The Experience of the Treatment Demand Indicator in Europe: A Common Monitoring Tool Across 30 Countries

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ABSTRACT. Objective: The article describes an epidemiological indicator called Treatment Demand Indicator (TDI). The TDI aims to provide professionals and researchers with a common European methodology for collecting and reporting core data on drug users in contact with treatment services. The article discusses the implementation of the TDI in the European countries and describes the main results, limitations, and future perspectives. **Method:** The TDI provides a common format for reporting data on clients entering treatment as a results of their drug use and related problems during each calendar year. Its technical protocol defines which clients should be reported at European level and represents the minimum common set of items each national monitoring system should be able to report to the European Monitoring Centre for Drugs and Drug Addiction. **Results:** In 2015, 29 European countries reported data on 467,811 clients entering drug treatment from 6,846 drug treatment units. Most clients were men in their 30s and had problems related to heroin or cannabis use; patterns of drug use differed geographically. Over the past decade, clients' profiles and drug use patterns changed from young heroin injectors seeking treatment to drug clients with diversified drug use patterns and profiles. **Conclusions:** The TDI is the largest drug dataset in Europe, and its data is increasingly used in European and national data analysis. The use of a common drug-treatment-monitoring tool across a group of countries provides a useful instrument for policymakers, professionals, and managers working in the drug treatment field. (*J. Stud. Alcohol Drugs, Supplement 18*, 139–151, 2019)

RÉSUMÉ. Objectif : Cet article décrit l'indicateur épidémiologique appelé « Indicateur de la demande de traitement (TDI) ». L'TDI a pour but de fournir aux professionnels et aux chercheurs une méthodologie commune à l'ensemble des pays européens pour collecter et rapporter les principales données à propos des consommateurs de drogues fréquentant les traitements. Cet article traite de l'implantation du TDI dans les pays européens et décrit les principaux résultats, les limites et ainsi que les perspectives futures. **Méthode :** L'TDI propose un format commun de transmission des données pour chaque année civile à propos des clients qui entrent en traitement pour usage de substances et les problèmes qui y sont associés. Son protocole spécifique détermine quels clients devraient être signalés au niveau européen et décrit les points communs minimaux que chaque système de suivi national devrait être en mesure de transmettre à l'Observatoire européen des drogues et des toxicomanies (OEDT). **Résultats :** En 2015, 29 pays européens rapportaient des données à propos de 467 811 clients entrant en traitement pour leur consommation de drogues dans 6 846 centres de traitement en toxicomanie. La plupart des clients sont des hommes dans la trentaine et vivent des problèmes liés à leur consommation d'héroïne ou de cannabis; les habitudes de consommation varient selon la géographie. Durant la dernière décennie, le profil des clients et leurs habitudes de consommation ont changé, allant des jeunes injecteurs d'héroïne à la recherche de traitement à des personnes présentant des profils diversifiés d'utilisation de substance. **Conclusion :** L'TDI est le plus large ensemble de données en Europe et celui-ci est de plus en plus utilisé dans les analyses de données européennes et nationales. L'utilisation d'un outil de suivi commun des traitements en toxicomanie par un ensemble de pays offre un instrument utile pour les décideurs, les professionnels et les gestionnaires qui travaillent dans le domaine des traitements en toxicomanie.

RESUMEN. Objetivo: El artículo describe el indicador epidemiológico denominado 'Indicador demanda de tratamiento'. El TDI tiene como objetivo proporcionar a los profesionales y los investigadores una metodología europea común para la recogida y presentación de datos clave sobre los usuarios de drogas en contacto con los servicios de tratamiento. El documento analiza la implementación del TDI en los países europeos y describe los principales resultados, limitaciones y perspectivas futuras. **Método:** El TDI proporciona un formato común para informar los datos de los clientes que ingresan al tratamiento debido a su consumo de drogas y los problemas relacionados durante cada año (desde 1 Enero hasta 31 Diciembre). Su protocolo técnico define cuales clientes deben notificarse a nivel europeo y representa el conjunto común mínimo de elementos que cada sistema nacional de supervisión debe poder informar al Observatorio Europeo de Drogas y Toxicomanías (OEDT). **Resultados:** En 2015, 29 países europeos enviaron datos sobre 467 811 clientes que ingresaron al tratamiento por uso de drogas en 6846 unidades de tratamiento. La mayoría de los clientes eran hombres de entre 30 y tenían problemas relacionados con consumo de heroína o cannabis; los patrones de consumo de drogas difieren geográficamente entre los países Europeos. En la última década, los perfiles de los clientes y los patrones de consumo de drogas han cambiado desde los jóvenes que se inyectan heroína que buscan tratamiento hasta los consumidores de drogas con patrones y perfiles de consumo de drogas diversificados. **Conclusiones:** El TDI es la mayor base de datos en el campo de las drogas en Europa y sus datos se utilizan cada vez más en análisis europeas y nacionales. El uso de una herramienta común de monitoreo de tratamiento de drogas en un grupo de países proporciona un instrumento útil para los legisladores, profesionales y gerentes que trabajan en el campo del tratamiento de drogas.

A SUBSTANTIAL PART OF DRUG USE is hidden from the observation of classical epidemiological methods (e.g., surveys). Information on the number and characteristics of people entering treatment for their drug use provides

insight into general trends in problem drug use and offers a perspective on the organization and uptake of treatment.

The Treatment Demand Indicator (TDI), one of the five key epidemiological indicators¹ of the European Monitor-

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¹The other four indicators are (a) extent and pattern of drug use in the general population, (b) prevalence of problem drug use, (c) drug-related deaths and mortality of drug users, and (d) drug-related infectious diseases.

ing Centre for Drugs and Drug Addiction (EMCDDA),² has been implemented to obtain comparable and reliable information on the number, characteristics, and substance use patterns of drug users entering drug treatment in the European countries. In many European countries, treatment data are the primary source of information about high-risk drug use at the national level, and the client population captured by the TDI constitutes a substantial sample of all people with drug problems in the community. The analysis of changes in the profile and in the number of drug users reported through the TDI helps to identify trends in problem drug use. In combination with information on coverage of the TDI within the national treatment system (EMCDDA, 2013), the collected data also offer a perspective on availability, accessibility, and organization of treatment services, which can be useful in the evaluation and planning of drug services.

Information collected through the TDI in 30 countries is largely used to inform the yearly *European Drug Report* (EMCDDA, 2017a), the *Statistical Bulletin* (EMCDDA, 2017c), and other EMCDDA thematic publications.

The history of the TDI starts more than 20 years ago, when a first harmonized data collection form was defined at the European Union (EU) level. The first core data set was based on the experience of existing national data collection systems in drug treatment in Europe. In 1994, the Pompidou Group at the Council of Europe,³ the first European inter-governmental body for collaboration on drug issues, defined a common protocol for collecting data on people entering drug treatment at the city level (Hartnoll, 1994; Stauffacher & Kokkevi, 1999). Initially, the project covered six cities (Amsterdam, Dublin, Hamburg, London, Paris, and Stockholm) and then developed into a pan-European “multicity” project. The “Pompidou Group protocol” was implemented in several western and southern European countries and from 1993 onward also in central and eastern European cities under a cooperation program between the Pompidou Group and the United Nations Office on Drugs and Crime (UNODC). A revision of the Pompidou Group protocol in the late 1990s led to the publication of the EMCDDA/Pompidou Group TDI protocol 2.0 (Simon et al., 2000).

In 1995, the EMCDDA assumed responsibility for collecting treatment demand data in the member states of the EU. The EMCDDA is a decentralized agency of the European Commission, established in 1993 and operational since 1995 (Council of the European Union, 2006), with the aim to provide objective, reliable, and comparable information on drugs and drug addiction in the countries of the EU. The organization’s role is to provide the EU and its member states with a factual overview of European drug problems and a common information framework to support the drugs debate.

To achieve its mission, the EMCDDA coordinates and relies on a network of 30 national monitoring centers, the Reitox national focal points. Reitox, “Réseau Européen d’Information sur les Drogues et les Toxicomanies,” is the European information network on drugs and drug addiction (Griffiths et al., 2012). This network is made up of formal national drug observatories in each of the 30 countries reporting to the EMCDDA (the 28 EU member states, the candidate country Turkey, and Norway) and provides annually to the EMCDDA the most up-to-date standardized epidemiological and qualitative information on the drug situation, interventions, and policies at the member-state level. The EMCDDA publishes on a wide range of drug-related topics, across epidemiology, interventions, laws, and policies (Griffiths et al., 2012; Mounteney et al., 2016).

In 2001, the EMCDDA Management Board (EMCDDA, 2001) and the Council of the European Union (Council of the European Union, 2001) formally adopted the TDI as an EU-wide standard, together with four other key epidemiological indicators. The formal endorsement of the indicators supported their implementation at the national level.

In 2012, the TDI protocol was revised, with the publication of the TDI Protocol version 3.0 (EMCDDA, 2012). The revised TDI protocol reflected changes in patterns of drug use and client profiles (i.e., diversified patterns and clients), in the drug treatment systems (i.e., expansion and diversification of treatment), and in methodological and technical developments in data monitoring (i.e., development of an information technology system).

The TDI protocol 3.0 is currently available online in 12 languages,⁴ and it is used as a data collection tool in drug treatment in the 28 countries of the EU,⁵ Norway, and Turkey, as well as in some countries of the Balkan region, the Mediterranean area, North and West Africa, and South America.

This article provides an overview of the TDI and its implementation in the European countries in the last 10 years by describing the latest available data and discussing the methodological aspects, limitations, and future perspectives for the development of the indicator.

Method

The TDI provides a uniform structure for reporting data on clients seeking care in drug treatment facilities at, or close to, their point of entry into treatment for problems

²See later in the text for a description of the EMCDDA.

³<http://www.coe.int/T/dg3/pompidou>

⁴<http://www.emcdda.europa.eu/publications/manuals/tdi-protocol-3.0>

⁵On January 1, 2018, the 28 European member states were as follows: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

with one or more drugs. It is designed to satisfy monitoring requirements at the European level. In addition, it is envisaged that each country or member state supplements the common core data set with additional variables to inform local or national data collection needs.

Data are collected on two groups of clients: those entering drug treatment for the first time during the reporting year (“clients entering treatment”) and, among them, those entering treatment for the first time in their life (“first-time treatment entrants”). The recommended period for data collection indicated in the protocol is from January 1 to December 31.

To ensure comparability, specific indications are provided for inclusion and exclusion of clients in the TDI register according to their treatment episode (start/end of treatment and treatment episode) (EMCDDA, 2012). For each presenting client, a core data set of 24 items is reported anonymously concerning sociodemographic characteristics of the client, patterns of drug use, and use of services (Table 1).

TDI data are collected in the centers that provide specialized drug treatment, which is defined as “any activity which directly targets people who have problems with their drug use and aims to achieve defined objectives with regard to the alleviation and/or elimination of these problems, provided by experienced or accredited professionals, in the framework of recognized medical, psychological or social assistance practice.” Five types of treatment centers can be included in the data collection: (a) outpatient treatment centers, (b) inpatient treatment centers, (c) low-threshold agencies, (d) treatment units in prison, and (e) general practices.

The TDI collects data by the primary drug, which is defined as the drug that causes the client the most problems at the start of treatment. This is usually based on the request made by the clients and/or on the diagnosis made by a therapist, commonly using standard clinical instruments (e.g., the *International Classification of Diseases, 10th Revision; Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*; and Addiction Severity Index). Up to four additional drugs that create problems for the clients can be recorded in addition to the primary drugs, and they are defined as secondary drugs.⁶

The broad drug categories included in the TDI protocol are opioids, cocaine, stimulants other than cocaine, cannabis, hypnotics and sedatives, hallucinogens, volatile substances/inhalants, and other substances (not included in the categories above). Each category is broken down into specific substances. According to the EMCDDA regulation (Council of the European Union, 2006), only illicit drugs and licit drugs in the context of polydrug use are subject to EMCDDA monitoring. Therefore, the TDI does not collect data on tobacco, and it collects data on alcohol only if it is used together with an illicit drug.

⁶In the current data reporting tool (FONTE) through which the countries report aggregated data to the EMCDDA, only two secondary drugs can be indicated.

Data are collected at the level of the treatment centers, collated at the national level, and transmitted to the Reitox national focal points (Griffiths et al., 2012), which send aggregated data to the EMCDDA's online database Fonte once per year. This process can result in a 1.5-year delay between the year when data are collected at the local level and the year when the data are reported to the EMCDDA. After submission, data go through a process of quality assurance lasting several months. During this period, data are checked for several parameters (e.g., internal and temporal consistencies, internal and external validities, thorough cross-checking with other data and information sources), and a regular dialogue with experts from the 30 EU countries allows the EMCDDA to ensure data quality.

A number of ethical issues should be considered when TDI data are collected. The main ethical principles described in the TDI protocol concern the purpose of data collection and data protection. Data should be collected with the purpose of obtaining basic information on the epidemiological situation and of supporting evidence-based health interventions. For every level of information (e.g., clinical, regional, national, and institutional), national and international rules of confidentiality and data protection must be considered, as well as the rights of clients, staff, and treatment centers (EMCDDA, 2012).

Results

Data 2015

In 2015 (or the most recent year available before 2015), 29⁷ European countries (EU-29) reported data on 467,811 clients entering drug treatment from 6,846 drug treatment units; 37% of these were first-time treatment entrants ($N = 172,303$). Five large EU countries (France, Germany, Italy, Spain, and the United Kingdom)—where 53% of the European adult population live—reported more than 70% of drug clients entering treatment in Europe (Table 2).

Eighty percent of first-time treatment entrants were male, with a mean age of 33 years. The male-to-female ratios were 2:1 in the Czech Republic, Finland, and Norway; 19:1 in Turkey; and 8:1 in Cyprus. The mean age at treatment entry ranged from 23 years in Croatia to 37 years in Italy. Thirty-seven percent of the clients were unemployed (compared with 9.4% in the general population); 7% were homeless and/or without a stable accommoda-

⁷Countries included were Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, United Kingdom, Norway, and Turkey. Sweden was not included in data reported because most definitions were not in line with the EMCDDA definitions. Norway is not included in the analysis on first-time treatment entrants because data were not available.

TABLE 1. Items list of the Treatment Demand Indicator protocol 3.0^a

No.	Item	Answers
1	Treatment center type	<ul style="list-style-type: none"> • Outpatient treatment centers/programs • Inpatient treatment centers/programs • Treatment units in prison/programs • General practitioners/programs • Low threshold agencies/programs • Other (please specify which type of treatment) • Not known
2	Year of treatment	Year_____
3	Ever previously treated (First in the year)	<ul style="list-style-type: none"> • Never previously treated • Previously treated • Not known
4	Source of referral	<ul style="list-style-type: none"> • Court/probation/police • General practitioner • Other drug treatment center • Other health, medical, or social service • Educational services • Self-referral, referral from family, friends, etc./ no other agency/ institution involved • Others • Not known
5	Sex	<ul style="list-style-type: none"> • Male • Female • Not known
6	Age at treatment start	Years_____ Not known
7	Living status (with whom)	<ul style="list-style-type: none"> • Alone • With the family of origin (parents, etc.) • With partner/children • With friends or other people (with no family relation) • In detention • In institutions/shelters (not detention) • Others • Not known
8	Drug clients with children	<ul style="list-style-type: none"> • Not having children • Having children • Not living with children • Living with children • Not known
9	Living status (where)	<ul style="list-style-type: none"> • Stable accommodation • Unstable accommodation and/or homeless • In detention • Others • Not known
10	Labor status	<ul style="list-style-type: none"> • Occasionally employed • Regularly employed • Student • Unemployed/discouraged • Receiving social benefits/pensioners/house-makers/disabled • Others • Not known
11	Highest educational level completed	<ul style="list-style-type: none"> • Never went to school/never completed primary school (= ISCED 0) • Primary level of education (= ISCED 1) • Secondary level of education (= ISCED 2 and ISCED 3) • Higher education (= ISCED 4 to 6) • Not known
12	Primary drug	Opioids (total) Heroin Methadone misused Buprenorphine misused Fentanyl illicit/misused Other opioids (please specify)

Table continued

TABLE 1. *Continued*

No.	Item	Answers
12	Primary drug (<i>continued</i>)	Cocaine (total) Powder cocaine HCl Crack cocaine Other (please specify) Stimulants other than cocaine (total) Amphetamines Methamphetamines MDMA and derivatives Synthetic cathinones Other stimulants (please specify) Hypnotics and sedatives (total) Barbiturates misused Benzodiazepines misused GHB/GBL Other hypnotics and sedatives misused (please specify) Hallucinogens (total) LSD Ketamine Other hallucinogens (please specify) Volatile inhalants Cannabis (total) Other substances (total) (please specify which substances) Not known
13	Usual route of administration	<ul style="list-style-type: none"> • Inject • Smoke/inhale • Eat/drink • Sniff • Others • Not known
14	Frequency of use of primary drug	<ul style="list-style-type: none"> • Daily • 4–6 days per week • 2–3 days per week • Once a week or less • Not used in the last 30 days • Not known
15	Age at first use of primary drug	Years _____ Not known
16	Secondary drug	Opioids (total) Heroin Methadone misused Buprenorphine misused Fentanyl illicit/misused Other opioids (please specify) Cocaine (total) Powder cocaine HCl Crack cocaine Other (please specify) Stimulants other than cocaine (total) Amphetamines Methamphetamines MDMA and derivatives Synthetic cathinones Other stimulants (please specify) Hypnotics and sedatives (total) Barbiturates misused Benzodiazepines misused GHB/GBL Other hypnotics and sedatives misused (please specify) Hallucinogens (total) LSD Ketamine Other hallucinogens (please specify) Volatile inhalants Cannabis (total) Alcohol as secondary drug (total) Other substances (total) (please specify which substances) Not known

Table continued

TABLE 1. *Continued*

No.	Item	Answers
17	Polydrug use problem	Yes No Not known
18	Opioid substitution treatment	Never been in opioid substitution treatment Ever been in opioid substitution treatment Not known
19	Age at opioid substitution treatment (in years)	Age at first opioid substitution treatment: / ____ / Not known
20	Ever injected or currently injecting any drug	Never injected Ever injected Injected, but not in the last 12 months Injected in the last 12 months, but not in the last 30 days Currently injecting (in the last 30 days) Don't want to answer Not known
21	Age at first injection	Years _____ Not known
22	HIV testing	Never tested Ever tested Tested, but not in the last 12 months Tested in the last 12 months Don't want to answer Not known
23	HCV testing	Never tested Ever tested Tested, but not in the last 12 months Tested in the last 12 months Don't want to answer Not known
24	Needle/syringe sharing	Never shared a needle or syringe Ever shared a needle or syringe Shared, but not in the last 12 months Shared in the last 12 months, but not in the last 30 days Currently shared (in the last 30 days) Don't want to answer Not known

Notes: ISCED = International Standard Classification of Education; HCl = hydrochloric acid; MDMA = 3,4-methylenedioxymethamphetamine (Ecstasy); GHB/GBL = γ -hydroxybutyric acid/ γ -butyrolactone ("club drugs"); LSD = lysergic acid diethylamide; HCV = hepatitis C virus. "See page 43 of the Treatment Demand Indicator protocol (The European Monitoring Centre for Drugs and Drug Addiction, 2012).

tion (compared with 5% in "severe housing conditions" in the general population); and 32% of drug clients had not advanced beyond primary education (compared with 10% having lower secondary education among young people in the general population⁸) (EMCDDA, 2017a).

Looking at patterns of drug use among clients enter-

ing treatment in Europe in 2015, the largest group of drug clients entered treatment for problems related to primary use of opioids, mainly heroin (38%), followed by those entering treatment for primary use of cannabis (31%), and those entering treatment for primary use of cocaine (13%), stimulants other than cocaine (mainly amphetamines and methamphetamines) (8%), and other substances (10%), including hypnotics and sedatives, hallucinogens, and volatile substances/inhalants (Table 3).

The proportion of clients entering drug treatment for problems related to the primary use of opioids ranged from 4% in Hungary to 93% in Estonia; that of primary cocaine clients varied from 0% in Finland to 37% in Spain; primary cannabis clients ranged from 3% in Bulgaria to 71% in Denmark; and the proportion of clients entering treatment for stimulants other than cocaine ranged from 1% or less

⁸(a) The unemployment rate was 4.4% in Norway and 10.3% in Turkey. See: http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics.

(b) Housing conditions statistics can be found at http://ec.europa.eu/eurostat/statistics-explained/index.php/People_in_the_EU_%E2%80%93_statistics_on_housing_conditions#Severe_housing_deprivation.

(c) The educational level can be found at http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Early_leaver_from_education_and_training.

TABLE 2. First-time treatment entrants and clients entering treatment and social characteristics in 2015 or most recent year available

Country	Year of tx	New clients entering tx <i>n</i>	All clients entering tx <i>n</i>	Male-to-female ratio	<i>M</i> age	New clients entering drug treatment					
						Unemployed		Primary level of education or less		Living in a unstable accommodation and/or homeless	
						<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Austria	2015	1,536	4,400	3	30.4	487	40%	84	6%	91	6%
Belgium	2015	4,415	12,794	3	33.0	962	23%	1,525	38%	284	6%
Bulgaria	2014	560	2,131	4	31.4	100	39%	101	40%	22	9%
Croatia	2015	848	7,537	5	23.0	277	33%	305	37%	84	10%
Cyprus	2015	436	798	8	29.3	144	34%	154	38%	27	6%
Czech Republic	2014	4,743	10,108	2	29.5	2,660	64%	2,108	54%	1,310	33%
Denmark	2014	2,756	6,275	3	29.4	1,223	46%	329	13%	111	4%
Estonia	2015	63	282	3	33.1	34	55%	35	57%	3	5%
Finland	2015	277	656	2	30.0	145	53%	153	58%	19	7%
France	2015	17,789	62,213	4	32.0	3,113	18%	623	4%	1,813	11%
Germany	2015	23,054	72,102	4	31.5	8,591	35%	6,214	26%	1,298	5%
Greece	2015	1,586	4,087	6	34.5	796	51%	375	25%	168	11%
Hungary	2015	2,956	4,308	7	29.0	597	20%	1,370	48%	74	3%
Ireland	2015	3,742	9,489	3	30.6	2,099	57%	559	20%	279	8%
Italy	2015	20,731	47,213	7	36.7	5,598	38%	1,282	8%	924	6%
Latvia	2015	391	751	5	30.6	2	2%	34	10%	2	1%
Lithuania	2015	395	2,549	4	33.3	79	20%	128	32%	28	7%
Luxembourg	2015	24	290	3	35.6	7	29%	12	75%	6	25%
Malta	2015	276	1,829	4	25.4	62	26%	47	21%	4	2%
Netherlands	2015	6,529	10,987	4	33.0	1,548	36%	1,313	35%	96	2%
Norway	2015	—	5,908	2	34.6	—	—	—	—	—	—
Poland	2015	4,296	9,013	5	26.2	1,224	29%	2,126	50%	327	8%
Portugal	2015	2,024	3,389	6	36.2	806	43%	731	39%	157	9%
Romania	2015	2,076	3,240	6	28.0	610	30%	174	9%	144	7%
Slovakia	2015	1,289	2,720	5	29.5	684	53%	524	42%	187	15%
Slovenia	2015	88	316	3	33.9	33	38%	42	48%	16	18%
Spain	2014	23,656	47,308	5	34.2	11,306	49%	13,313	57%	421	2%
Turkey	2015	5,377	10,884	19	26.8	2,888	54%	4,022	75%	1	0%
United Kingdom	2015	40,390	124,234	3	32.9	9,236	31%	3,472	11%	—	—
Total	2015	172,303	467,811	4	32.8	55,311	37%	37,683	32%	11,368	7%

Notes: Tx = treatment. Data for Sweden are excluded due to comparability problems with the Treatment Demand Indicator (TDI) protocol 3.0 definitions. No data on first-time treatment entrants are available for Norway. Data from Bulgaria, Czech Republic, Denmark, and Spain refer to 2014 because that was the last year of available data. Data were not available on level of education for 58,580 first-time treatment entrants, labor status for 23,821 clients, and living conditions for 28,193 clients. Data on level of education are not available in the United Kingdom. Data for Sweden are excluded due to comparability problems with the TDI protocol 3.0 definitions. No data on first-time treatment entrants are available for Norway. Data from Bulgaria, the Czech Republic, Denmark, and Spain refer to 2014 because that was the last year of available data.

in France, Greece, Italy, Luxembourg, Malta, Portugal, and Romania to 70% in the Czech Republic.

New psychoactive substances (NPSs)⁹ (Council of the European Union, 2005) are included in the group of “other substances.” These are mainly synthetic cannabinoids and cathinones and represent the main reasons for entering treatment for about 3,000 clients in Europe, or less than 1% of clients entering treatment in 2015, and are mostly reported by Poland, the Netherlands, and the United Kingdom.

When looking at first-time treatment entrants, 45% entered treatment for problems related to primary cannabis use; fewer entered for using opioids (20%), cocaine (15%), and

stimulants other than cocaine (10%). The remaining clients entered treatment for primary use of other substances (Table 4). In Europe, injecting drug use is most commonly associated with opioids, although in a few countries, the injection of stimulants such as amphetamines or cocaine is a problem. Nineteen percent of clients entering treatment in 2015 injected their primary drug (EMCDDA, 2017a).

Trends

To provide a description of treatment incidence and recent trends in drug treatment demand, the analysis of changes over time in the primary drug of use among treatment clients has focused on first-time treatment entrants.

Over the past two decades, data collected from people entering drug treatment have revealed substantial changes in the prevailing patterns of drug use. Sufficient data to de-

⁹NPSs are defined as new narcotic drugs or new psychotropic drugs in pure form or in a preparation that have not been listed under the 1961 United Nations Single Convention on Narcotic Drugs (Schedule I, II, or IV) or under the 1971 United Nations Convention on Psychotropic Substances (Schedule I, II, III, or IV).

TABLE 3. Number of clients entering drug treatment by country and primary drug in 2015 or most recent year available with known primary drug

Country	Year of tx	Opioids	Cocaine	Stimulants other than cocaine	Hypnotics and sedatives	Hallucinogens	Volatile inhalants	Cannabis	Other substances	Total
Austria	2015	2,016	258	197	96	4	1	1,063	5	3,640
Belgium	2015	3,234	2,207	1,289	1,077	37	7	3,737	110	11,698
Bulgaria	2014	1,530	29	87	49	0	4	58	47	1,804
Croatia	2015	6,124	104	143	111	3	1	967	84	7,537
Cyprus	2015	205	80	39	2	1	—	469	1	797
Czech Republic	2014	1,720	27	7,038	64	7	16	1,195	23	10,090
Denmark	2014	613	260	326	64	5	7	3,338	92	4,705
Estonia	2015	263	2	6	—	—	1	10	—	282
Finland	2015	339	0	119	55	3	1	136	3	656
France	2015	13,744	3,013	549	987	307	68	29,621	752	49,041
Germany	2015	28,669	5,209	14,646	1,805	136	51	34,108	2,632	87,256
Greece	2015	2,836	269	31	115	9	2	789	10	4,061
Hungary	2015	156	99	717	154	225	15	2,420	522	4,308
Ireland	2015	4,515	996	147	1,011	9	15	2,681	115	9,489
Italy	2015	25,144	11,935	193	216	43	2	9,225	455	47,213
Latvia	2015	402	9	132	12	4	15	175	2	751
Lithuania	2015	2,268	15	70	47	5	9	89	46	2,549
Luxembourg	2015	163	55	1	2	—	1	67	1	290
Malta	2015	1,296	281	25	1	2	3	158	5	1,771
Netherlands	2015	1,262	2,675	929	729	17	7	5,202	166	10,987
Norway	2015	1,005	83	823	679	36	2	1,609	1,671	5,908
Poland	2015	1,465	189	3,264	354	21	30	2,525	1,165	9,013
Portugal	2015	1,357	331	13	25	1	—	934	95	2,756
Romania	2015	1,057	19	30	92	15	33	1,272	722	3,240
Slovakia	2015	602	19	1,137	70	3	56	616	—	2,503
Slovenia	2015	236	13	6	14	0	0	45	2	316
Spain	2014	12,032	17,864	860	1,192	82	20	16,478	398	48,926
Turkey	2015	8,073	198	308	65	33	177	653	1,377	10,884
United Kingdom	2015	59,763	16,673	5,844	3,457	341	232	31,129	2,855	120,294
Total	2015	182,089	62,912	38,963	12,545	1,349	776	150,769	13,356	462,765

Note: Tx = treatment.

scribe trends at the European level are only available since 2006 and only for 23 countries with available data for the period of analysis.

As contextual information, between 2006 and 2015 the number of countries reporting TDI data rose from 27 to 29, and the number of drug treatment clients reporting TDI data increased from 396,349 to 467,811¹⁰ (Figure 1) (EMCDDA, 2017a).

Of first-time treatment entrants between 2006 and 2015, the number of opioid clients decreased from 56,000 (37%) to 33,000 (21%). Between 2014 and 2015, 10 countries reported an increase in the number of opioid (mainly heroin) clients,¹¹ and six countries¹² reported an increase in the proportion of heroin clients out of all first-time treatment entrants. Among opioid clients, those using heroin more than halved from a peak of 59,000 (37% of first-time treatment

entrants) in 2007 to 23,000 (19%) in 2013 before increasing again to 29,000 (21%) in 2015 (EMCDDA, 2017a).

At the same time, in most European countries the number of first-time treatment entrants for primary cannabis use has continuously increased from about 43,000 (28% of all new drug clients) in 2006 to about 75,000 (47% of all new drug clients) in 2015.

Increases have also been reported in the number of first-time treatment entrants for primary amphetamines and methamphetamines use, from approximately 9,000 (6% of all new drug clients) in 2006 to approximately 15,000 (9% of all new drug clients) in 2015, although these were mainly driven by increases in Germany and, to a lesser extent, in the Czech Republic.

Trends in cocaine treatment demands, concentrated in a few countries, show that the overall number of first-time treatment entrants for cocaine declined from a peak of about 35,000 (23%) in 2006 to about 26,000 (17%) in 2015 (Figure 2).

Drug users consuming other substances have recently appeared in drug treatment data in some European countries, such as users of opioids other than heroin (e.g., methadone or buprenorphine misused) or other types of opioid medi-

¹⁰For the following countries, last available data refer to 2014: Bulgaria, Czech Republic, Denmark, Hungary, and Spain.

¹¹France, Germany, Italy, Latvia, Malta, the Netherlands, Romania, Slovakia, Turkey, and the United Kingdom.

¹²France, Germany, Latvia, the Netherlands, Romania, and Slovakia.

TABLE 4. Number of first-time drug treatment entrants by country and primary drug in 2015 or most recent year available (% out of all first-time treatment entrants) with known primary drug

Country	Year of tx	Opioids	Cocaine	Stimulants other than cocaine	Hypnotics and sedatives	Hallucinogens	Volatile inhalants	Cannabis	Other substances	Total
Austria	2015	351	125	89	25	3	0	711	3	1,307
Belgium	2015	411	756	392	314	19	3	2,065	41	4,001
Bulgaria	2014	207	21	53	5	0	1	27	7	321
Croatia	2015	176	24	30	41	1	0	526	50	848
Cyprus	2015	50	36	17	1	1	—	330	—	435
Czech Republic	2014	333	12	3,553	31	6	7	776	10	4,728
Denmark	2014	124	134	151	18	4	4	1,783	39	2,257
Estonia	2015	55	—	2	—	—	1	5	—	63
Finland	2015	106	0	51	16	3	1	99	1	277
France	2015	2,378	963	191	234	77	13	11,855	115	15,826
Germany	2015	3,552	1,494	5,134	538	38	14	15,168	701	26,639
Greece	2015	834	141	12	38	6	2	539	4	1,576
Hungary	2015	46	75	510	54	151	8	1,854	258	2,956
Ireland	2015	971	513	86	399	8	6	1,693	66	3,742
Italy	2015	8,040	6,296	116	111	23	—	5,810	335	20,731
Latvia	2015	128	7	90	8	4	13	139	2	391
Lithuania	2015	261	7	31	17	4	4	47	24	395
Luxembourg	2015	6	4	—	—	—	—	14	—	24
Malta	2015	66	91	5	—	—	—	67	1	230
Netherlands	2015	402	1,357	579	427	14	6	3,625	119	6,529
Poland	2015	208	83	1,613	134	9	15	1,558	676	4,296
Portugal	2015	458	239	11	19	1	—	806	52	1,586
Romania	2015	360	18	24	18	12	18	1,137	489	2,076
Slovakia	2015	179	9	541	19	1	27	430	—	1,206
Slovenia	2015	37	8	6	2	0	0	34	1	88
Spain	2014	2,486	8,234	542	790	49	11	11,386	158	23,656
Turkey	2015	3,627	79	213	37	25	83	416	897	5,377
United Kingdom	2015	8,595	6,830	2,755	1,511	160	133	18,345	1,307	39,636
Total	2015	34,447	27,556	16,797	4,807	619	370	81,245	5,356	171,197

Notes: Cocaine includes powder cocaine, crack cocaine, and “other.” Data for Norway are for clients entering specialized treatment and are not fully in line with the Treatment Demand Indicator (TDI) protocol 3.0. Data for Sweden are excluded due to comparability problems with the TDI protocol 3.0 definitions. No data on first-time treatment entrants are available for Norway, so data on clients entering drug treatment were included. Data from Bulgaria, the Czech Republic, Denmark, and Spain refer to 2014 because that was the last year of available data. Tx = treatment.

cines (e.g., tramadol, oxycodone) and some types of NPSs, such as synthetic cannabinoids and cathinones. Between 2006 and 2015, a decline from 28% to 19% of first-time treatment entrants with injection as the main route of administration was reported (EMCDDA, 2017a).

Discussion

According to TDI data, the typical European client entering drug treatment is a man in his 30s, often unemployed, and with unstable living conditions and a low level of education. Among opioid clients, many re-enter drug treatment after one or more previous treatment episodes (70% of opioid clients have been treated before) (EMCDDA, 2017c), and the mean age has increased by 4 years between 2006 and 2015, indicating the presence of an aging cohort of drug users (Johnston et al., 2017). A history of injecting drug use and poor health, unstable living conditions, and tobacco and alcohol use makes these users susceptible to a range of chronic health and social problems that may accelerate their

physical aging and have considerable implications for treatment and social support services (EMCDDA, 2017a).

Women entering treatment make up around one fifth of all entrants to drug treatment in Europe. High male-to-female ratios are reported in the southern European countries and lower ratios in the northern European countries. Women have specific needs that have to be addressed because they are likely to experience stigma and economic disadvantage, have less social support, come from families with substance use problems and have a substance-using partner, have children who may play a central role in their drug use and recovery, have experienced sexual and physical assault and abuse, and have co-occurring mental disorders (EMCDDA, 2017b).

The social profile of clients entering treatment in European countries shows that clients are more socially disadvantaged than the general population,¹³ providing indications

¹³The unemployment rate was 4.4% in Norway and 10.3% in Turkey. See: http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics. Housing conditions statistics can be found at <http://ec.europa.eu/eurostat/statistics-explained/index.php/>

FIGURE 1. Number of data reported through the Treatment Demand Indicator (TDI) from 2006 to 2015: first-time treatment entrants and treatment entrants by year and reporting units. *Notes:* Only countries with at least 9 years of data over the last 10 years were included in the graph. Missing data were interpolated by assigning for the respective country the value for most recent year available. Data reported for 21 countries: Austria, Bulgaria, Croatia, Cyprus, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Malta, Romania, the Netherlands, Slovakia, Slovenia, Spain, Turkey, and United Kingdom. Excluded countries are Belgium, Denmark, Estonia, Lithuania, Luxembourg, Norway, Poland, Portugal, and Sweden. Czech Republic, Malta, and Spain did not report data in 2015; therefore, 2014 data have been used for 2015. Malta did not report data for 2007; therefore, 2006 data have been used for 2007. United Kingdom did not report data for 2012; therefore, 2011 data have been used for 2012.

for prevention and for addressing social risk factors for drug-related problems.

Concerning drug use patterns, the predominance of primary heroin users entering drug treatment at the beginning of this century in Europe is now replaced by a more diversified treatment client population and by a major increase in demands for cannabis treatment in the last years. An analysis of long-term trends in first heroin treatment demand from 2000 until 2009 showed that the trend peaked in 2007 and then significantly decreased until 2009; the decreasing started earlier in the western European countries and later in the countries of the eastern part of Europe (Barrio et al., 2013). Factors that could have played a role in the rise of cannabis treatment demands are increases in the prevalence of can-

nabis use in some countries, in particular intensive cannabis use (Sánchez-Niubò et al., 2013), treatment availability targeting cannabis use, cannabis market factors (potency and cannabis availability), and changing treatment referral practices (Montanari, 2017).

Drug injection has also substantially decreased in the last 10–15 years. An analysis of TDI data from 2001 until 2011 indicates a decline in injecting drug behavior and its incidence among people admitted to first drug treatment in the 28 EU member states, Norway, and Turkey (Sarasa et al., 2015).

Country differences in patterns of drug use and in client profiles should be considered when describing the European treatment demand data. Clients entering treatment for the use of non-cocaine stimulants are mainly concentrated in the Czech Republic and Slovakia (methamphetamines), and in Bulgaria, Finland, Germany, Hungary, Latvia, and Poland (amphetamines) (Montanari et al., 2013). The use of co-

FIGURE 2. Trends in percentage of first-time treatment entrants by year and by primary drug 2006–2015. *Notes:* Only countries with at least 9 years of data over the last 10 years were included in the graph. Missing data were interpolated by assigning for the respective country the value for most recent year available. Czech Republic, Malta, and Spain did not report data in 2015; therefore, 2014 data have been used for 2015. Malta did not report data for 2007; therefore, 2006 data have been used for 2007. United Kingdom did not report data for 2012; therefore, 2011 data have been used for 2012. Excluded countries are Belgium, Denmark, Estonia, Lithuania, Luxembourg, Norway, Poland, Portugal, and Sweden.

caine among those demanding treatment is mainly reported in Italy, the Netherlands, Spain, and the United Kingdom (Espelt, 2015); the United Kingdom is the country reporting the most crack cocaine treatment demands in Europe (EMCDDA, 2017c). Furthermore, in Finland, the majority of drug clients seek treatment for problems related to misuse of buprenorphine (Aalto et al., 2007) and, in Estonia, for problematic use of illicit fentanyl (Ojanperä et al., 2008).

Country differences reflect variations in cultural and social factors, extent of drug use and drug use problems in the country, different availability and organization of national treatment programs, drug policies, referral practices, and other possible factors.

Finally, NPSs may pose challenges for users and drug treatment services, but only few persons are reported to enter treatment for the use of NPSs as a primary drug, reflecting low prevalence levels of these substances in the general population, lack of available services, and underreporting.

Limitations

When describing and interpreting data collected through the TDI in 30 countries across Europe, data limitations should be considered (EMCDDA, 2016; Mounteney et al., 2016). First, TDI data only represent a part of the drug treatment system, and its level of representativeness may differ

by country. Information on the national treatment system and the coverage of the TDI within it are essential prerequisites to understand the context of TDI data collection in each country and how the data coming through the TDI reporting system mirror the actual overall uptake of treatment services in the country. Currently, the data coverage of specialized outpatient and inpatient treatment facilities in most countries is reasonable, whereas for other treatment providers (e.g., general practitioners or low-threshold agencies) the coverage remains low.

Second, national differences in operational definitions limit data comparability. Data are collected according to the same TDI protocol in all reporting countries, based on the same 24 items; however, some differences between countries and within countries in the way data are collected remain. This is particularly the case in countries with a federal organization that gives large autonomy to individual provinces or regions. To interpret the reported data, it is necessary to have a clear understanding of national and subnational details in data collection.

Third, trends should be interpreted with caution, as fluctuations in data reporting, including in the number and type of units reporting data and the number of clients reported, may be influential. Specific analysis of heroin and cannabis trends has been conducted to isolate those factors, but ad hoc analysis is required to better understand the reporting bias.

A fourth limitation is the double counting of individuals. According to the TDI protocol, single individuals are recorded, and not episodes; however, it may happen that a person is registered more than once in a database, which results in an overestimation of the total number of persons entering treatment in a given year. Reasons for double counting include lack of communication between treatment centers and absence of a unique system to allow for cross-checking. Although several techniques exist (Origer, 1999) and substantial progress has been made in recent years, double counting of cases can only partly be excluded.

A fifth limitation of the indicator is the restricted range of substances included in data collection. As the mandate of the EMCDDA is limited to illicit drugs, the TDI does not collect information on tobacco, and it collects information on alcohol only if it is reported as a secondary drug for entering treatment. Other forms of addiction, such as gambling, are also not included in the TDI.

Furthermore, the TDI only collects information on the client at treatment entrance, and no information is available on the other phases of the treatment process, including treatment exit and outcome. An additional module of the TDI (TDI Prevalence), aiming at collecting data on the number and profile of people who are in continuous treatment (not only entering), was implemented in seven countries in 2015,¹⁴ with possible expansion in the future.

The last data quality issue is the way data are transmitted from the national to the European level. Treatment monitoring at the EU level is based on the transfer of aggregated data from national sources, which limits the possibilities of the EMCDDA both in terms of quality control and analysis.

To address these issues and improve data quality, a system of data quality assurance has been established. This includes the process of data validation conducted every year, as well as the regular dialogue with the TDI experts nominated in every country. In addition, a detailed system of data quality assessment is conducted every 3 years to scrutinize the data provided by each country for specific criteria of scientific quality and process of TDI implementation at the national level.

Conclusions

Since its implementation, the TDI has become the largest drug-related data set in Europe, and it is used in various analyses of the drug situation and trends. The use of a common data collection tool across countries represents a powerful instrument for policymakers at the European level and allows drug professionals to compare their national situation in drug treatment and drug problems with other countries in order to improve their national responses. Data collected in

30 countries through the TDI remain the main information source on the extent and patterns of drug problems and sociodemographics of individuals experiencing drug problems and in contact with treatment services in the EU member states, Norway, and Turkey.

The success of the TDI in monitoring the drug situation in Europe over the last 20 years is the fruit of a collaborative effort between the EMCDDA and its network of national experts. Further efforts will be required for the TDI to reflect and adapt to fast-paced changes in the drug markets (e.g., NPSs) and a greater diversification of health care systems (e.g., increased importance of e-health).

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References

- Aalto, M., Halme, J., Visapää, J.-P., & Salaspuro, M. (2007). Buprenorphine misuse in Finland. *Substance Use & Misuse*, 42, 1027–1028. doi:10.1080/10826080701434857
- Barrio, G., Montanari, L., Bravo, M. J., Guarita, B., de la Fuente, L., Pulido, J., & Vicente, J. (2013). Trends of heroin use and heroin injection epidemics in Europe: Findings from the EMCDDA treatment demand indicator (TDI). *Journal of Substance Abuse Treatment*, 45, 19–30. doi:10.1016/j.jsat.2012.11.002
- Council of the European Union. (2001). *Council Resolution on the implementation of the five key epidemiological indicators on drugs, developed by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)*. CORDROGUE 67, 2001 (November), 11–13.
- Council of the European Union. (2005). *COUNCIL DECISION 2005/387/JHA of 10 May 2005 on the information exchange, risk-assessment and control of new psychoactive substances*. Retrieved from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32005D0387:EN:HTML>
- Council of the European Union. (2006). *REGULATION (EC) No 1920/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 on the European Monitoring Centre for Drugs and Drug Addiction (recast)*. Retrieved from <http://www.emcdda.europa.eu/html.cfm/index24218EN.html>
- Espelt, A., Domingo-Salvany, A., Sánchez-Niubó, A., Mari-Dell'Olmo, M., & Brugal, M. T. (2015). Estimating trends in the prevalence of

¹⁴In 2015, seven countries have reported data on TDI Prevalence. They were Cyprus, Finland, France, Latvia, the Netherlands, Romania, and the United Kingdom.

- problematic cocaine use (1999–2008). *Gaceta Sanitaria*, 29, 353–357. doi:10.1016/j.gaceta.2015.05.008
- European Monitoring Centre for Drugs and Drug Addiction. (2001). *The EMCDDA's five key epidemiological indicators*. Retrieved from <http://www.emcdda.europa.eu/activities/key-indicators>
- European Monitoring Centre for Drugs and Drug Addiction. (2012). *Treatment demand indicator (TDI) standard protocol 3.0*. Retrieved from <https://doi.org/10.2810/5285>
- European Monitoring Centre for Drugs and Drug Addiction. (2013). *EMCDDA treatment strategy*. Retrieved from <https://doi.org/10.2810/10204>
- European Monitoring Centre for Drugs and Drug Addiction. (2016). *Methodological information by country 2016*. Retrieved from <http://www.emcdda.europa.eu/activities/tdi>
- European Monitoring Centre for Drugs and Drug Addiction. (2017a). *European drug report 2017. Trends and developments*. Retrieved from <https://doi.org/doi:10.2810/46831>
- European Monitoring Centre for Drugs and Drug Addiction. (2017b). *Health and social responses to drug problems. A European guide*. Retrieved from <https://doi.org/10.2810/244934>
- European Monitoring Centre for Drugs and Drug Addiction. (2017c). *Statistical Bulletin 2017*. Retrieved from http://www.emcdda.europa.eu/data/stats2017_en
- Griffiths, P., Mounteney, J., Lopez, D., Zobel, F., & Götz, W. (2012). Addiction research centres and the nurturing of creativity. Monitoring the European drug situation: The ongoing challenge for the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *Addiction*, 107, 254–258. doi:10.1111/j.1360-0443.2011.03369.x
- Hartnoll, R. (1994). *Drug treatment reporting systems and the first treatment demand indicator. Definitive protocol*. Strasbourg, France: Council of Europe Press.
- Johnston, L., Liddell, D., Browne, K., & Priyadarshi, S. (2017). *Responding to the needs of ageing drug users*. Retrieved from http://www.emcdda.europa.eu/system/files/attachments/6225/EuropeanResponses-Guide2017_BackgroundPaper-Ageing-drug-users.pdf
- Montanari, L., Pasinetti, M., Guarita, B., Royuela, L., Mulligan, K., & Vicente, J., . . . Gyarmathy, A. (2013). Stimulant use among clients entering drug treatment in Europe. *Drugs: Education, Prevention & Policy*, 20, 48–55. doi:10.3109/09687637.2012.713410
- Montanari, L., Guarita, B., Mounteney, J., Zipfel, N., & Simon, R. (2017). Cannabis use among people entering drug treatment in Europe : A growing phenomenon? *European Addiction Research*, 23, 113–121. doi:10.1159/000475810
- Mounteney, J., Griffiths, P., Sedefov, R., Noor, A., Vicente, J., & Simon, R. (2016). The drug situation in Europe: An overview of data available on illicit drugs and new psychoactive substances from European monitoring in 2015. *Addiction*, 111, 34–48. doi:10.1111/add.13056
- Ojanperä, I., Gergov, M., Liiv, M., Riikoja, A., & Vuori, E. (2008). An epidemic of fatal 3-methylfentanyl poisoning in Estonia. *International Journal of Legal Medicine*, 122, 395–400. doi:10.1007/s00414-008-0230-x
- Origer, A. (1999). Procedures to avoid double counting in drug treatment reporting systems. In R. Simon, M. Donmall, R. Hartnoll, A. Kokkevi, A. W. Ouwehand, M. Stauffacher, & J. Vicente. The EMCDDA/Pompidou Group Treatment Demand Indicator Protocol: A European core item set for treatment monitoring and reporting. *European Addiction Research*, 5, 197–207. doi:10.1159/000018994
- Sánchez-Niubò, A., Sordo, L., Fortiana, J., Brugal, M. T., & Domingo-Salvany, A. (2013). Incidence trends of cannabis and cocaine use from periodic Spanish general population surveys: effect of standardizing results by age structure. *Addiction*, 108, 1450–1458. doi:10.1111/add.12170
- Sarasa, A., Barrio, G., Montanari, L., Guarita, B., Bravo, M. J., & de la Fuente, L. V. J. (2015). *Estimating trends in injecting drug use in Europe using national data on drug treatment admissions*. EMCDDA Technical Report. Retrieved from <http://www.emcdda.europa.eu/publications/technical-reports/estimating-trends-injecting-drug-use-europe-using-national-data-drug-treatment-admissions>
- Simon, R., Pfeiffer, T., Hartnoll, R., Vicente, J., Luckett, C., & Stauffacher, M. (2000). *Treatment demand indicator, standard protocol 2.0*. Retrieved from <http://www.emcdda.europa.eu/html.cfm/index65315EN.html>
- Stauffacher, M., & Kokkevi, A. (1999). The Pompidou Group treatment demand protocol: The first pan-European standard in the field. *European Addiction Research*, 5, 191–196.