

Drug-related deaths and mortality among drug users

Introduction to the annual expert meeting: Objectives and discussion of the preliminary analyses of data reported in 2019

Isabelle Giraudon

Federica Mathis, Julian Vicente, Dagmar Hedrich, André Noor

Expert meeting, Oct 21-21 2019

The DRD network

A European Network

- 30 members
- 6 IPA
- 5 European Neighbourhood Policy partners (EU4MD)
- External experts







Objectives and main sources of the indicator

• Mc inc

From

Mc

From

• Be:



g-

users

;S





Objectives and main sources of the indicator

 Monitoring/rapid information on drug overdose (druginduced deaths)

Pillar 1 General mortality registers (national statistics)

Pillar 2 Special registers (forensic toxicology, police)

Monitoring all causes of deaths among people who use drugs

Pillar 3 Linkage or longitudinal cohorts studies

→ Informing policies, responses, the implementation of what works, and assessment of the impact of responses



Objectives -> Recent activities

1) Quantify

- Question and Answer on DRD Summer 2019
- DRD Rapid Communication report August 2019
- DRD dashboard project 2019-20

2) Characterise

- European network of forensic toxicologists
- Special mortality registers

3) Validate

Cross indicator-validation - underestimation exercice

4) Link with Responses

- EMCDDA initiative



Activities→**Agenda**

- 1. Introduction some new data International input
- 2. MDMA, with the 'Drug checking network'
- 3. NPS deaths, first European overview
- 4 Prescription opioids 'DRD dashboard'
- 5 DRD cross indicator validation
- 6. Pilot forensic toxicology network
- 7. Responses
- 8. Cross indicator analysis
- 9. IPA countries workshop



New data – reported in October 2019

More data than presented here have been discussed during the meeting

They are still under validation with the experts and the Focal points.

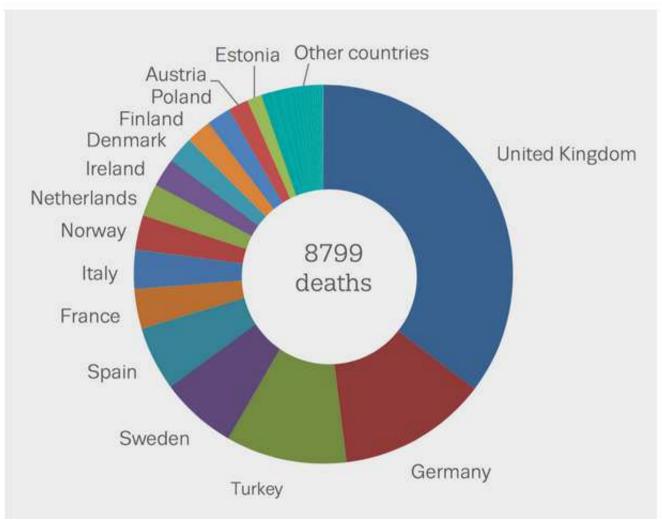
More will be available in the expert meeting report, and in the reporting package around the European Drug report in 2020

Some background information – also available on our web pages follow



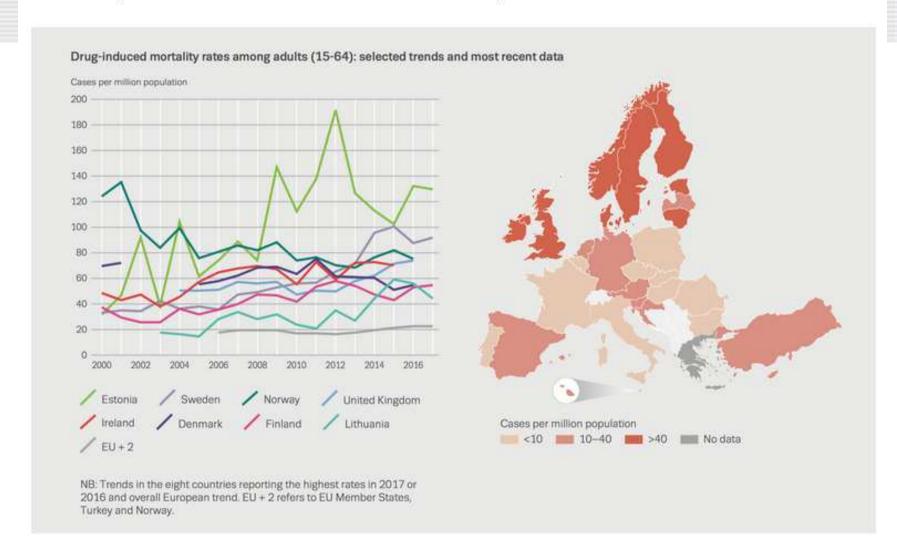


Drug-induced deaths in the European Union, Norway and Turkey: total number among adults aged 15-64 years, 2017



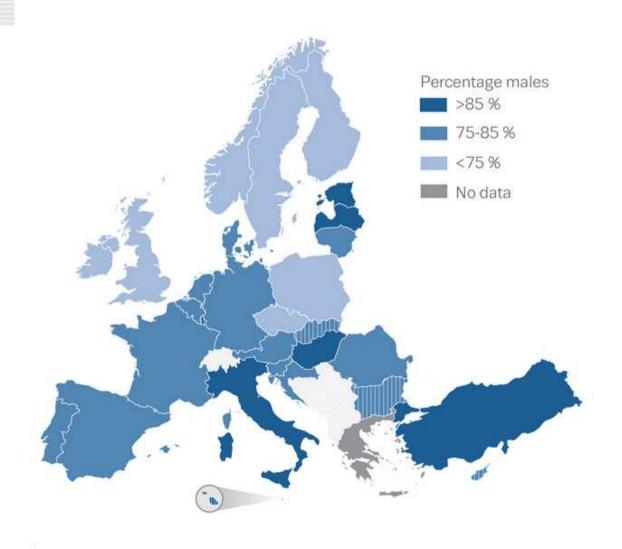


Comparisons should be made with caution though because of under-reporting in some countries (see more below in the section on methods).



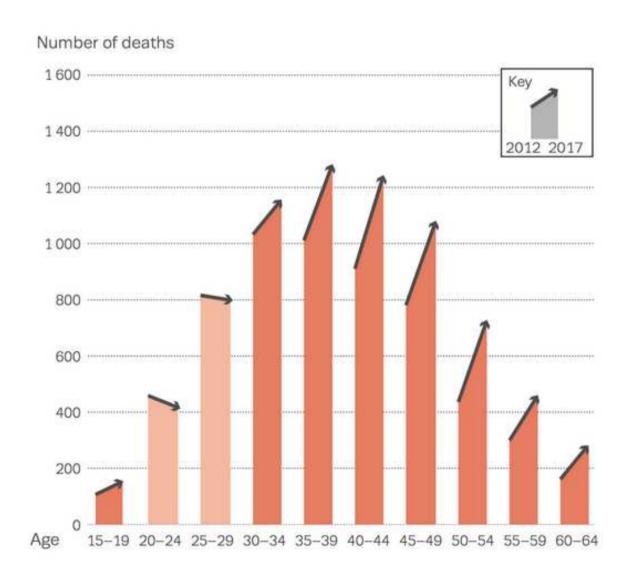


Proportion of males among drug-related deaths in the European Union, Norway and Turkey, 2017



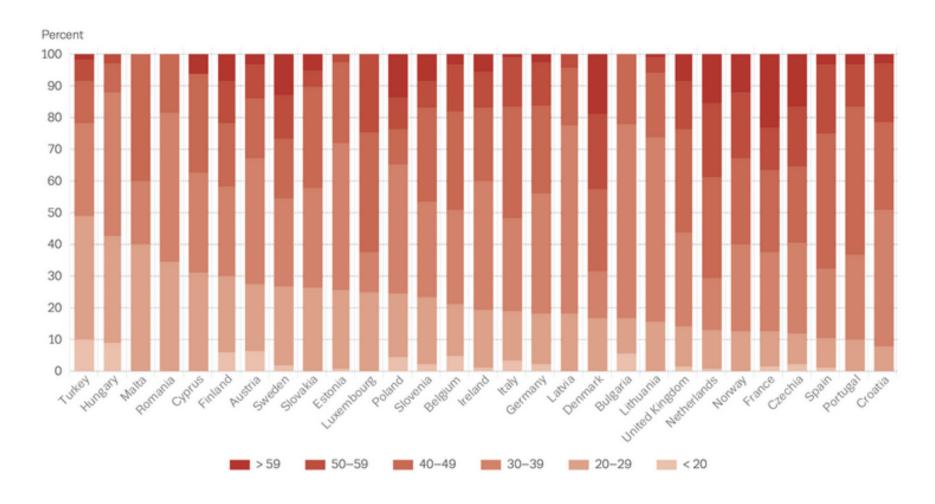


Number of drug-induced deaths reported in the European Union in 2012 and 2017, or most recent year, by age band



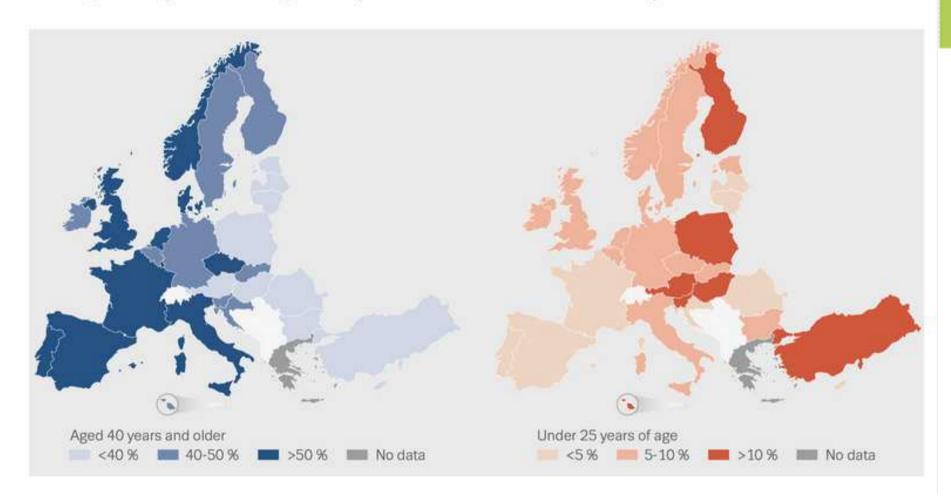


Distribution of drug-induced deaths reported in 2017, or most recent year, by 10-year age band



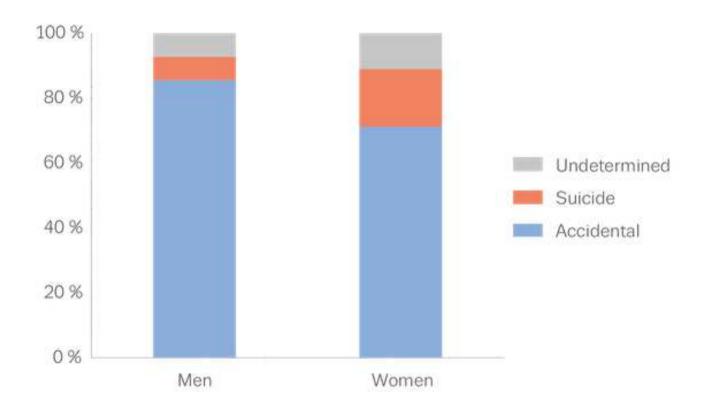


Proportion of drug-induced deaths among people aged 40 years or older in the European Union, Norway and Turkey, 2017 (or most recent data available)





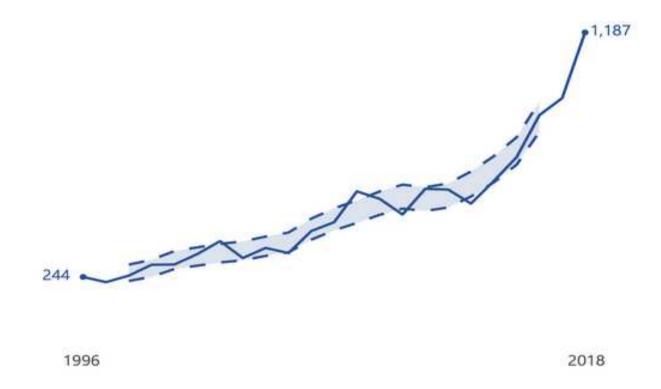
Proportion of drug-related deaths classified as accidental, suicidal or having an undetermined intent in men and women in the 21 countries with available information, 2017 (or most recent data available



Note: '21 countries reporting ICD breakdown based on General mortality register, for a total of 5531 cases (67.1%)'.



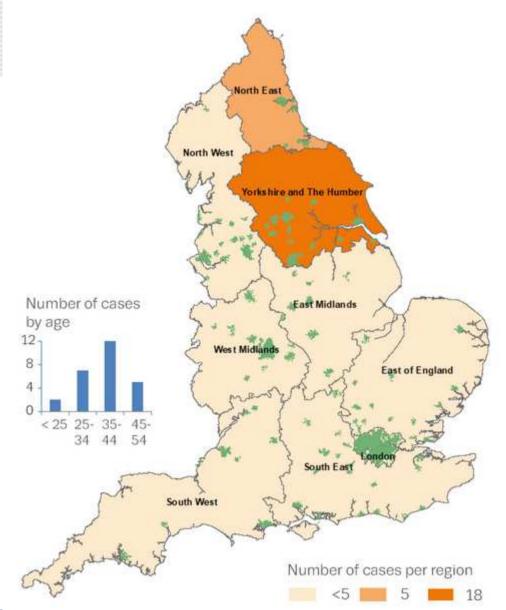
Trend in drug-related deaths, 1996-2018 (Scotland)



Source: Statistics of drug-related deaths in 2018 and earlier, broken down by cause of death, selected drugs reported, age and sex

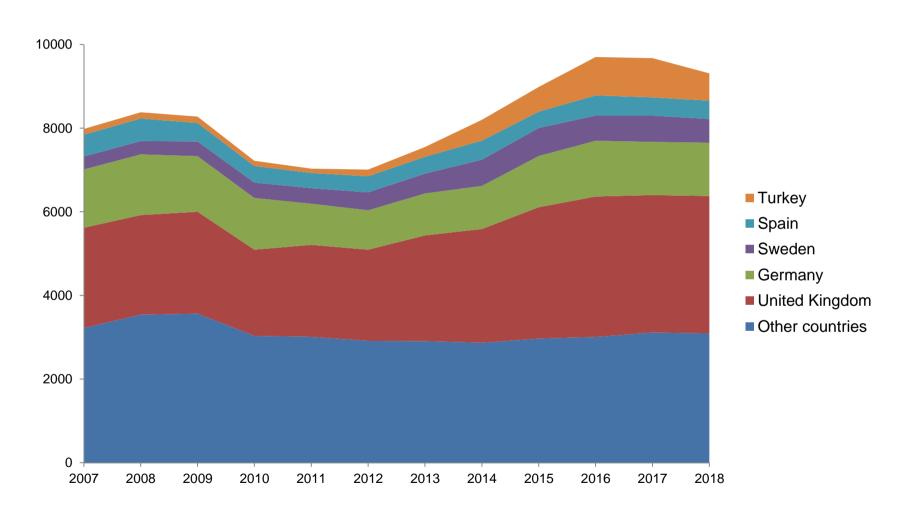


Fentanyl-related incidents in England (UK) in 2017: locations of the deaths



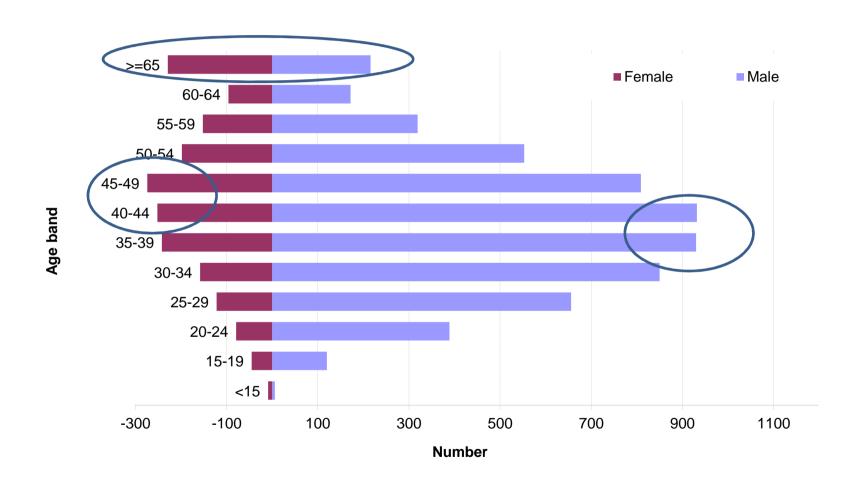


Drug-related deaths reported from 2007 to 2018 Provisional – with missing data – still in validation with national Focal Points and experts





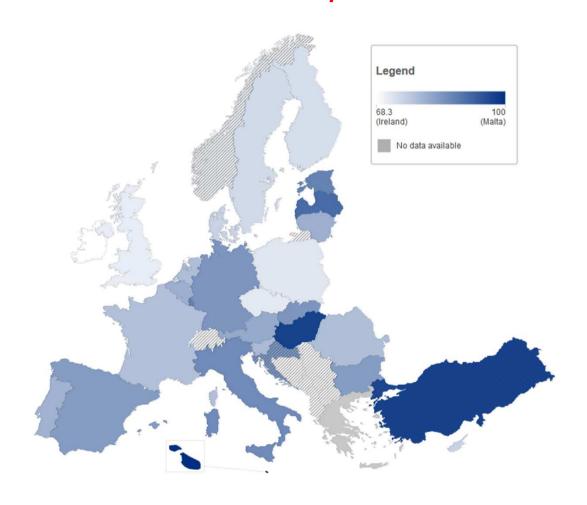
Age distribution – drug-related reported in 2019 Provisional – with missing data – still in validation with national Focal Points and experts





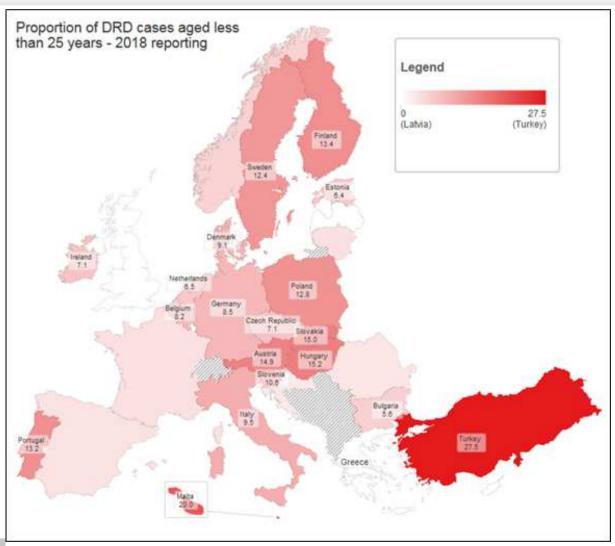
Proportion of males - 2019 reports

Provisional – with missing data – still in validation with national Focal Points and experts





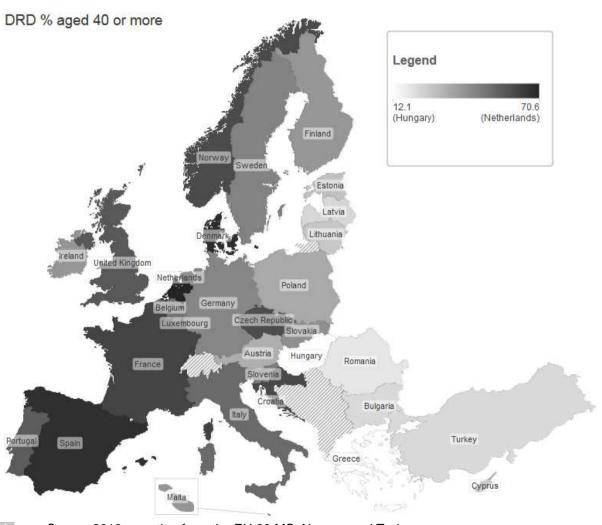
Drug-induced deaths and proportion of cases aged less than 25 years



More on young drug users and OD in next session (NPS, stimulants, cocaine)



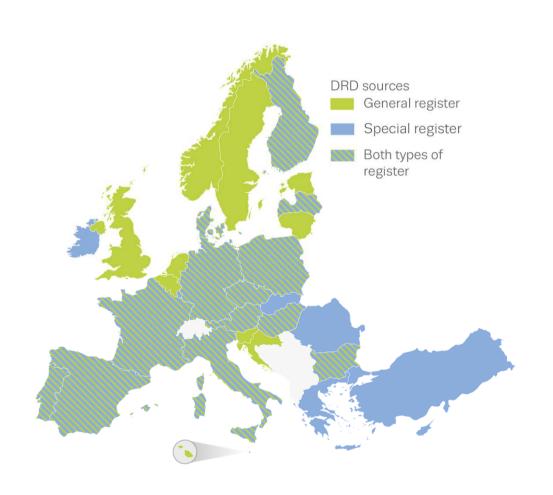
Ageing: proportion of DRD cases aged 40 years of more



More on ageing and their implications tomorrow



Sources used by the countries to report drug-related deaths to the EMCDDA



- All countries report DRD data every year
- Most countries rely on 2 sources, as recommended by EMCDDA
- GMR: needs institutional support ++
- Work is on-going in several countries to work with special registries



Conclusion - discussion

Progresses with our monitoring

- More data - more completeness, special registers set up

A range of challenges ahead

- Fentanyl and fentanyl analogues although positive developments are reported in some countries with a decrease in the number of deaths
- Ageing
- Prescription opioids BZD other medicines,
- NPS, cocaine, MDMA

- Preparedness?

- Need enhanced descriptive epidemiology time place persons
- Need better contextual and forensic data of drug-related deaths



Monitoring drug-induced deaths: resources on our web pages: methods, limitations, data, analysis





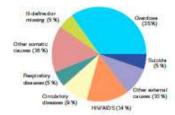


Monitoring mortality among drug users

DMCDCAPREES: Mertality arrang drug uswestin Supplet new and pld oball wurseful such is with

FIGURE 6

Main causes of death among the poolest cohort, where the cause of death is reported



NE Date for the widthin needing, the wing 2010 death

Causes of death

harmon of death was range but for 2.043 (71.90 of at



Prevalence, Consequences and Data Management Unit

Mortality among drug users: Guidelines for carrying out, analysing and reporting key figures

2011-12

EMCDDA standard protocol to collect data and report figures for the mortality component of the Key indicator 'Drug-Related Deaths (DRID) and mortality among drug users' by the Standard Table 18

EMCDDA CT.99.EP.07/CT.00.EP.13/ CT.10:EPI.003

October 2012

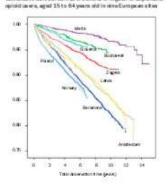
more liberty to be reported for spinalit deaths (Causen et al., 2009). Their alses are the repeat, as each death is desirable by only one cause. This approach may fail to account for the completity of the intel deaders and deathminishs of deaths.

Survival

Survival analysis provises are morphitms how the old of death accommunities over time (Figure 7). The object sin Armshedam, the colone, Lative, Notway and Philand allow the knewst are vivel nate, with up to one-health of the perticipants dying within the fine's 50 Silvania of Millow sign and now fifth within 12 to 13 years of follow sp. in contrast, the cohort ain. Buchaver, Malta, Stownia and Zagnob showed higher sarvival rates.

In these shubbles, the mornal by this was quite constraint over time, within focations, following the enrainment of participants in a study. This is in participalismed by a sea trianval level of risk, and by the ageing cohord, over the years. With regard to the effect of a cohord growing older on the shakof mornal by among the participant, as intents arranged institutes that the risk are code of with an term of causes menut to a tax this is known in the different age to hints, but more talkly due to sear affect causes increases with a ps.

ROURE 7 Cumulative survival curves in cohorts of regular or dependent



12/21



EMCDDA PAPERS

Mortality among drug users in Europe: new and old challenges for public health

Common Introduction (p. 2) | Methods and data sources (p. 3) | Key findings from recent mortality cohorts in Europe (p. 6) | Public health perspectives and implications (p. 13) | Conclusion (p. 15) | Giseary (p. 17) | References (p. 18)

Abstruct: More than 6 000 drug users die of overdose each year in the European Union, and most of these deaths occur among problem drug. users and involve opioids. In addition, many deaths related indirectly to drug use occur each year. To gain a clearer picture of the overall number of lives lost due to drug use in Europe, this paper builds on the results of an earlier work. that looked at all-cause mortality among problem drug users. By linking data on entrants to drug treatment programmes with information from death registries, mortality cohort studies can determine death rates from all causes within the study population. The study presents data from nine European countries, including seven not previously studied using EMCDDA methodology. Among over 31 000 participants (22 % female), covering 203 000 person-years of follow-up. 2 886 deaths were recorded, 18 % among females. Overall crude mortality rate per 1 000 person-years follow-up was 14.2, but varied

geographically from 3.5 to 22.7. Cause of death was reported in 71 % of all deaths, half of which was accounted for by extensic causes overdose (35 %), suicide (5 %) and other external causes (30 %). Somatic causes accounted for should 45 % of the known-cause deaths. HIV/AIDS (14 %), canulatory discuses (9 %), respiratory discuses (5 %) and other somatic causes (18 %). Risk of death among problem drug users was typically 30 or more times that among their peers in the general population. The analysis shows that the deaths of problem drug users are overwhelmingly premature and preventable.

Keywords drug-related death cahort study drug overdose opioid use

Recommended citation: European Monitoring Centre for Drugs and Drug Addition (2015), Ministly among drug users to Europe new and old challenges for public health, Publications Office of the European Union, Learninguig

1/21



Promoting best practices and responses for reducing drug related deaths





Frequently asked questions (FAQ): drug overdose deaths in Europe

Overdose situation Risk factors for overdose Foints of concern Methodology Resources

Introduction

Date of last update: 30 August 2019

This page provides an update on drug-related deaths in Europe, presenting and analysing the latest data on and trends in drug-induced deaths in the European Union, Norway and Turkey. It draws on contributions from specialists from these countries, as well as on information provided by European countries in the annual reporting exercise to the

The latest European Drug Report showed that over 8 200 deaths involving one or more illicit drugs were reported in 2017 in the European Union. This estimate exceeds 9 400 deaths when Norway and Turkey are included. Men account for four fifths of drug-induced deaths. Most of the deaths were premature, affecting people in their thirties and forties.

An update from the EMCDDA expert network, published in July 2019, also highlighted that opioids, often heroin, are involved in between 8 and 9 out of every 10 drug-induced deaths reported in Europe, although this is not true for all countries. Opioids used in substitution treatment can also be found in post-mortem analyses in some countries. Deaths related to medications, such as oxycodone and tramadol, are also reported. Deaths associated with fentanyl and its analogues are probably underestimated, and outbreaks of deaths related to these substances have been reported.

Aim and objectives

This page aims to raise awareness on the nature and scale of the drug overdose deaths problem in Europe. This topic does not receive sufficient attention, despite the high number of lives lost in Europe, the dramatic consequences for families and communities and the fact that all deaths are, in principle, preventable and avoidable.

This page provides an update on the current situation of drug overdose and highlights other analyses recently published in this field by the agency.

Finally, we are publishing this page to mark International Overdose Awareness Day on 31 August 2019, thereby contributing to the agency's broader public health initiatives.

What this page contains

This page contains up-to-date information on where we are with overdose death in Europe (who is dying, where and how this has been changing over time). It also summarise the common situations that increase the risk of overdose (risk factors for overdose) and highlights current main concerns. Finally, background information is given on the methodology, the sources of information and their limitations, together with references and links to resources.

Questions

Pick a question below to jump straight to its answer.

Pick a question below to jump straight to its answer.

Overdose situation

What is a drug-related death?

How many people die every year in Europe?

Are the numbers of drug-related deaths similar across different countries?

Is the drug-related deaths rate (deaths/population) similar across countries?

Are women and men equally affected? What are the trends in the gender distribution of deaths?

Are there differences between the genders across countries?

Who are the people most at risk?

How has the distribution of drug-related deaths among age groups changed in the last 5 years?

Is the age distribution of drug-related deaths similar across different countries?

Are there differences between men and women in the distribution of intentional and accidental drug-related deaths?

What substances are involved in drug-related deaths?

Where have numbers of drug-related deaths increased or decreased most over the last 10 years?

What are the common situations that increase the risk of overdose?

Scotland: almost 1 200 deaths in 2017

Deaths related to fentanyl and fentanyl analogues

Where do the data come from?

Which cases are included?

What sources of information are used in different countries?

What is the preferred source of data chosen by the countries to show the details of the cases in EMCDDA publications?

Are the data comparable among countries?

Are there cohort or longitudinal studies among drug users to measure the overall and the cause-specific mortality



Resources on responses to drug-related deaths



Introduction

Worldwide, overdose is the leading cause of avoidable death among people who inject drugs. It accounts for nearly half of all deaths among people who inject heroin, exceeding HIV and other disease-related deaths (UNODC, 2017).

More than 9 000 lives were reported to be lost to drug overdoses in Europe (28 EU Member States, Norway and Turkey) in 2017, the latest reporting year, and this is an underestimate. The number of drug-related deaths in Europe has been rising for 5 years (EMCDDA, 2019a). Reducing drug-related deaths therefore remains a major challenge for European public health policy.

The groups most likely to experience an overdose are people with an opioid dependency and those who inject them. It has been found that overdose deaths are more likely to occur in specific situations, for example the period shortly after prison release, hospital discharge or completing a course of residential detaxification or recovery treatment. Other risk factors for opioid overdose include using opioids in combination with other central nervous system depressants, such as alcohol or benzodiazepines, and using them unaccompanied. The type of opioid used also plays a role. In some countries (in particular the United States and Canada), overdose risks have substantially increased because of the circulation of fentanyl-laced drugs. The high potency of even small amounts of fentanyl, a synthetic opioid, in combination with its unknown concentration in drug mixtures, presents an elevated risk of overdose (see Spotlight: Fentanyl).

In recent years, several documents addressing the prevention of drug-related deaths have been issued by international organisations, and reducing premature mortality is a target under Sustainable Development Goal 3.

Table 1 presents an overview of the main documents and the key issues mentioned in each one.

Table 1: Overview of the main documents on drug-related deaths issued by the United Nations system since 2012

2012	Commission on Narcotic Drugs (CND) Resolution 55/7: Promoting measures to prevent drug overdose, in particular opioid overdose	'Encourages all Member States to include effective elements for the prevention and treatment of drug overdose, in particular opioid overdose, in national drug policies, where appropriate, and to share best practices and information on the prevention and treatment of drug overdose, in particular opioid overdose, including the use of opioid receptor antagonists such as naloxone'
2013	United Nations Office on Drugs and Crime (UNODC)/World Health Organization (WHO) Discussion Paper: Opicid overdose: preventing and reducing opicid overdose mortality	Contribution of the UNODC and WHO to improving responses by Member States to the increasing problem of opioid overdose deaths



Introduction

What is naloxone and why is it important?

Drug overdose continues to be the main cause of death among problem drug users. Heroin or other opioids — often consumed alongside other central nervous system depressants such as benzodiazepines and alcohol — are present in the majority of reported fatal overdoses (1). Overdose is common among opioid users: many of them have experienced a non-fatal overdose and most have witnessed one. Death from opioid overdose is caused primarily by respiratory depression leading to cardiac arrest.

Opioid overdose deaths can be prevented through timely administration of naloxone, a potent opioid antagonist drug that rapidly reverses the effects of opioid analgesics by binding to the opioid receptors in the central nervous system (see Spotlight: Naloxone). Because of its effectiveness, naloxone is used by emergency personnel worldwide (2).

Spotlight: Naloxone

Substance name: naloxone hydrochloride. Molecular formula: C19H21NO4

Naloxone is a competitive opioid antagonist that can rapidly reverse the respiratory depression induced by heroin and other opioids. It competes for space at the $\mu 2$ opioid receptors, temporarily removing opioids from the receptors and preventing opioids from re-attaching to the receptors. Therefore, it may be used as an antagonist drug to reverse opioid effects and opioid-related overdose. Naloxone is used worldwide in medical emergencies to reverse respiratory depression caused by opioid overdose. It has no effect on non-opioid drug overdoses, no dependency potential and a high safety margin. Discovered and patented at the beginning of the 1960s, the US Food and Drug Administration (FDA) approved the first naloxone solution for intravenous, intramuscular and subcutaneous injection in 1971. The World Health Organization (WHO) added naloxone to its model list of essential medicines in 1983, and injectable naloxone formulations have been off-patent since 1985. The use of naloxone by laypeople in emergency situations can be facilitated by formulations for nasal administration. France piloted a nasal naloxone spray in 2016 and later introduced it for distribution through low-threshold agencies. A nasal spray was approved in 2017 by the European Commission for EU-wide marketing and this medication has been introduced in several European countries since early 2018.

(*) The protocol for the EMCDOA key indicator 'drug-related deaths and mortality' defines deaths directly due to the use of illegal substances as 'drug-induced deaths'. These deaths generally occur shortly after the consumption of the substance and are commonly referred to as overdoses or poisonings.



(3) For further information on emergency natioxone in regular clinical practice, see Reed (2016) in EMCDDA insights No 20, pp. 29-36.



Overview

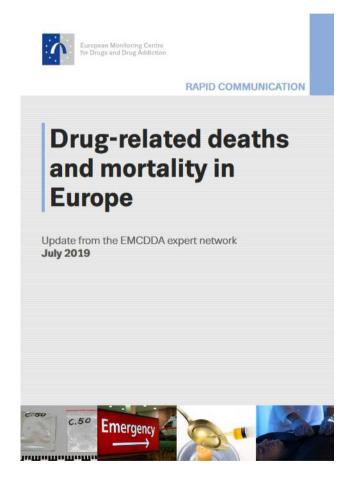


See also the latest publication from the EMCDDA expert network on Drug-related deaths and mortality in Europe

Contact <u>isabelle.giraudon@emcdda.europa.eu</u>

More information and updates on the annual expert meeting:

http://www.emcdda.europa.eu/meetings/2 019/drd





EMCDDA recent publications in the field

http://www.emcdda.europa.eu/publications-database?search api views fulltext=death



Topic overviews

Frequently asked questions (FAQ): drug overdose deaths in Europe (topic overview)

August 2019

These pages provide an update on drug-related deaths in Europe, presenting and analysing the latest data on and trends in drug-induced deaths in the European Union, Norway and Turkey. They draw on contributions from specialists from these countries, as well as on information provided by European...



Topic overviews

Prevention of drug-related deaths - topic overview

August 2019

This publication describes some of the factors that increase the risk of fatal and non-fatal overdoses and a number of interventions developed to prevent these events. Worldwide, overdose is the leading cause of avoidable death among people who inject drugs. It accounts for nearly half of all...



Rapid communication

Drug-related deaths and mortality in Europe: update from the EMCDDA expert network

July 2019

This publication provides an update on drug-related deaths in Europe, presenting and analysing the latest data and trends in drug-induced deaths and overall mortality among high-risk drug users in the European Union and beyond. It draws on contributions from specialists representing more than 40...



Technical reports

An analysis of post-mortem toxicology practices in drug-related death cases in Europe

April 2019

The objective of this report is to provide an updated analysis of the post-mortem toxicology practices of drug-related deaths (DRD) in Europe and to discuss the effect of these practices on the monitoring of DRDs. It is based on the results of a project that consisted of two components: a scoping...



Perspectives on Drugs (PODs)

Preventing overdose deaths in Europe (Perspectives on drugs)

October 2018

More than 9 000 lives were reported to be lost to drug overdoses in Europe (28 EU Member States, Turkey and Norway) in 2018, the latest reporting year, and this is an underestimate. Reducing drug-related deaths therefore remains a major challenge for public health policy. This analysis describes....



Poster

Drug-related deaths and mortality in Europe (poster)

Cotober 2017

High-risk drug use is one of the major causes of avoidable mortality in Europe, both directly through overdose and indirectly through drug-related diseases, accidents, violence and suicide. The primary purpose of the drug-related deaths indicator is to improve the understanding of the health impact...



Technical reports

EMCDDA assessment of drug-induced death data and contextual information in selected countries

■ June 2017

This report examines the triggers and dynamics of drug-related death in the seven EMCDDA Member States with the highest drug-related death (DRD) rates per population. The report explores whether between-country variations might be explained in part by differences in the number of drug users at risk...



Technical reports

An overview of the drug-related deaths (DRD) key indicator

March 2017

This document gives an overview of the drug-related deaths (DRD) indicator, one of five key epidemiological indicators used by the EMCDDA for the collection and interpretation of harmonised, good quality data at European level. It is written in an easy to understand manner and is intended for a wide...

