

Drug-related deaths and mortality in Europe

I. Giraudon, F. Mathis, L. Montanari, T. Seyler, J. Matias, D. Hedrich, J. Vicente

Introduction

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.

Drug-related deaths (DRD) is one of the five key epidemiological indicators (KI) of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). The key indicators provide methodological guidelines for data collection, analysis and reporting in five domains that address key aspects of the prevalence and consequences of drug use.

emcdda.europa.eu/activities/key-indicators

Objective

The primary purpose of the DRD indicator is to improve the understanding of the health impact of different forms of drug use and its correlates and determinants, in order to inform the development and evaluation of policies and interventions.

Data on the numbers, trends, characteristics and circumstances of deaths related to drug use can fulfil several complementary purposes, especially when interpreted alongside other drug indicators.

Methods

The information is collected in the 28 EU Member States, Norway and Turkey. The indicator has two components:

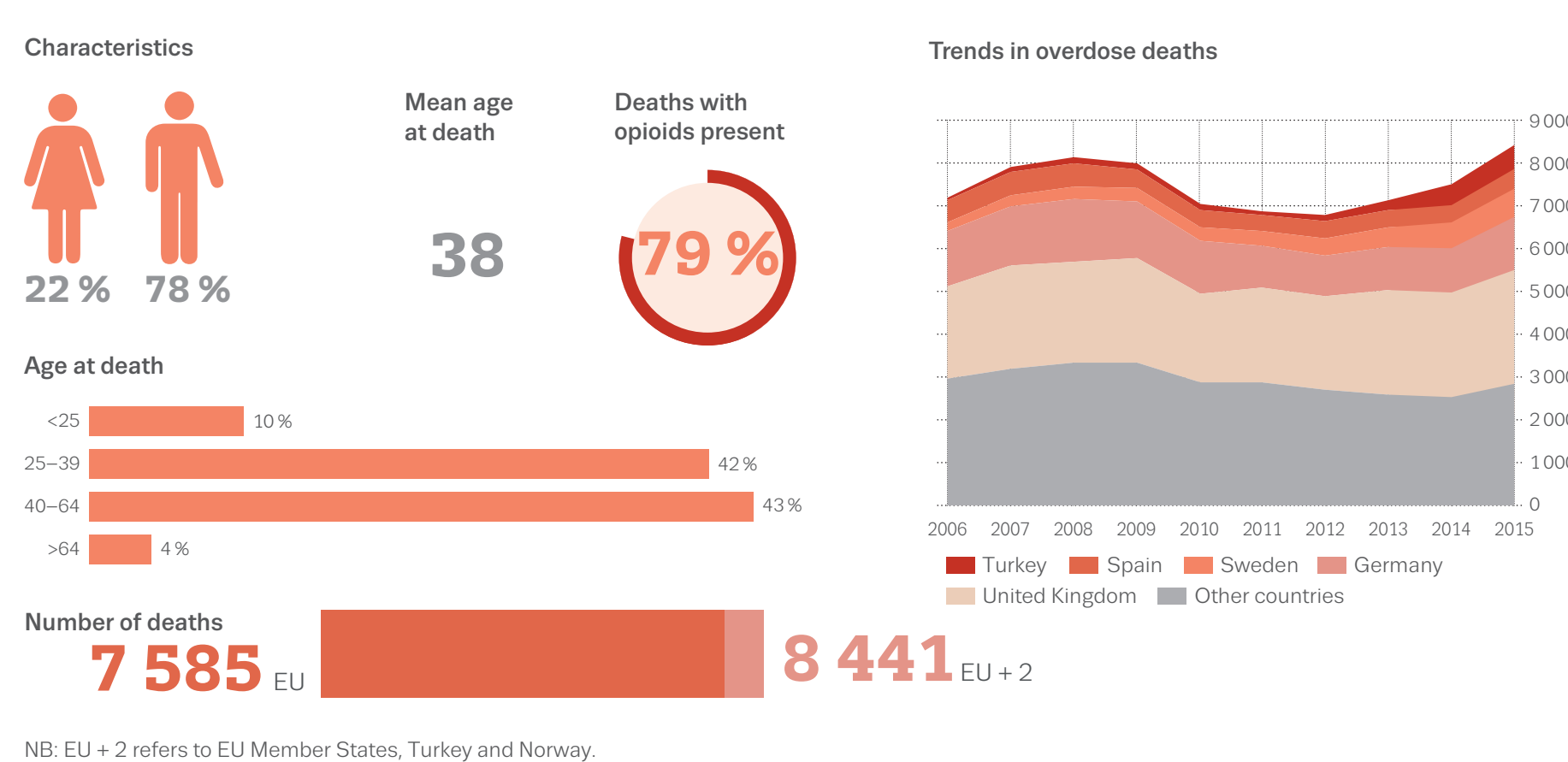
1) Deaths attributed directly to the use of illicit drugs (or 'overdoses', 'drug-induced deaths')

Case definition: 'Deaths happening shortly after consumption of one or more illicit psychoactive drugs, and directly related to this consumption, although they often may happen in combination with other substances such as alcohol or psychoactive medicines'.

Source: General mortality registers and special mortality registers (e.g. police, forensic institutes).

Cases are extracted following the WHO ICD codes for the underlying cause of death and criteria of the current DRD EMCDDA protocol (V3.2).

FIGURE 1 | Drug-induced deaths in Europe in 2015



2) Overall and cause-specific mortality among cohorts of drug users

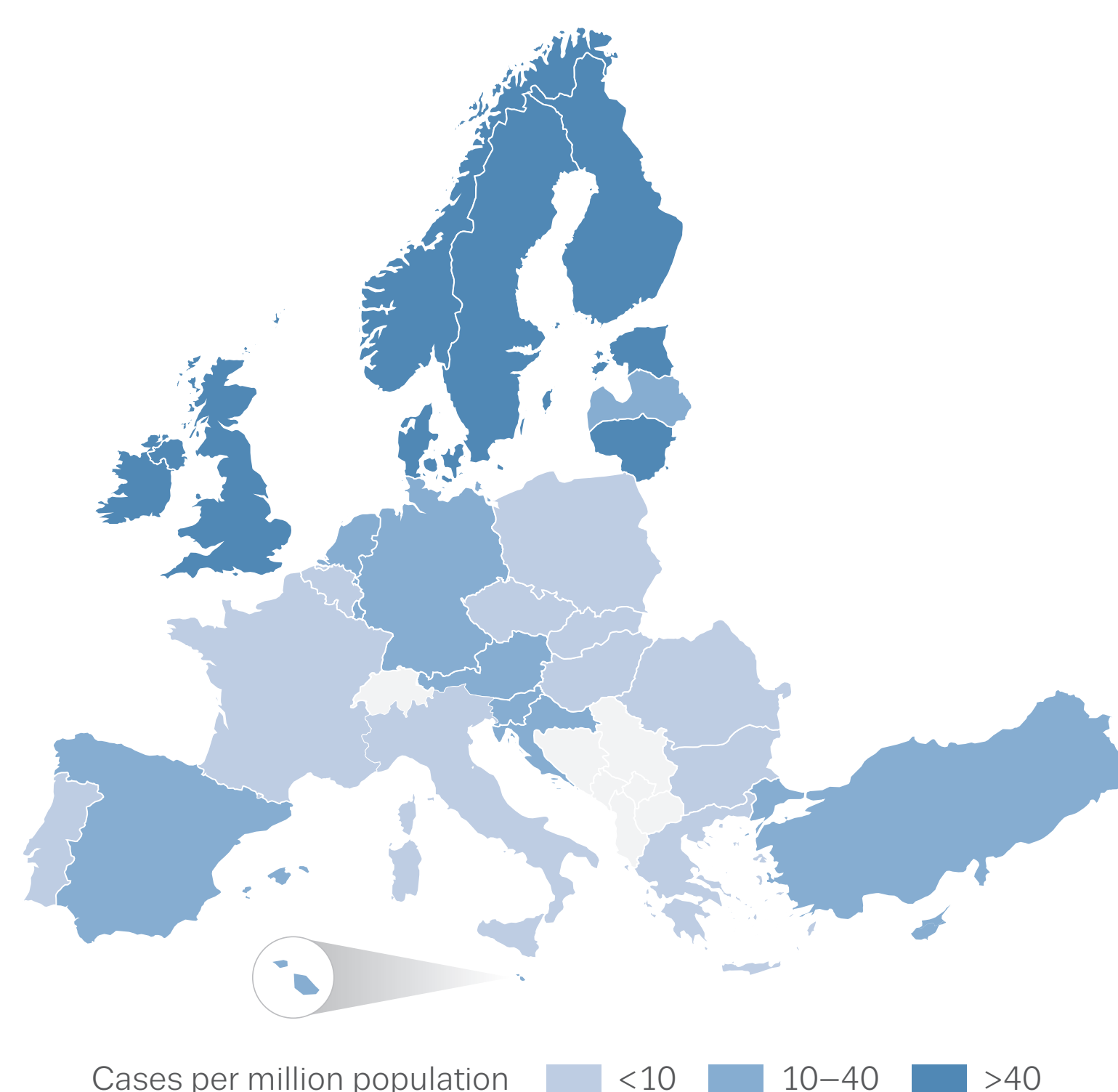
The recommended design (data linkage), settings (drug treatment), inclusion criteria (current user), and analysis are available in the EMCDDA guidelines.

A network of European experts and national focal points from each country is responsible for data collection and analysis. A system to assess the data quality of the indicators has been established in agreement with the national experts.

Results

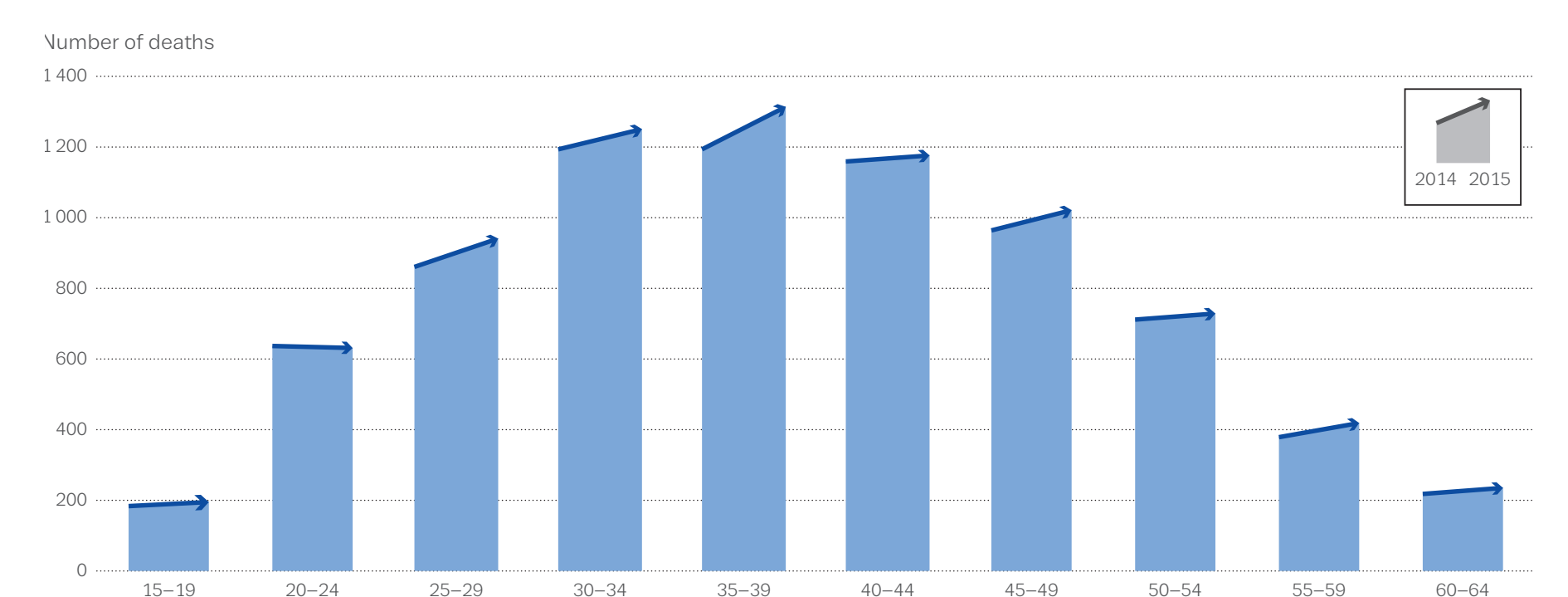
The European estimate for 2015 is a minimum of 8 441 deaths overall, representing a 6 % increase from the 2014 figure (Figure 1). The average mortality rate due to overdoses in Europe is estimated at 20.3 deaths per million population aged 15–64, but varies between countries (Figure 2). The rate among males (32.3 cases per million males) is almost four times that among females (8.4 cases per million females). The mean age at death is 38, with only 10 % of victims younger than 25 years and 4 % older than 64. Reflecting the ageing nature of Europe's opioid-

FIGURE 2 | Drug-induced mortality rates among adults (15–64), most recent data



using population, an aging trend is observed: the number of overdose deaths increased particularly among older age groups between 2007 and 2015. It has concerned almost all age groups though in the last year (Figure 3). Drug overdose continues to be the main cause of death among high-risk drug users. Heroin or its metabolites, often in combination with other opioids, other drugs and medicines, are present in the majority of fatal overdoses reported in Europe.

FIGURE 3 | Drug-induced deaths by age group in 2014 and in 2015



Limitations

Differences exist between countries in the availability and nature of post-mortem investigations and certification practices. The comparability of the national figures depends, among other factors, on the harmonisation of coding practices and on whether forensic information is used for death certification and coding. In addition, extractions from general mortality registers do not specify new psychoactive substances, and autopsies might not search for these substances. Caution is required when interpreting the EU total, for a number of reasons, including systematic under-reporting in some countries and registration delays.

Future perspectives

The DRD indicator aims to contribute to a good understanding of drug harms in Europe, in order to support policy-making. It is advisable to analyse its information in conjunction with that from other epidemiological indicators, (interventions and supply), and with qualitative information. More focus is now placed on improving availability of toxicological information and on polydrug use, including the implication of prescription medicine. Cohort studies need to explore further neglected causes of deaths including hepatitis but also HIV infection, suicide, cardio-vascular and pulmonary causes, and violence.

Acknowledgements: DRD national experts network