about their own alcohol intake and the relationship of this to their health and well-being.

The brief intervention may take as little as 5 minutes. This can include:

An understanding of how much the patient is consuming drugs (quantity and frequency).

Any negative effects the patient may be experiencing or potential harm(s) that may result occur as a consequence of their drug consumption.

Exploring the benefits of reducing or stopping drug consumption.

Explore the potential barriers to change.

What is the patient's personal target? Reduce or stop consumption?

What plans might a patient put in place to reduce/stop consumption? What help might they require to achieve this aim?

There are a range of screening tools that may be used to assess alcohol and other drug intake. E.g. Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)

Brief intervention for substance use: a manual for use in primary care

Take home messages



The rates of EMT for each drug are a reflective of the health risks and prevalence of the drug



Alcohol has the highest prevalence of use and results in a remarkably high rate of EMT



Heroin has a low prevalence of use but a high rate of EMT (consistent with high health risk)



Opioids are responsible for the most deaths after EMT



Cannabis has a high prevalence of use and reported highly amongst EMT



Cocaine has a relatively high prevalence and reported highly amongst EMT



GHB/GBL has a low prevalence of use but a high rate of EMT (consistent with high health risk)

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