

Estimating the prevalence of high-risk opioid use in Europe

T. Seyler, E. Kalamara, A. Noor, J. Vicente

Introduction

The problem drug use (PDU) indicator is one of the five EMCDDA key epidemiological indicators, addressing key aspects of the prevalence and harms of drug use at the European level. National experts from the PDU network provide prevalence estimates of high-risk drug use by substance and the prevalence of people who inject drugs (PWID). High-risk opioid use (HROU) accounts for the greater part of the health and social burden associated with drug use. We present below the prevalence estimate of high-risk opioid use in Europe based on the most recent data collected until 2016.

emcdda.europa.eu/activities/key-indicators

Methods

Definitions

Opioids include heroin and diverted or illicitly-produced medicines – such as methadone, buprenorphine and fentanyl. A high-risk opioid user as is a person aged 15–64 years who used opioids, including opioid medicines, weekly or more frequently for at least six months of the past 12 months, not according to a medical prescription OR whose use of opioids led to a medical diagnosis of harmful use, dependence or opioid use disorder in the past 12 months according to current DSM or ICD criteria.

Study design at the country level

While general population surveys are reliable sources of information about cannabis use and light or infrequent use of other drugs, they imperfectly capture high-risk opioid users due to their relatively small numbers, their social marginalisation and the stigma associated with the drug. Indirect methods such as multiplier methods and capture–recapture provide an alternative to surveys. They estimate the total number of current high-risk opioid users in a given period and country based on the number of opioid users who appear in administrative data sources such as health registries (mortality registries, treatment databases, hospital admissions) and law enforcement agencies (arrests, probation, prison). While information on the frequency of use or a medical diagnosis is not always available at the database level, these registries are considered to offer the best proxies for high-risk use.

TABLE 1 | Indirect methods used in most recent national studies to estimate the prevalence of high-risk opioid use in Europe, 2009–15

Method	Frequency	%
Capture–recapture	7	35
Treatment multiplier	7	35
Combined method	3	15
Truncated Poisson	1	5
Mortality multiplier	1	5
Other	1	5
	20	100

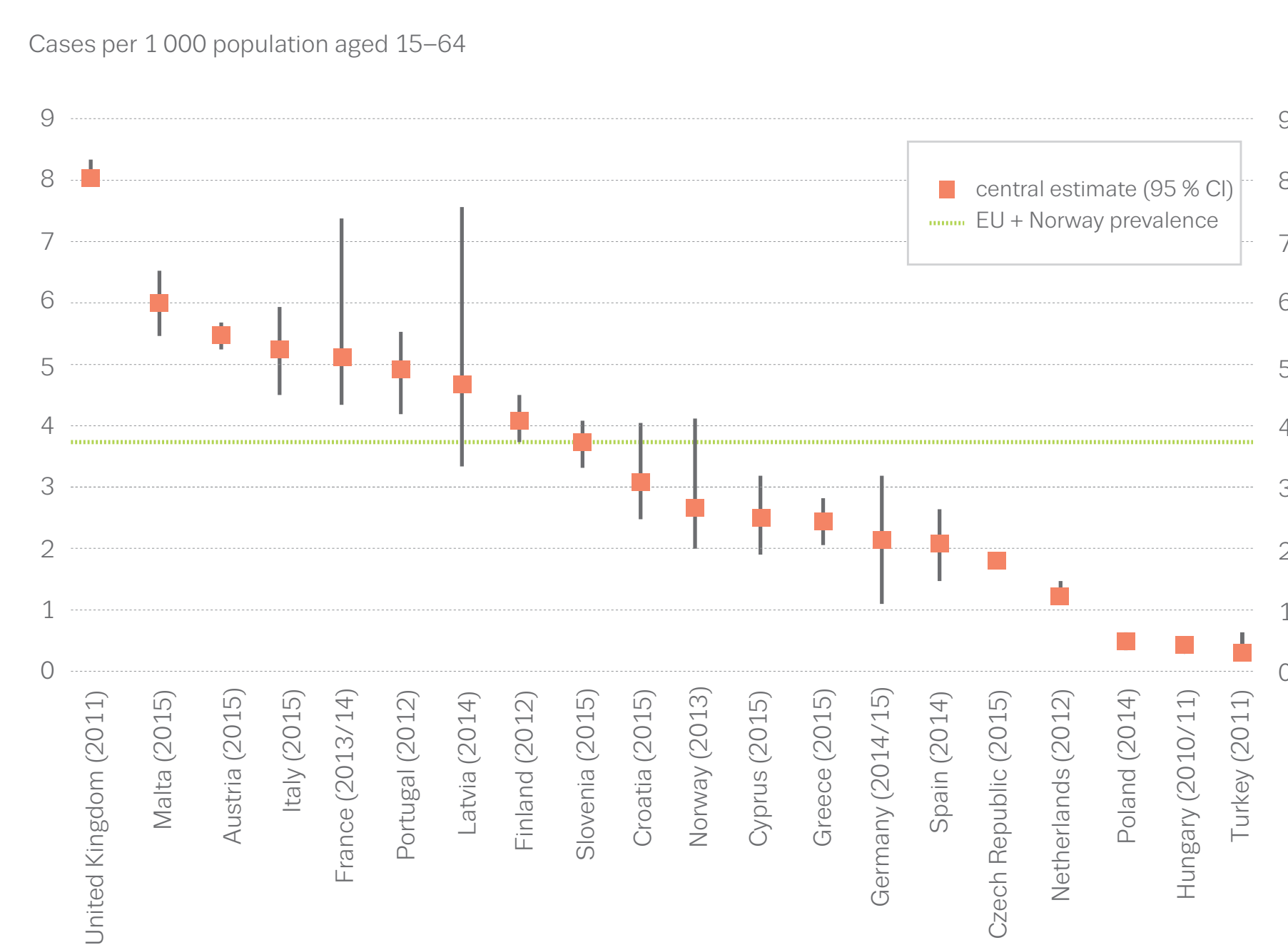
EU data pooling

Country-level prevalence estimates as well as information on the methods used (Table 1) were reported by national experts to the EMCDDA and are published in the online Statistical bulletin. The total for the EU and Norway was obtained by summing the most recent country-specific estimates provided by national focal points adjusted by Eurostat population. When no recent estimate was available, we imputed missing values by multiplying the total number of high-risk drug users by the proportion of patients treated for opioids, by using the prevalence of PWID (when the primary injected substances are opioids) or by using the EU average.

Results

Based on studies done between 2009 and 2015, the prevalence of HROU among adults (15–64 years) in 2015 was estimated at 0.38 % of the population of the EU and Norway, the equivalent of 1.3 million high-risk opioid users. At national level (Figure 1), prevalence estimates of HROU ranged from less than 1 (Poland, 2014, Hungary, 2011, and Turkey, 2011) to more than 8 cases per 1 000 population aged 15–64 years (United Kingdom, 2011). While heroin is the most commonly used opioid in Europe, there are exceptions with for instance fentanyl and

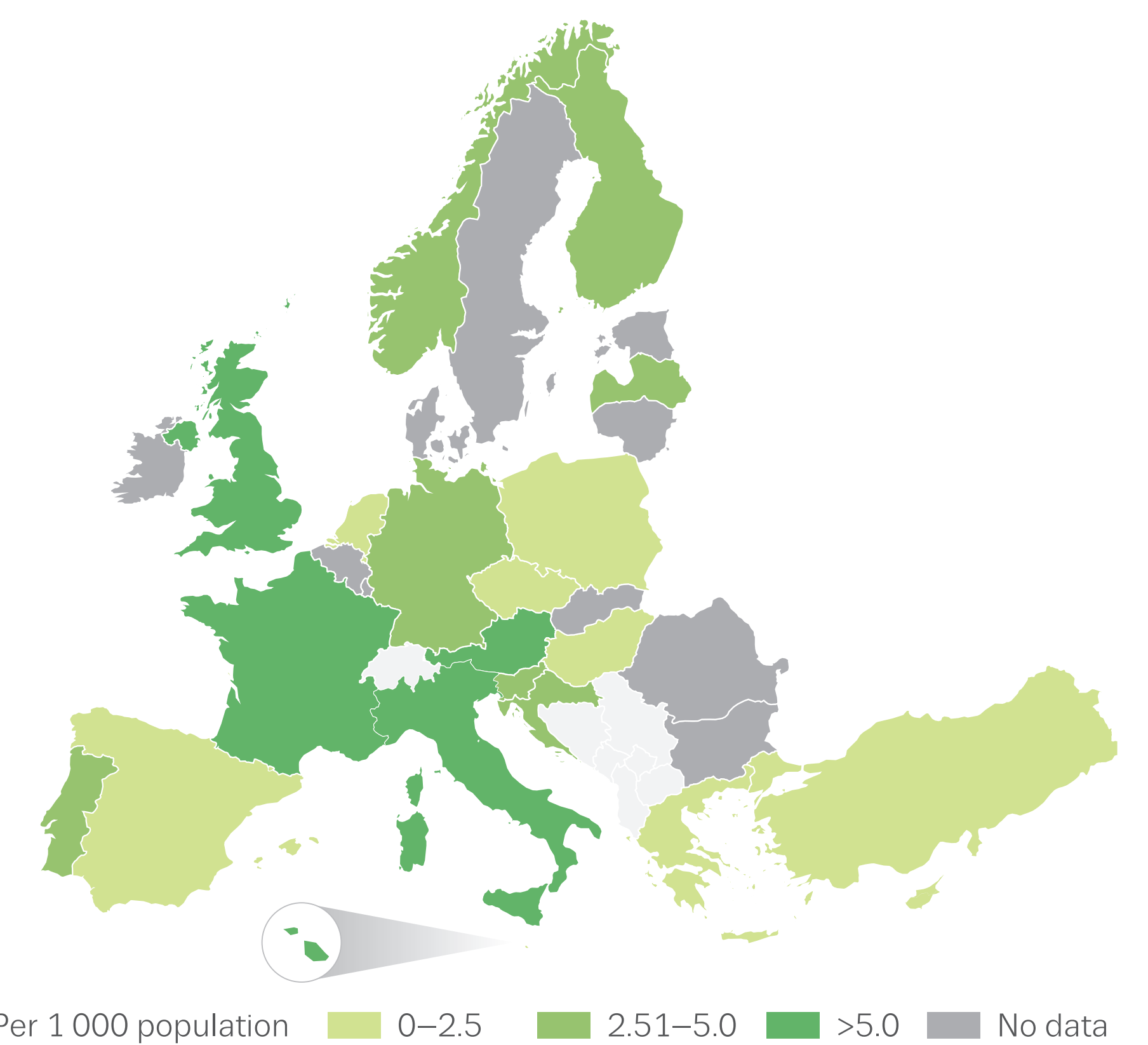
FIGURE 2 | Prevalence of high-risk opioid use



Source: FONTE, most recent data (2009–15). EU prevalence adjusted for EUROSTAT population data, 2015.

buprenorphine used by the majority of high-risk opioid users in Estonia and Finland, respectively. Five countries accounted for three-quarters (76 %) of the estimated high-risk opioid users in the EU (Germany, Spain, France, Italy, and the United Kingdom). Available trends since 2007 suggest a relatively stable population.

FIGURE 2 | Prevalence of high-risk opioid use per 1 000 population aged 15–64 by country



Source: FONTE, most recent data, 2009–15.

Limitations

Indirect statistical methods are based on assumptions (independence of data sources, homogenous and closed target populations) that are not always met and adjusted for. Comparability between countries should be considered carefully due to the different methods and data sources used.

Conclusions

This latest HROU prevalence estimate complements data obtained through surveys and treatment centres. While mostly based on treatment or police data, the estimate also includes problematic users not in contact with health or law enforcement agencies (the 'hidden population'). It therefore provides policymakers with an estimated size of the total population (1.3 million) in need of opioid-related treatment and harm reduction interventions. Used alongside other health and security indicators, HROU can contribute to the burden of disease estimates, to assess the coverage of interventions and to estimate the size of the retail market for illicit drugs.

Acknowledgements: PDU national experts network