**Costs and unintended consequences of**

**drug control policy**

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# Chapter 1 Introduction

There is broad consensus that the overall aim of drug policy is to advance the health and welfare of mankind and reduce drug use and its adverse effects. Despite this general understanding, the design and content of national drug policies vary to a large extent. The variation partly reflects differences in the nature of national drug problems and the resources allocated to this policy field, but it also reflects ideological differences in views on how to respond to drug problems.

In line with much of the academic literature (Babor et al., 2010), this report uses the term “drug policy” as to include governmental policies on prevention, enforcement, treatment and harm reduction. The policies include laws and programs intended to influence drug use and its consequences for users and society. National drug control policies constitute one subset of drug policies and is based on three internationally agreed conventions, namely the 1961 Single convention on Narcotic; the 1971 Convention on Psychotropic Substances; and the 1988 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Drug law enforcement can be directed towards suppliers and users of drugs and may thus affect both drug supply and demand (Reuter, 2006).Drug control policy comprises the whole system of laws, regulatory measures, courses of action and funding priorities concerning illicit drugs put into effect by a government or its representatives (law enforcement officers such as police and customs officers, judges, prison guards, etc.).

National legislations and their implementation may introduce stricter domestic legislation than that demanded by the Conventions but they should not bring in more lenient legislation[[1]](#endnote-1). Signing countries are obligated to make production, sale, transport and distribution of drugs for non-medical purposes a criminal act. The drug conventions further oblige states to ensure that possession of drugs, even in small quantities, shall be a punishable offence, but not necessarily a criminal offence. They offer alternatives to conviction or punishment, including treatment, education, aftercare, rehabilitation and social reintegration.

While the conventions treat the listed drugs similarly, the national drug laws and enforcement practice often distinguish between them. The use, possession, sale and production of e.g. cannabis are in most countries regulated and enforced very differently from substances like amphetamines, cocaine or heroin. In most states, violation of the drug laws result in criminal sanctions, if caught by the authorities. The intended effects of these legal responses, e.g. sentencing a drug dealer to prison, are twofold; to punish the offender and deter the offender and others from committing similar crimes (the principles of punishment and deterrence).

The overarching objective of supply reduction is a measurable reduction of the availability of illicit drugs. Central elements to achieve this goal include disruption of illicit drug trafficking; the dismantling of organised crime groups that are involved in drug production and trafficking; efficient use of the criminal justice system; effective intelligence‑led law enforcement and increased intelligence sharing; and international collaboration to fight large‑scale, cross‑border and organised drug‑related crime. Although supply reduction constitutes the dominant part of drug control policy, the enforcement towards users often gain more public attention and disapproval. The criticism has increased in recent years. More and more, often loud voices are questioning the efficiency of drug control measures and some even claim that they are counterproductive. Further, drug control efforts are criticized for striking unequally and for being disproportionate to the acts they are used in response to. The use of death penalties in some countries (e.g. Indonesia and Iran) is one extreme example of this. The increased criticism is one contributing factor the recent changes in drug regulations found in many countries and jurisdictions. The decriminalisation of drugs in Portugal, the recent legalisation of cannabis in eight US states, the legalisation of cannabis in Uruguay are illustrations of this liberalising trend. The call for further humanisation and revision of drug control policies (i.e. increased flexibility for introducing various drug control models minimising harms and costs) must be viewed in light of the increased focus on the adverse consequences.

Drug policy evaluation is an integral part of the approach to combating illicit drugs (Council of the European Union, 2013). Estimation of drug-related public expenditure can be seen as a first step in this direction. Public expenditure estimates aim to calculate the amount of resources spent, or needed, to implement targeted interventions in a particular policy field and may reveal to what extent policy intentions are reflected in the relevant budgets and are conditioned by the size and characteristics of the drug phenomenon. Most European countries have a national drug policy presented in a drug strategy document (EMCDDA, 2015). National drug strategies tend to reflect a balanced approach between drug demand and drug supply reduction (EMCDDA, 2016). An optimal balance, however, may not imply that the two approaches receive an equal share of resources and attention. Instead, it will depend on country specific priorities and aims for the different drug policy sectors, as well as on the relative price of implementing each activity in a cost-effective manner.

Accurate estimates of public spending on implementing drug policy initiatives will help policymakers to plan relevant interventions and make the required funds available to the authorities in charge of policy implementation. A thorough assessment of drug policy expenditures will also contribute to improved transparency and accountability of public institutions. Estimates may provide information on factors such as the relative importance of demand and supply expenditures and enable cross-country comparisons of the level and composition of spending on the fight against illicit drugs (EMCDDA, 2008). Sound planning, improved knowledge of the resources allocated to this policy field, and cost-effective resource allocation are particularly necessary in times of economic downturn when fewer resources are available.

Further, to evaluate and improve drug policy, it is imperative to know and take note of *all* possible effects of the different interventions and actions. It is well known that for any purpose and policy, even with the best of intentions, there is a risk for unintended consequences. Unintended consequences can be defined as consequences that are not deliberate or intentional, i.e. they are not the targeted effects of a given action. The However, that doesn’t imply that they necessarily are unexpected – on the contrary, their occurrence may in some cases be considered as very likely. For instance, the ban on production and sale of listed substances carries a high risk of the appearance of an illegal drug market.

One important feature of drug control efforts is that they may influence *all* citizens’ life and human rights, not only those who are personally involved on either side of the drug market. Patients in unmet need of pain medication, travellers exposed to invasive boarder control and relatives of drug offenders facing stigmatization, are all examples of non-participants suffering unintended consequences of drug control policies. Thus, regular assessments and careful considerations of whether drug control measures possibly compete or undermine other essential policy goals are needed. Identifying and considering also unintended consequences is essential when deciding on a policy and what measures to implement. Despite frequent mentioning, little has been done so far towards this end.

This report aims to define and identify costs and unintended effects of drug control policies, borne by individuals and society. We do this to improve the knowledge base for better enabling policy makers to make informed choices in this area. Improved knowledge, also with regard to the recourses that are allocated to this policy field, will help planning and strategic thinking, particularly needed in times of austerity. As all policy options imply some unintended consequences, there is no way to completely avoid them. It is therefore of great importance to take them adequately into account when deciding on aims and measures for the drug phenomenon. Further, we suggest potential interventions to reduce the effects of the identified unintended consequences. Irrespective of what regulatory regime that is currently implemented, there are interventions available that may reduce the adverse and unintended effects.

Figure 1 illustrates the outline of the report. Some central concepts and general discussions of drug control policy is found below in Chapter 1. Chapter 2 provides guidelines for how to collect relevant cost information and proposes a common set of definitions and methods to be used for public expenditure assessment and evaluation. Further, we present compiled national information of levels and compositions of drug-related public expenditure, which show that most countries seem to spend more on supply reduction than on demand reducing efforts. Chapter 3 presents our analysis of unintended consequences. Although we, of course, acknowledge that defining and measuring intended effects is an important task for any policy evaluation, we still confine our analyses to the unintended ones. These unintended consequences are split into health and non-health effects and we relate them to the bearers of these consequences (participants and non-participants of the illegal market). The chapter also offers a list of potential interventions that may reduce the unintended consequences. Chapter 4 discusses our findings and suggests a way forward.



**Figure 1 Outline of the report**

## 1.1 Drug control policy

Drug control policy has both domestic and international dimensions. Nationally, it includes factors like[[2]](#endnote-2):

* enforcement of anti-drug laws
* eradication of drug production and cultivation
* control of precursor chemicals
* customs' inspection of commerce and persons entering the country
* screening for drugs in prisons

Internationally, drug control policy includes

* coordinated investigations
* interdiction
* control of precursors
* anti-money-laundering initiatives
* drug-crop substitution and eradication
* strengthening public institutions
* initiatives against drug-related corruption, terrorism and human trafficking

Drug control measures may be divided according to whether they are targeting drug users or drug producers, traffickers and suppliers. By controlling and arresting drug users the police increase the individual costs of using illegal substances. Although law enforcement toward user consume substantially less resources than the law enforcement towards producers, couriers, dealers, money-launderers etc., it often receives more public attention and more people are critical of enforcement practices against individual users than against the latter groups.

In this context it needs to be recalled that governments have obligations under international and national legal instruments to safeguard fundamental standards of human rights and the rule of law that also apply to drug users and which include:

The Council of Europe Convention for the Protection of Human Rights and Fundamental Freedoms which guarantees[[3]](#footnote-1):

* The right to life
* The right to protection of health
* The right to non-discrimination
* The prohibition of inhuman or degrading treatment

Article 38.1 of the UN Single Convention on Narcotic Drugs, which requires States to pay special attention to and take all measures for the prevention of abuse of drugs and for the early identification, treatment, education, after-care, rehabilitation and social reintegration of persons dependent on drugs;

Article 25 of the Universal Declaration of Human Rights (UDHR), which guarantees everyone the right to a standard of living adequate for his health and well-being, including medical care and necessary social services;

Article 12 of the UN International Covenant on Economic, Social and Cultural Rights (ICESCR), which recognizes the right of everyone to the enjoyment of the highest attainable standard of physical and mental health; and requires to assure medical service and medical attention is available equitably to all in need.

Article 11 of the CoE European Social Charter (revised), which provides for the right to protection of health and stipulates the effective exercise of the right to protection of health.

## 1.2 Evaluation of drug policies

For drug control policy to be most effective, it must both be evidenced-based and supported by a sufficiently large budget (Carnevale Associates 2008). Furthermore, results need to be evaluated and compared to their costs. To optimize the resources allocation to this policy field, one ideally should conduct a cost-benefit analysis. A cost-benefit analysis systematically compares all costs and benefits of one particular policy area or project to determine whether there is a positive net benefit (i.e. whether benefits outweigh the costs). The analysis can also compare alternative policy options and evaluate the effectiveness of separate parts of a comprehensive policy.

For the drug control area, a cost-benefit analysis would explicitly have taken all costs, including unintended adverse effects of the policy, into account when evaluating whether the policy provided a net benefit to society. Unfortunately, a regular cost-benefit analysis is currently not attainable as the quantification of both benefits and costs of drug control policies are underdeveloped. Still, a better understanding of the different elements involved is possible and useful. This report will take a first step towards such a systematic analysis by examining the public expenditure and the unintended consequences of the drug control policy.

## 1.3 Public expenditure

We define drug control costs to include all kinds of public expenditure on efforts aiming at reducing drug use and availability through enforcing the drug laws. Thus, drug control costs comprise governmental expending on public order and safety, such as budgetary expenses for the police, customs, judicial system and prisons. The vast majority of these resources will be spent on enforcement towards producers and dealers, but it also include legal actions toward drug users. In should be noted that the term “drug control costs” will be used interchangeably with “supply reduction costs”. This is in line with the terminology used by e.g. the European Monitoring Centre for Drug use and Drug Addiction (EMCDDA).

As will be expanded on in Chapter 2, analyses of public expenditure on drug control policies are seriously hindered by limited data availability. Many countries do not have separate budgets for drug-related expenditures but embed them in broader budget categories. Often is also more than one sector involved and the expenditures are found at different administration levels (central, regional, local). Chapter 2 provides suggestions for how to improve data collection and estimations.

## 1.4 Unintended consequences of drug control policy

Unintended effects will vary substantially across national drug legislations and their *de facto* implementation. Generally, one may say that the stricter the regulations, the higher is the risk for unintended consequences. One should bear in mind, however, that all control regimes imply unintended effects, even the most liberal ones. If all drugs were freely available and no control measures were implemented at all, substantial non-intended burden on society and non-users would still apply as a consequence of increased drug use. Further, legal but regulated drugs like alcohol and tobacco also imply control costs, both intended and unintended. Thus, the relationship between the level of regulations and unintended consequences may be illustrated by an u-shaped curve, see Figure 1, where every drug policy regime can be viewed as points on a continuum from very liberal regimes to very strict ones.

High

 Low 

**Level of unintended consequences**

**Very liberal drug control regimes Very strict drug control regimes**

**Figure 2. An assumed u-shaped relationship between the level of drug control regulations and unintended consequences.**

Unintended consequences may further vary according to the social/economical context, type of substance, individual characteristics and periods of time.

Often mentioned unintended consequences affecting individuals are stigmatization, social exclusion, negative effects of imprisonment, reduced educational and labour market opportunities, disconnection to work life, visa problems and limited access to essential medicines for medical and scientific purposes. Unintended societal consequences can include factors such as the emergence of organized crime dealing with drug production and trafficking or a general risk of reduced in public safety due to illegal ways of drug financing. Some producing countries like Mexico and Colombia, have experienced extreme violence and thousands of deaths, while public health, security and safety have also been significantly negatively affected in many European countries (EMCDDA/Europol, 2016).

# Lastly, one may note that public expenditures and unintended consequences are linked. More public expenditures on law enforcement will for examples increase the risk of apprehension and by that increase the risk of unintended effects of control measures. Further, although unintended effects are usually not measured in monetary units they may still have serious economic impact. For individuals apprehended for drug-related crimes, their job and thereby their income opportunities are reduced, which also imply a welfare loss for society. Still, public expenditures and unintended consequences will be treated separately in this report.

# Chapter 2 Public expenditure on drug control policy

# 2.1 Introduction

The aim of this chapter is threefold. Firstly, to increase international awareness concerning the importance of estimating public expenditure on supply reduction initiatives. Secondly, to raise public awareness of the need to agree upon harmonising definitions and increasing the availability, comparability and reliability of data, as well as methods for producing sound estimates. And thirdly, to contribute to developing national and international estimation practices with a view to obtaining accurate, complete, reliable and comparable drug policy evaluations.

As mentioned in Chapter 1, the overarching objective of drug control policy is a measurable reduction in the availability and accessibility to illicit drugs. Drug control initiatives comprise the whole system of laws, regulatory measures, courses of action and funding priorities concerning illicit drugs put into effect by a government or its representatives. Reduced drug availability and accessibility is achieved through a disruption of illicit drug trafficking; dismantling of the criminal organisations that are involved in drug production and trafficking; efficient use of the criminal justice system; effective intelligence-led law enforcement and increased intelligence sharing; and a focus on large-scale, cross-border and organised drug-related crime (EMCDDA, 2016)*.*

Estimation of drug-related public expenditure can be seen as a first step in the process of policy evaluation. Public expenditure estimates aim to calculate the amount of resources spent, or needed, to implement targeted interventions in a particular policy field and may reveal to what extent policy intentions are reflected in the relevant budgets and are conditioned by the size and characteristics of the drug phenomenon. A subsequent step would be to systematically compare public expenditure and other possible costs to the policy's measured outputs or results. Depending on how the results are defined and measured, a cost-benefit or cost-effectiveness analysis could be conducted (see glossary). In this case, resource inputs (the costs of labour, capital and/or equipment) are linked to intermediate outcomes (e.g. number of drug dealers arrested); final outputs (e.g. lives saved, life years gained, number of drug users, reduction in drug-related harm, percentage reduction in crimes committed); or policy goals. Irrespective of the chosen output measures, however, public expenditure will be a central cost factor, since governments constitute the main provider of drug supply reduction services in Europe.

A thorough economic evaluation can provide policymakers with the information required to make well-informed decisions. Although the data and a quantification of all the outcomes and cost elements required for conducting the most comprehensive analyses are currently not available, a somewhat less extensive analysis and an improved understanding of the individual elements involved are still possible, useful and desirable. This report takes the first step towards a systematic analysis by examining a number of representative attempts to estimate public expenditure on drug control policies. It proposes a common set of definitions to be used for public expenditure assessment and evaluation. In addition, it aims to establish a common basis for understanding this complex subject and to facilitate comparability in three main areas: time, policy and countries concerned. Although, the report mainly focuses on drug control expenditures, in order to contextualise them, it describes the proportion that total drug-related expenditure represents of gross domestic product. It also shows how spending is balanced between demand and supply reduction initiatives in a number of European countries. To facilitate and promote future empirical expenditure studies, the relevant data sources and methodologies applied in making empirical estimates are listed and discussed. Examples of sectorial models of public spending and examples of national supply reduction expenditure studies are also provided. Finally, some conclusions and recommendations are offered.

For more details on relevant data sources, please see….

# 2.2 Defining concepts

***Public expenditure***

The term "public expenditure" refers to the value of goods and services purchased by general governments (at central, regional and local level) in order to perform its functions. For instance, it refers to resources spent on healthcare, justice, public order and safety, education, social protection and so on (Eurostat, 2011), and its quantification is a costing exercise undertaken from the government’s perspective (EMCDDA, 2008). The role of private expenditure in drug policy varies across countries, timescales and policy areas. In many countries, drug treatment is partly financed by the private sector (insurance companies, drug users or their employers, relatives, etc.). In other drug policy areas, such as supply reduction, private funding usually constitutes a negligible share of total spending (European Commission, 2012).

***Drug-related public expenditure***

Drug-related public expenditure is the sum spent by governments on goods and services with the aim of tackling the illegal drug phenomenon. Although drug policy expenditure estimates are deemed useful, most countries do not produce separate drug-related budgets as part of their ordinary budgeting exercise. Relevant analyses and estimations can be complicated since several inter-ministerial and cross-governmental sectors are involved in drug control programmes, including justice, policing and border control, prisons, social protection, education and health. Disentangling drug policy expenditure across government departments and inter-sectorial policies remains a significant challenge. Changes in legislation and the structure of public administration can further hamper comparability over time.

An additional challenge lies in the fact that drug-related programmes and activities can be found at many different levels of public administration. For instance, the funding for imprisoning drug-law offenders is usually provided by central government, while prevention of street dealing or social reintegration programmes for former drug dealers are frequently financed by local authorities. This makes it necessary to compile data at different administrative levels, which can be a demanding task.

In addition, often only a small fraction of drug-related public expenditure can be traced back directly to government documents or single budget lines; these are labelled expenditure. The required data are instead embedded in budgets for larger sectors or programmes (unlabelled expenditure), which means that modelling and calculations are needed. For instance, it is common that prisons do not have a separate budget for drug-law offenders, because they usually have one single budget for their entire activity. Therefore, the values of this embedded expenditure can only be estimated through modelling approaches (EMCDDA, 2014). This requires skills, modelling tools and techniques.

Despite the various factors which may challenge the robustness of estimation results (limited data availability, layering of assumptions, changes in definitions or regulations over time, etc.), the application of existing models can provide useful insights, as various countries' experience shows (see the examples below).

***Public expenditure on supply reduction initiatives***

In this report, public expenditure on drug supply reduction comprises the funds spent by general government with the broad purpose of reducing the availability with the support of the police, law courts and prison services geared towards combating the illegal drug phenomenon, as defined by Eurostat (2011). In general, police services comprise, among others, the regular and auxiliary policing of ports and borders, coast guards and customs, as well as road traffic regulations and supervision. The services provided by law courts comprise the operation or support of civil and criminal law courts and judicial systems, the prosecution service, fine enforcement and probation systems. Prison services comprise the activities of prison administrations and the operation or support of prisons and other places for the detention or rehabilitation of criminals, such as prison farms, workhouses, reformatories, borstals, asylums for the criminally insane, etc. (Eurostat, 2011).

In the case of public expenditure on drug supply reduction initiatives, the vast majority of resources will be spent on enforcement targeting producers and dealers, but may also include legal action targeting users for drug possession when required by national judicial systems.

# 2.3 Empirical estimates of demand and supply policy expenditure

Over the last decade at least 16 European countries have provided comprehensive estimates of drug-related public expenditure (EMCDDA, 2014b). Country estimates suggest that drug-related expenditure ranged from 0.01% to 0.5% of gross domestic product (GDP). Since the studies may not have applied the same expenditure classifications or the same estimation methods, caution is required when making cross-country comparisons (EMCDDA, 2014b).

Interestingly, however, the information available suggests that supply reduction activities accounted for the largest share of drug-related public expenditure in most countries. Of the 16 countries which produced complete estimates in the last decade, only four countries spent less than 50% of their total drug budget on supply reduction, while five countries spent 70% or more. The other countries spent between 50% and 70% of their drug-related expenditure on supply reduction.



**Figure 1 Breakdown of drug-related expenditure between demand and supply reduction.**

Source: EMCDDA, 2014b

Analysis has also shown that funds allocated to drug-related initiatives account for only a small proportion of the overall public expenditure on the public order and safety sector. For instance, in 2008 (the only year this exercise was systematically conducted in European Union countries), supply reduction expenditure represented between 2% and 12% of total public expenditure in this sector. This proportion compares to the proportion of drug-related spending on the health and social protection sectors. The proportion of drug-related expenditure on these items accounted for less than 1% of total public spending on health and social protection during that period. Since most public spending on demand reduction initiatives is classified under health and social protection, this may further suggest that European countries give higher political priority to supply reduction initiatives, as part of public order and safety activities, than to demand reduction initiatives as part of overall public health activities (EMCDDA, 2008). Annually, EMCDDA reports the most recent estimates available for national drug-related public expenditure in percentage of the gross domestic product (GDP), in the European Union countries, Norway and Turkey. When available, EMCDDA reports also the proportion of funds spent on supply reduction initiatives (<http://www.emcdda.europa.eu/countries>).

# 2.4 Steps in cost estimation and analysis

Clarifying definitions, improving estimation methods, agreeing on best practices and finding reliable, standardised data will enhance the utility of public expenditure estimates, as analysis over time and across policy areas and countries can be improved(Single, 2009). Better quality data and further methodological developments are needed. To this end, we list below some recommended, general methodological steps in cost estimation and analysis.

***Defining the scope and objects***

Globally speaking, a first step for a viable estimate is defining the scope and type of public expenditure considered. In addition, clear indications of the geographical area and which function of public service provision the estimates cover are needed.

***Making an inventory of service providers***

Secondly, it is necessary to identify the public entity or institutions responsible for the provision of drug-related services – in the case of this report supply reduction measures and interventions. The government authorities and public institutions and services responsible for the implementation of the drug policy initiatives, on the different competency levels, have to be made an inventory.

***Mapping financing entities***

The third step is then to identify who finances these service providers. The starting point for a public expenditure analysis is accordingly the different public authorities which fund the respective aspects of the drug policy. Irrespective of the governmental structure, expenditure by all relevant national, regional or local government institutions, directly or indirectly associated with drug policy, should always be included.

Matching stakeholders responsible for providing drug policy services with their financing entities can be challenging, as the entities in charge of providing public services are not always obvious and easy to identify. For instance, when drug treatment services are provided within prisons, the entity in charge has public order and safety as its first function but health as its “real” goal. Therefore, analysts must consider whether to include the costs of these activities as supply reduction or demand reduction initiatives. Eurostat, along with most international organisations concerned with policy evaluation, includes the provision of services in the main function that the funds are used for, even where the provider is less obvious. In this case, public expenditure on drug treatment provided in prisons should be excluded from expenditure estimates for supply reduction services and accounted for as drug-related health expenditure. Sometimes, provision will be the responsibility of private entities while financing is a government responsibility.

It should be noted, however, that the same service may have multiple policy purposes and double counting should be avoided. For instance, in the case of social reintegration programmes in deprived neighbourhoods, financing may serve both the purpose of preventing drug crime (and should be added to supply reduction expenditure) and the purpose of preventing drug use (and should also be accounted for as health spending in demand reduction expenditure). For public accounting purposes the same funds should not be counted twice. Therefore, researchers will have to include this spending only once, choosing to record it under either preventive health or crime prevention. Sometimes, making a decision is difficult and the best way to deal with such situations is to guarantee that researchers document the different choices and assumptions they make.

***Data collection***

The fourth step is to determine a strategy for collecting the required data on public expenditure. In order to obtain the relevant information, analysts will have to examine policy documents and accounting data. It is also recommended that interviews be conducted with the major stakeholders in the field, as a way to obtain better information about where financial data might be available, and to search for international data sets.

***Classifying and identifying data on drug-related spending***

It is essential to classify public expenditure according to the purpose for which the expenditure is intended (Reuter et al., 2004, and Eurostat, 2011), so the next step to consider is how to group drug-related spending according to these sub-purposes. Taking into account the fact that drug-related expenditure on supply reduction initiatives comprises funds spent with the aim of combating the illegal drug phenomenon through the police, law courts and prison service, the classification commonly used in international comparisons is the Classification of the Functions of Government.[[4]](#footnote-2)

* The Classification of the Functions of Government (COFOG) provides a useful framework for classifying public spending according to its purpose. Under COFOG, most drug control policy expenditure is included in the “public order and safety” class of expenditure. The most directly relevant subclasses are “police services”, “law courts”, “prisons” and “R&D public order and safety” (Eurostat, 2011).
* Reuter (2006) relates public expenditure to the supply and demand sides of the market. He counts public spending on supply reduction under “enforcement programmes” and considers that these are *“programmes aimed at traffickers and producers to shift up the supply curve for drugs; other things being equal, they should raise the price of drugs and lower quantity. Programmes aimed at users and retailers raise the transaction costs of buying drugs”*. In other words, enforcement programmes will make drug producing, trafficking or dealing more expensive, because they either bring about an increase in the unitary costs of production or introduce greater risk into the business (Costa Storti and De Grauwe, 2009).

These two classification systems are substantially different. COFOG has been co-designed by the statistical office of the European Union and the European Commission, with well-defined concepts and data collection methodologies. Annual mandatory data collection has been implemented in every European Union member state since early 2000. The system covers all functions provided and financed by governments. Drug-related activities are among the overall tasks provided and financed by the public sector, but there are no specific methods specified or data collected on drug-related expenditure. Drug-related expenditure is embedded in broader items, such as public expenditure on public order and safety, security, health, education or social protection. Conversely, the Reuter’s classification was designed to organize public expenditure spent with the main aim of tackling the drug phenomenon. However, no systematic data collection has taken place.

The research community has not formally adopted any of these classification systems. However, as Eurostat publishes data annually in accordance with the COFOG classification, their system is frequently used. Eurostat publishes data on public spending with the purpose of guaranteeing public order and safety, which is split into the above-mentioned classes. Researchers still have to opt for criteria and models to disentangle drug-related spending within these overall expenditure classes.

In fact, supply reduction initiatives are often embedded in policy projects that have broader objectives and budgets. Therefore, firstly, it is important to look beyond expenditure that is exclusively used for drug policy and also include spending intended for broader policy domains that indirectly, but significantly, contribute to drug policy or impact upon it. For instance, investing in effective policing in certain problematic neighbourhoods, in order to prevent all types of crime, may also contribute to preventing drug dealing. Consequently, it is relevant to take into account overall budgets for initiatives which may have direct synergies with drug policy objectives. Secondly, modelling techniques are required in order to disentangle drug-related expenditures from overall expenditures. For instance, specific estimates and well-defined methodologies are needed to disentangle expenditure on drug-related crime from overall public spending on law courts (more details on methodologies are given below).

In the event that not all the required data are available in international data sets, national databases should be mapped. Every country has different structures for drug control services, provision and financing. National data mapping can be achieved in different ways: information from registration systems, annual reports, interviews with key experts and/or contacts working in this field (De Ruyver et al., 2007). Detailed mapping of available data can be demanding and makes intensive use of resources. However, it is a fundamental step for any estimate of public spending on drugs control.

***Extracting expenditure data from sources: labelled and unlabelled expenditure***

Some of the funds allocated by governments for drug-related expenditure are identified as such in the budget (labelled expenditure). Often, however, the majority of drug-related expenditure is not identified (unlabelled expenditure) and must be estimated using modelling approaches. Total drug-related expenditure is the sum of labelled and unlabelled drug-related expenditures (EMCDDA, 2016).

Since labelled expenditures are clearly identified in budgets, calculation methods are not required. Time series data are often available for labelled expenditure. The biggest challenge when data on labelled expenditure are compiled is to ensure complete mapping of all entities in charge of providing these services, as they can be spread across different government levels. Depending on the national structures, expenditures from all relevant national, regional or local government institutions that are directly or indirectly associated with drug policy should always be included.

For unlabelled expenditure, a modelling procedure is necessary to estimate these different expenditures and the modelling is based on either a top-down or a bottom-up approach. Frequently, these estimates require the use of activity data to develop estimates (for example, number of offences, offenders, criminal cases, prisoners, etc.)

*Modelling unlabelled expenditure*

The top-down modelling approach is mainly used when the data available are embedded in programmes with broader goals and the fraction attributable to drugs can be identified as the proportion of the overall budget. In order to identify this proportion, models lay down objective criteria and calculate attributable fractions.

*Unlabelled drug-related expenditure = Overall expenditure × Attributable fraction*

There is no general methodology to determine attributable fractions also known as repartition keys. In practice, the appropriaterepartition key is determined by the object of the estimate, data availability and the modelling approaches available. Repartition keys are determined in different ways on the basis of information from activity data, extracted from registration systems, annual reports and/or contacts working in this field (De Ruyver et al., 2007). When determining attributable fractions, the data used should preferably be publicly available or, even better, be stored within international databases. This can guarantee the possibility of producing similar estimates in the years that follow and in other countries.

Appendix 3 summarizes the information and data available in the most relevant international databases that can be used to estimate unlabelled public expenditure on supply reduction. It describes the activity data reported, the reporting countries and time periods.

This annex reports the data available concerning the annual statistics on national public expenditure on police, law courts and prisons reported by Eurostat. These data include not only expenditure on drug-related initiatives, but the total spent to tackle all types of crime. Therefore, to disentangle drug-related expenditure and built attributable fractions, activity data shall be required.

For instance, the number of drug-law offenders in prison may allow estimating the proportion that convicted prisoners for drug-law offences represent from total prison population, and therefore to approach the proportion that drug-related expenditure on prisons represents from total prison spending; or the proportion that drug-related cases handled by the police, by prosecutors or by drug-law courts on the total number of cases handled by these institutions may allow starting approaching their drug-related costs.

To design attributable fractions, models use the support of data on crime, police, law courts or prisons activity. Annex 3 presents information and data by groups of variables. These groups encompass total public expenditure, drug-related public expenditure, supply reduction public expenditure; drug law offences; crime reported by the police, drug-related crime, conviction statistics and prison population. Within groups, variables directly relevant are listed. For each variable, data available are listed by source, country and time period. Finally, this annex reports the number of observations available for each variable. The relevant sources include data from the Council of Europe, EMCDDA, EUROSTAT, Univeristeé de Criminoligie et de Droit Penal de Lausanne and the UNODC.

Despite that data available are still referent to a short period of time and that data are still missing in many countries/years, gathering available information shall allow developing better methods and more accurate estimates in the future.

When international sources are not available, publicly available national statistics and data from competent public bodies should be used.

Advantages of the top-down approach

* Availabilityof data: the availability of aggregated budgetary data means that top-down approaches can be easily applied.
* Lowcost: the availability of aggregate cost data means that the time and costs required to estimate a top-down unit cost can be reduced.
* Versatility*:* the methodology enables an analyst to forecast how costs may change as a result of a reduction/an increase in service usage (for instance, when there are less/more drug-related crimes committed in a certain year than expected) and how these costs change over time.

There are, however, some limitations associated with a top-down approach. Firstly, it does not clearly identify the different factors that may drive the costs and therefore often masks the underlying factors that determine why unit costs vary within a single, yet heterogeneous, services group. The criteria laid down for estimating attributable fractions do not always take into account all of the characteristics that may impact the total costs, which means that cost functions are often simplified. These estimates are therefore often not very precise. Nevertheless, they are frequently used and provide valuable proxy indicators for average costs.

An alternative method of estimating drug-related expenditure is to base estimates on the cost of providing one unit of public service, known as the bottom-up modelling approach. This modelling approach starts by detailing how much it costs to provide one unit of service or intervention. For instance, how much does it cost to keep one drug-law offender in prison? Considering the different costs borne by the government for managing a prison facility, such as the real costs of state property, prison staff, electricity, water and gas, machinery, etc., it is possible to estimate how much each detainee costs per day. This sum can then be multiplied by the number of drug-related detainees, taking into account the different costs associated with each type of detainee, based on the different lengths of prison sentences, different security levels, etc. To obtain the total expenditure on drug control policy, all the cost elements should be identified and totalised.

The bottom-up approach is particularly appealing when relevant unit costs are readily available. If, on the other hand, every type and element of the drug policy has to be separately estimated, the approach can be demanding and challenging.

Advantages of using a bottom-up approach

* Transparency: detailed cost data allow potential errors to be investigated and their impact tested – this facilitates a quality assurance process.
* Simplicity: the calculation required to estimate unit costs is easy to understand and direct, providing a simple way to quantify the administrative and overhead costs associated with a range of public services.
* Detail: detailed cost data can highlight variations, enable analysts to explore the factors underlying variations and determine whether, for example, some service users account for a disproportionate share of the costs.
* Versatility: the methodology enables an analyst to forecast how costs may change as a result of a reduction in service usage or demand.

However, the main disadvantage associated with the bottom-up approach is that it requires detailed information concerning both the type of costs associated with the provision of each service (full knowledge of the production function of each public service) and the unit cost of each of the production factors.

A combination of the two approaches may be preferred. The advantage of this dual method is that it makes cross-verification possible; the data gathered on the basis of the top-down approach can be double-checked and supplemented with the data retrieved from project actors in the field.

***Reporting the value of estimates***

The basic format used to report the value of estimates is monetary value in nominal terms. However, to permit comparability over time, if reported in monetary units estimates should be adjusted for inflation.

In addition, some authors report the value as a percentage of GDP. This way of presenting the results considers the economic dimension of a country. It is likely that drug-related spending is higher in a country with 85 million inhabitants than in a country with 10 million inhabitants. The same holds for a higher income country (EMCDDA, 2008). For these reasons, reporting the value of estimates as a percentage of GDP is a valid choice, since it takes account of both the inflation problem and the size and level of a country’s income.

Another frequently used approach is reporting the value of spending per number of problem drug users. In this case, authors take into account the dimension of the drug problem. Reporting all these complementary measurements of drug-related public spending facilitates the validation of the data through cross-verification and increases the economic significance and utility of the estimates.

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# 2.5 Examples of sectorial models

In addition to collecting labelled public expenditure data, several examples exist of models applied to identify unlabelled expenditure on drug control in the national contexts. Different authors have applied different definitions, data sets and models to estimate items of drug-related expenditure. In this section, examples of the definitions, data and models are provided. The section aims to present the models utilised to estimate unlabelled drug-related spending on various types of supply control initiatives.

***Police***

Public spending on drug-related police services is probably best identified using a top-down approach.[[5]](#footnote-3) In order to disentangle this expenditure from total public expenditure on public order and safety, as published by Eurostat, attributable fractions has been calculated with the help of activity data. Authors have used auxiliary data to create these fractions, for instance data on drug-related offences in proportion to the total number of offences. The following are concrete examples of variables available in national and international data sets, which have all been used separately to estimate attributable fractions:

1. The number of drug-related crimes per 100 000 population.
2. The number of drug-related cases reported by the police out of the total number of police cases.
3. The time the police forces spend on combating the drug phenomenon in proportion to their total working time.

To estimate the share of costs attributable to spending on police action against illicit drugs, the ratio is multiplied by the total expenditure of the law enforcement agencies and reduced by any available data on labelled expenditure for drug control.

A concrete example is provided by the estimates for Italy. Genetti (2014) estimated drug-related public expenditure for police forces based on the amount of time that staff spent on drug control in 2011: possession of illicit drugs for personal use; production, trafficking and dealing in illicit drugs; and driving under the influence of drugs and alcohol. The proportion that this time represented of the total working time for the police forces was then used as an "attributable fraction" for disentangling the amount of money that was spent on drug-related police activities from the total spending on police activity. Within the funds allocated for supply reduction, 14% was spent on drug-police activity, while law courts and prisons absorbed the remaining 21% and 65% respectively.

Moolenaar (2009) developed a model and provided an example of how to estimate public spending on supply reduction initiatives in the Netherlands. The author applied a top-down model based on the average cost of police time spent on this work. Moolenaar calculated the average duration of each type of criminal investigation firstly by type of criminal activity (assuming that different criminal activities have different investigation costs – based on an assessment of the severity of the crime) and secondly by the number of cases registered for each criminal activity.

***Customs***

With regard to customs services, the share of customs officers who deal with drug control activities and/or the proportion of their working time compared to the total number of custom officers has been used as an attributable fraction. As input data, the number of customs officers who are involved in drug control activities forms the basis for the calculation. These estimates are then applied to the total expenses of the customs administration (minus any labelled expenditure specifically targeted towards this activity). It should, however, be noted that most customs officers do not exclusively devote their working time to drug control activities, so, ideally, the percentage, or the average, of working time devoted to drug control should be estimated.

Kopp and Fenoglio (2002) estimated the drug-related expenditure of customs services based on the proportion of customs officers allocated to combating illicit drug trafficking within the total number of customs officers. This proportion constituted the attributable fraction applied to the total customs budget. The authors concluded that, in 2000, drug-related spending on customs services represented approximately 10% of total drug-related spending in France. As these authors pointed out, omitting costs such as those of detection equipment or detection dogs may constitute a relevant limitation, since the costs of detection equipment may have a strong impact on relatively small budgets such as that for customs.

Lievens et al. (2016) estimated drug-related expenditure by customs based on the proportion that drug-law violations represented in the total number of violations registered by the ordinary customs services, investigation services and motorised brigades. They used a top-down approach based on the number of drug-law offences in proportion to the total number of offences. In 2012, customs spending represented 3.6% of the total drug-related public spending on supply reduction in Belgium.

***Court systems***

Spending on drug-related court services has been extracted from total national expenditure on law courts based on the following activity data:

1. The proportion of drug-related offences with regard to the total number of offences.
2. The proportion of drug-related convictions with regard to the total number of convictions;
3. The proportion of people imprisoned for drug-related offences with regard to the total number of prisoners.

Kopp and Fenoglio (2002) estimated the expenditure that drug-related crime represented in the French judicial system. They adopted a bottom-up approach, taking estimates of the time spent by the various types of French judges and other types of administrative staff on drug-law cases and then multiplying these estimates by their average salaries. Based on this method, the authors concluded that law courts represented about 24.4% of total drug-related public expenditure in France in 2000.

In Croatia, drug-related spending on the courts covered drug-related cases prosecuted by both the State and the courts ([Budak](http://www.eizg.hr/hr-HR/dr-sc-Jelena-Budak-59.aspx) et al., 2013). A top-down approach was used based on estimates of the number of drug-related crimes as a proportion of the total number of crimes registered by the police. The researchers recognised that these estimates were crude, but they could not obtain a better proxy for this particular component of the estimates.

In Sweden, expenditure on drug-related prosecutions and court cases (district court, court of appeal and supreme court) was estimated based on a bottom-up approach, which combined the number of cases and the average cost per case (Ramstedt, 2006). The data were obtained from a judicial system official. It should be noted that the average case cost was not recorded by type of crime, instead the average for all types of crime was used as an indicator for drug crimes. Moreover, for the court of appeal and supreme court, only the total number of criminal cases was available and the fraction of drug cases was estimated based on the situation in the district courts (9%). Regarding the range of the estimates it should be noted that the author included, as an upper limit for estimates, a specific percentage (30%) of the costs of tackling other crimes, as they may have been committed under the influence of drugs.

***Prisons***

Unlabelled costs of drug-law offenders in the prison system can be estimated using the number of convicted prisoners for drug-related offences expressed as a proportion of the number of overall convictions. For example, to estimate expenditure related to drug-law offences in prisons, two elements have been taken into account: overall prison expenditure for a given fiscal year and the attributable fraction of prisoners convicted of drug-law offences.

EMCDDA (2014) provides an example of how public expenditure on drug-law offenders in prisons can be estimated. Based on data for public expenditure on prisons provided by Eurostat and data on the number of offenders provided by the Council of Europe, the proportion of prisoners sentenced for a drug-law offence as their main offence was applied to the total public expenditure on prisons. A range of estimates was calculated, with low estimates taking into consideration only prisoners sentenced for a drug-law offence and high estimates also including pre-trial prisoners. Between 2000 and 2010, this expenditure was estimated to range, on average, between 0.03% to 0.05% of GDP in 22 European countries. On applying these percentages to the entire EU for the year 2010, the estimated expenditure was within the range of 3.7 billion euros to 5.9 billion euros.

# 2.6 Examples of national studies

Several models and data sources have been applied in different national contexts to identify labelled and unlabelled expenditure allocated to drug control initiatives. Due to national specificities, neither their external validity nor the comparability of the methods used have been tested. The extent and specificity of labelled drug-related expenditure vary substantially across countries, as do the data and methods applied for estimating unlabelled expenditure. The national estimates presented below are therefore not directly comparable. They nonetheless provide examples of useful models and estimates and illustrate some of the approaches applied.

***Croatia***

Budak et al. (2013) aimed to identify the central government’s total drug-related public expenditure and to develop a method of estimating and allocating unlabelled expenditure by type of drug policy programme (prevention, treatment, social reintegration, harm reduction and law enforcement). For labelled expenditure, governmental institutions were asked to classify budget expenditure by public function and by type of programme. Unlabelled expenditures were identified indirectly with a system of repartition keys, which were applied to the total state unit budget (minus labelled costs). The repartition keys were estimated using supply reduction activity data. Unlabelled public expenditures were estimated on the assumption that they make up the part of public expenditure remaining after labelled public expenditures for combating drug abuse have been deducted from the total expenditure of a public body.

For the period 2009-2012 the study suggested that public expenditure on law enforcement constituted about 73% of total drug-related public expenditure by central government, whereas prevention, treatment, social reintegration and harm reduction represented 12%, 13%, 0.3% and 2%, respectively. When comparing unlabelled expenditure for the different programmes in a single year (2011), unlabelled expenditure on law enforcement represented 82% of total unlabelled drug-related expenditure. On the other hand, law enforcement accounted for 4% of the total labelled expenditure. Overall, the estimates indicated that drug-related expenditure stood at 0.2 % of the GDP.

***Belgium***

The study *Drugs in Figures III* measured how much the Belgian Government spent on drug policy in 2008 (Vander Laenen, De Ruyver, Caulkins & Lievens, 2012). It further developed upon two earlier studies (De Ruyver et al. 2004, 2007) by carrying out a new and more refined estimation of public expenditure to combat illegaldrugs. The study combined a top-down and a bottom-up approach for estimating public expenditure. The vast majority (98.45%) of the expenditures were identified as a result of the top-down approach. Public expenditures identified through the bottom-up approach (1.55%) concerned organisations that depended on the government for most of their funding.

The total drug-related expenditure was broken down by programme: law enforcement, treatment, prevention, harm reduction and other. For 2008, public expenditure on law enforcement constituted 45% of the total expenditure. This was slightly less than the spending on treatment (49%) and substantially more than that on prevention (4%), harm reduction (0.8%) and other (1.2%). When estimated in the same way in 2004 and 2008, public expenditure on law enforcement showed a substantial increase, both nominally (from 186 038 337 euros to 243 000 490 euros) and in relation to the other programmes (it increased by 6 percentage points).

***Italy***

For the purpose of estimating drug-related public expenditure in Italy (Reitox Italian Focal Point, 2014), a model was developed to analyse the flow of cost information from various sources. The model consisted of four components: private or indirect costs (individual costs and costs due to loss of productive capacity) and public expenditure or direct costs (law enforcement costs, social and health costs). To determine the costs of law enforcement, different sources of information were used: data concerning traffic control and traffic accidents; police data on people caught with drugs for personal use; data on the number of convictions for drug trafficking; and data on crimes related to drug trafficking.

For 2011, the cost of drug-related law enforcement was estimated at 1 600 435 296.60 euros, or roughly 40 euros per inhabitant aged 15-64 years. The largest cost component was prisons and alternative measures (65%), whereas trials and legal expenses, law enforcement activities and administration represented 21.3%, 13% and 0.7%, respectively.

***France***

In a French study the method relied on analysing activity records, wherever available in the

agencies concerned (Kopp, 2015). The total expenditure for drug-related activities was then aggregated. The top-down approach applied in this case provided an indication of the proportion of expenditure for drug control related activities compared to the overall expenditure of all the institutions and agencies concerned. To obtain an estimate, a fraction was applied to the total staff and routine operating costs of the agency concerned. In the year 2010, for example, 10% of police activities were attributable to drug control activities, which involved 60 police units. In this example, police expenditures attributable to drug-related activities were calculated by multiplying the total expenditure of the police services by this fraction of 10%.

A bottom-up approach was also adopted, based on the working time of staff performing support functions in connection with drug-related activities or the equipment used, as recorded by the agencies concerned. For example, the time spent giving prevention talks in schools and the time spent by the police forces on alcohol tests were included in the calculations.

***Luxembourg***

Since 1999, the social costs of drugs have been estimated annually in Luxembourg. These estimates take account of the total costs to public and private agents of the consequences of drug use and trafficking. Public spending is analysed in five sectors: prevention, treatment, harm reduction, law enforcement and research. In the law enforcement field, as in other fields, the analysts face the twofold challenge of accounting for drug-related spending, as financed by different general government levels, and of developing models to extract unlabelled drug-related expenditure from broader budgets (Origer, 2002).

Law enforcement was estimated to account for 39% of total drug-related public expenditure in 1999; prevention, treatment and harm reduction expenditure amounted to 59%, whereas research and other stood at 2%. Overall, drug-related public expenditure represented 0.013% of GDP.

***Russia***

For Russia, public expenditures on law enforcement agencies and on the judicial system were estimated as part of a social study (Potapchik and Popovich, 2014). The comprehensive model encompassed private and indirect costs (the cost for the individual and the costs due to loss of production capacity) and public spending, including direct spending on supply reduction services. These were disaggregated into spending on law enforcement and on criminal justice, which included factors such as law enforcement agencies and the federal drug control service.

Public expenditure on supply reduction services was estimated using a top-down approach and various sources of information: police data on persons caught with drugs for personal use; data on the number of sentences for drug trafficking; and data on crimes related to drug trafficking. As there was no published information on the fraction attributable to drug-related crime in Russia, the fraction estimated in a study by the US Office of National Drug Control (22%) was employed with a view to estimating the law enforcement and judicial system expenditures.

***Portugal***

There are few examples of attempts to estimate the impact of changes in the legal system on drug-related public expenditure and drug-related budgets. Gonçalves et al. (2015) are an exception as they conducted a comprehensive social cost analysis of the situation before and after decriminalisation in Portugal. The authors found a significant reduction in the non-health related costs of drug policy between 2000 and 2004, in particular in the legal system (direct) costs. Although these observations highlight significant changes, prudence is still called for in concluding causal relationships with the new Portuguese National Strategy for the Fight against Drugs (NSFAD).

***Other national studies***

There are other examples of public expenditure studies additional to those mentioned above. For instance, Mostardt et al. (2010) estimated public expenditure in 2006 for Germany using data from Eurostat and the COFOG system, concluding that supply reduction represented close to 65% of the total drug-related public spending; Rigter (2006) estimated that 75% of public expenditure was spent on law enforcement in the Netherlands; Ramstedt (2006) presented public expenditure estimates for Sweden, whereas public spending on supply reduction represented between 70 to 76% of the total; and Lievens et al. (2016) published a social cost study, including estimates of public expenditure to deal with legal and illegal drugs in Belgium. There are also US (ONDCP, 1989-2015) and Australian (Moore, 2008) estimates. Despite substantial differences, the studies may all be viewed as necessary first steps in national drug policy evaluations.

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# 2.7 International databases used to model drug-related public expenditure

The only available international compilation of updated estimates of drug-related public expenditure on supply reduction is published by the EMCDDA for the EU member states[[6]](#footnote-4), reporting the available national estimates of total drug-related spending and spending separated into supply and demand reduction initiatives. The scope for cross-country comparisons is nonetheless limited because the estimates often do not use comparable definitions, data sets or methodologies.

Another database of particular relevance is Eurostat. This is partly because it is based on a consistent categorisation system and on internationally agreed definitions, which are required features for international comparison. The Classification of the Functions of Government (COFOG) is a detailed classification system for the functions or socioeconomic objectives that general government units aim to achieve through a range of outlays. Eurostat has published annual data according to the COFOG classification for European countries since the early 1990s. This data source has proved to be relevant and amenable to a wide variety of analytic applications. However, the data set does not comprise data concerning specific spending on drug-related public initiatives. In order to disentangle drug-related expenditure from the broad classes of public spending, modelling approaches are adopted according to the sector of intervention.

Appendix 1 provides a list of relevant data sources. In addition to the two data sources already mentioned, there is information on international reporting concerning supply reduction factors such as: drug related crime (EMCDDA and the European Institute for Crime Prevention and Control); prison activity and costs (the Council of Europe);crime and criminal justice systems (Eurostat and the European Institute for Crime Prevention and Control). Annex 3 makes an extensive description of data published by international institutions.

# 2.8 Conclusions

* Every European country allocates significant public resources to the drug policy field. Public expenditure studies can reveal how much public authorities are spending on drug policy and for what purposes such expenditure is incurred.
* Public expenditure estimates can be used as a tool for assessing whether policy intentions are actually reflected in action, and they constitute a necessary tool for implementing thorough policy evaluations. Public expenditure studies should mirror all relevant activities and policy approaches and may be particularly appropriate in times of austerity.
* Estimates exist for 16 EU countries, out of the 30 potential reporting countries (EMCDDA, 2014b). Estimates suggested that drug-related expenditure ranged from 0.01 % to 0.5 % of GDP. 12 out of the 16 reporting countries allocate the largest share of drug-related public expenditure supply reduction activities.
* Data availability is one of the main limitations in this field. The use of international databases is recommended, whenever possible, because these data sets employ broadly accepted concepts and definitions and provide better comparable data. Sometimes, however, national data sets can contain more detailed or reliable information.
* The total budget for supply reduction services is the sum of labelled and unlabelled expenditures. Labelled expenditures are clearly identified in public budgets, whereas a modelling procedure is required for estimating unlabelled ones. The modelling is based on either a top-down or a bottom-up approach. Using both approaches as complementary is advantageous but expensive. A list of advantages and limitations for both alternatives is provided, in addition to empirical expenditure studies for supply reduction activities in some European countries.
* While recognising the limitations imposed by the data sets currently available, this report provides examples of current practice and, in so doing, suggests areas of future focus for desired methodological development. It is hoped that the estimation of drug-related public expenditure on supply reduction initiatives and policy evaluation will move forward in Europe. For continued improvements to take place, however, it is essential that a network of experts is developed and maintained. Partnerships should be extended and maintained with the goal of developing good practices, standards and guidelines in this field.

# 2.9 Recommendations

1. Improving estimation methods with further methodological developments; agreeing on best practices and; finding reliable standardised data will enhance the utility of public expenditure estimates, as that will permit analysis over time and across policy areas and countries.
2. Improved data quality and developing relevant data sources is needed for conducting more precise estimations of spending on drug control measures and to measure the impact of drug control policies. One option is to develop guidelines for data collection and economic modelling of evaluations.
3. It is essential to classify public expenditure based on the purpose for which the expenditure is intended. It is therefore useful to use a consistent categorisation system, such as the international Classification of the Functions of Government (COFOG).
4. Cross-country comparisons are important, but they are only possible with a common methodology of public expenditure estimates. International data sets and modelling techniques need to be expanded and improved in order to increase the capacity to carry evidence based on drug policy evaluations in the drug field
5. A methodology using a set of repartition keys according to COFOG categories can be a starting point in order to estimate unlabelled drug-related expenditures. General agreement among all participating countries on definitions and methods will help improve the comparability of results between countries.
6. Public expenditure studies involve analytical work, which requires adequate human and technical capacities in all relevant stakeholder fields. This is important for obtaining the data quality needed for aggregation and comparison. To achieve this, a network of experts could be established and a working group of experts developed.
7. Developing methods to estimate public expenditure on supply reduction requires effective working partnerships between drug policymakers and specialists in the police, law courts and prisons. Collaboration with public accountancy experts and those in charge of economic modelling is required to guarantee meaningful estimates.

# Glossary

**Attributable fractions** also known as **repartition keys** are coefficients estimated to help those who estimate drug-related expenditure with the purpose of reflecting the proportion of expenditure allocated to finance drug-related initiatives. Therefore, attributable fractions are designed to accurately isolate drug-spending, when drug-related expenditure is embedded into a broader budgetary structure. There is no general methodology to determine repartition keys. It depends on the case (on the basis of the activity information and data available) (Vander Laenen et al, 2011).

**Cost analysis** provides monetary estimates of the costs of a particular intervention or set of interventions, and also information on the amount of resources (e.g. labour, facility, supplies) used in their provision. The latter information is often used to identify critical cost components of the intervention and to assess whether the costs are affected by changes in key assumptions (Bray and Zarkin, 2006). In addition to being the first step in a cost-effectiveness and cost-benefit analysis, cost studies can also be used to compare the relative costs of one intervention to another or to monetise savings from implementing a particular action (Chalk et al., 2013).

**Cost-effectiveness analysis**involves estimating the ratio of the difference in costs between two alternatives (net costs) divided by the difference in the outcomes (net effectiveness) (Gold et al., 1996). Traditionally, this measure has been used in health economics. However, this evaluation tool can be used in any framework of policy intervention, given that the outcome measures are those relevant for each type of public policy analysed. It is, essentially, the incremental price of obtaining a unit outcome effect (e.g. a 10% reduction in the number of drug-law offences in the past month) from a given police intervention (e.g. introducing drug squads in problem neighbourhoods) when compared to an alternative (e.g. regular policing). Intervention costs are estimated in monetary units, such as the euro. The effect of the intervention can be any policy-relevant outcome that is collected for all interventions under consideration.

**Cost-benefit analysis** converts all types of outcomes to a monetary equivalent, in contrast to cost-effectiveness analysis (Chalk et al., 2013 and Drummond et al., 1997). As a result, the euro value of the intervention’s benefits can be directly compared with the euro value of the intervention’s costs. Two common methods for comparing benefits and costs include calculating net benefits (costs are subtracted from benefits) and benefit-cost ratios (benefits are expressed as a percentage of programme costs). A related type of analysis is the cost-offset analysis in which future costs or cost-savings are examined. Since cost-benefit analyses combine multiple outcomes into a single measure and allow direct comparison of costs to benefits, they often provide clearer guidance than cost-effectiveness analyses on which treatment programmes should be adopted – namely those programmes whose benefits exceed their costs. Cost-effectiveness analyses can provide a ranking of competing alternatives but not information on the extrinsic value of any single intervention independent of the alternatives (Bray and Zarkin, 2006).

**General government** comprises the central government, state government (in some countries it applies to the federal level of government), local and social security funds (Eurostat, 2011).

**Government expenditure** is defined as a particular set of transactions, comprising the expending undertaken by general government sector units (Eurostat, 2011).

**Economic evaluation** is a comparative analysis of alternative actions in terms of both their costs and consequences (Drummond et al., 1997).

**Labelled drug-related expenditure** is the ex-ante planned public expenditure made by general government in the budget that reflects the public and voluntary commitment of a country in the field of drugs. In addition, it is any expenditure identified as drug-related in public accountancy documents (EMCDDA, 2008).

**Public expenditure** is the value of goods and services purchased by the general government of a state in order to perform each of its functions. The functions of governments are, among others, the provision of health care, justice, public order, education and social protection. Public expenditure studies are important because they provide information about the size and the composition of the costs of public programmes and interventions (Eurostat, 2011).

**Social costs of illegal drugs** comprise all costs carried bythe different sectors of society as a consequence of the illicit drug phenomenon. Public expenditure is only one of the cost elements here. Social cost is the sum of public expenditure, private expenditure and external costs. Private expenditure constitutes, for instance, the money spent by private citizens to purchase illicit drugs. External costs comprise the costs caused by the consequences of drug use, which can affect anyone in society, including those who do not necessarily use drugs or are involved in drug demand, supply or drug policy. For instance, external costs are the expenditure on drug-related nuisance, expenditure on tackling offences committed under the influence of drugs, losses of productivity or absenteeism associated with either drug trafficking or dealing activities, among others (Single et al., 2003).

**Total drug-related public expenditure** is the sum of the labelled and unlabelled drug-related expenditure (EMCDDA, 2008).

**Unlabelled drug-related expenditure** is the non-planned or non-publicly announced ex-post public expenditure incurred by the general government in tackling drugs that is not identified as drug-related in the budget (EMCDDA, 2008).

# References

Bray J. W. and Zarkin G. A. (2006), “Economic evaluation of alcoholism treatment”, *Alcohol Research and Health*, No. 29(1), pp. 27-33.

Budak J., Jurlina Alibegović D., Slijepčević S. and Švaljek, S. (2013), *Analiza javnih rashoda za praćenje ostvarivanja ciljeva u području suzbijanja zlouporabe droga u Republici Hrvatskoj* [Analysis of public expenditure for monitoring achievement of the objectives in the field of combating drug abuse in the Republic of Croatia], Ekonomski institut, Zagreb

i Ured za suzbijanje zlouporabe droga Vlade Republike Hrvatske, Zagreb

Carnevale Associates (2008), “FY02-09 Budget emphasizes least effective ingredients of drug policy”, Carnevale Associates LLC, policy brief, available at:

<http://www.carnevaleassociates.com/Federal_Drug_Budget_FY02_09_Trend.pdf>

#### Chalk M., Alanis-Hirsch K., Woodworth A., Kemp J. and McLellan T. (2013), “FDA approved medication for the treatment of opiate dependence: literature reviews on effectiveness and cost-effectiveness”, Treatment research institute.

#### Costa Storti C. and De Grauwe P. (2009), “The cocaine and heroin markets in the era of globalisation and drug reduction policies”, International Journal of Drug Policy, No. 20(6), pp. 488-496.

Council of the European Union (2012), “EU Drug Strategy (2013-2020)”, JAI901, 17547/2, Brussels.

De Ruyver B., Casselman J. and Pelc I. (2004), *Drug policy in figures. Study of the actors involved, cost price calculation and population reached*, Academia Press, Ghent.

De Ruyver B., Van Malderen S. and Vander Laenen F. (2007), *Study into public expenditure with regard to national drug policies. A feasible plan for the national focal points*, Academia Press, Ghent.

De Ruyver B. et al. (2007), *Drug Policy in Figures II: Follow-up Research into the Actors, Public Spending and Reached Target Groups*, Academia Press, Ghent.

Drummond M. F., O’Brien B., Stoddart G. L. and Torrance G. W. (1997), *Methods for the economic evaluation of health care programmes* (2nd edn), Oxford University Press, Oxford.

European Commission (2012), “The quality of public expenditures in the EU”, *Occasional papers 125,* ISBN 978-92-79-22932-9.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2007) “The State of the Drug Problem in Europe”, *2007 Annual Report*, pp. 12-13, Office for Official Publications of the European Communities, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2008), “Selected Issue: Towards a Better Understanding of Drug-Related Public Expenditure in Europe”, *EMCDDA Papers*, Office for Official Publications of the European Communities, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2014), “Estimating public expenditure on drug-law offenders in prison in Europe”, *EMCDDA Papers*, Office for Official Publications of the European Communities, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2014a), “Financing drug policy in Europe in the wake of the economic recession”, *EMCDDA Papers*, Office for Official Publications of the European Communities, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2014b), “European Drug Report – Trends and developments”, *EMCDDA Papers*, Office for Official Publications of the European Communities, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2015), “European Drug Report – Trends and developments”, *EMCDDA Papers*, Office for Official Publications of the European Communities, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction, EMCDDA (2016), *Countries’ overviews*, available at [www.emcdda.europa.eu/countries](http://www.emcdda.europa.eu/countries).

European Monitoring Centre for Drugs and Drug Addiction and Europol (2016), “EU Drug markets report: in-depth analysis”, EMCDDA-Europol joint publication, Office for Official Publications of the European Communities, Luxembourg.

Eurostat (2011), “Manual on sources and methods for the compilation of COFOG statistics – Classification of the Functions of Government (COFOG)”, *Eurostat methodologies and working papers* (2011 edn), Office for Official Publications of the European Communities, Luxembourg.

Fazey C.S.J. (2003), *International Journal of Drug Policy*, No. 14, pp. 155-169.

French Monitoring Centre for Drugs and Drug Addiction (2012), *Recent trends in drug-related public expenditure and drug-related services in France*, available at <http://en.ofdt.fr/BDD/publications/docs/nr2012si2.pdf>

Genetti B. (2014), “First component of costs (costs of enforcing the Law) – conceptual model, methodology and results in Italy”, presented at the conference “A national study on drug-related social costs”, 7-11 April 2014, Zagreb.

Gold M.R., Siegel J.E., Russel L.B. and Weinstein M.C. (eds) (1996), *Cost-effectiveness in Health and Medicine*, Oxford University Press, New York.

[Gonçalves R](http://www.ncbi.nlm.nih.gov/pubmed/?term=Gon%C3%A7alves%20R%5BAuthor%5D&cauthor=true&cauthor_uid=25265899), [Lourenço A](http://www.ncbi.nlm.nih.gov/pubmed/?term=Louren%C3%A7o%20A%5BAuthor%5D&cauthor=true&cauthor_uid=25265899), [Silva S. N](http://www.ncbi.nlm.nih.gov/pubmed/?term=Silva%20SN%5BAuthor%5D&cauthor=true&cauthor_uid=25265899). (2015), “A social cost perspective in the wake of the Portuguese strategy for the fight against drugs”, [*International Journal of Drug Policy*](http://www.ncbi.nlm.nih.gov/pubmed/25265899), No. 26(2), pp. 199-209.

Kopp P. and Fenoglio P. (2002), “Calculating the social cost of illicit drugs”, Pompidou Group, Council of Europe Publishing.

Kopp, P. & Fenoglio, P. (2003), *Public spending on drugs in the European Union during the 1990s*, EMCDDA, Lisbon.

Kopp, P. (2006), *Économie de la drogue*, Éditions La Découverte, Paris.

Kopp, P. (2015), *Le côut social des drogues en France*, OFDT.

Lievens D., Laenen F. V., Caulkins J. and De Ruyver B. (2012), “Drugs in Figures III - Study of public expenditures on drug control and drug problems”, *European criminal justice and policy: Governance of Security Research Paper Series*, No. 7, Maklu Publishers, Alperdoon.

Moolenaar D. E. G. (2009), “Modelling criminal justice system costs by offence; lessons from the Netherlands”, *European Journal of Criminal Policy Research,* No. 15, pp. 309-326.

Moore T. J. (2005), *Monograph No. 01: What is Australia’s “drug budget”? The policy mix of illicit drug-related government spending in Australia*, Fitzroy: Turning Point Alcohol and Drug Centre.

Moore, T. (2008), “The size and mix of government spending on illicit drug policy in Australia”, *Drug and Alcohol Review,* No. 27*,* pp. 404-413.

Mostardt et al. (2010), “Schaetzung der Ausgaben des offentlichen Hand durch den Konsum illegaler Drogen in Deutschland”, *Das Gesundheitswesen*, No. 73(12), pp. 886-894.

Official Journal of the European Union (2013), “EU Action Plan on Drugs 2013-2016”, 2013/C 351/01.

Origer A. (2002), *Le coût économique direct de la politique et des interventions publiques en matière d’usage illicite de drogues au Grand-Duché de Luxembourg.* Research series No. 4, Point focal OEDT Luxembourg – CRP-Santé, Luxembourg.

Potapchik E. and Popovich L. (2014), “Social cost of substance abuse in Russia”, *Value in health regional issues*, No. 4C, pp. 1-5.

Ramstedt M. (2006), “What drug policies cost. Estimating drug policy expenditures in Sweden, 2002: work in progress”, *Addiction,* No. 101*,* pp.330-338.

Reuter P., Ramstedt M. and Rigter H. (2004), *Developing a Framework for Estimating Government Drug Policy Expenditures*, EMCDDA, Lisbon.

Reuter P. (2006), “What drug policies cost. Estimating government drug policy expenditures”, *Addiction*, No. 101(3), pp. 315-322.

Rigter H. (2004), “Drug policy expenditures in the Netherlands, 2003”, in Reuter P., Ramstedt M. and Rigter H. (eds), *Developing a Framework for Estimating Government Drug Policy Expenditures*, European Monitoring Centre for Drugs and Drug Addiction, pp. 37-73, Lisbon.

Rigter, H. (2006), “What Drug Policies Cost. Drug Policy Spending in the Netherlands in 2003”, *Addiction,* No. 101*,* pp. 323-329.

Serpelloni, G. et al. (2013), “[Italy's electronic health record system for opioid agonist treatment](http://www.sciencedirect.com/science/article/pii/S074054721300038X)”, *Journal of Substance Abuse Treatment*, No. 45(2), pp. 190-195.

Single E. et al. (2003), *International Guidelines for Estimating the Economic Costs of Substances Abuse* (2nd edn), World Health Organization, Geneva.

Single E., (2009), “Why we should still estimate the costs of substance abuse even if we needn't pay undue attention to the bottom line”, *Drug and Alcohol Review*, [No. 28(2),](http://onlinelibrary.wiley.com/doi/10.1111/dar.2009.28.issue-2/issuetoc) pp. 117-121.

Vander Laenen F., Vandam L., De Ruyver B. and Lievens D., (2011) Studies on public expenditure in Europe: possibilities and limitations, Bulletin on Narcotics, Vol LX, 2008, UNODC, Vienna

Vander Laenen F. and Lievens D. (forthcoming), “A cross-national comparison of public expenditures on drug treatment, context is key”, in *Drug-related treatment expenditure: a methodological insight*, EMCDDA, Lisbon.

# Appendix 1: Available databases and potential indicators for drug-related public expenditures

*Examples of international databases, which can be used for estimating drug-related public expenditures*

|  |  |  |
| --- | --- | --- |
| **Level of estimation** | **Examples of databases** | **Estimation data** |
| International | **EMCDDA Statistical bulletin****and** **Public expenditure database** | * The EMCDDA statistical bulletin covers a broad range of areas including the most recent estimates of drug-related crime in the form of drug seizures, types of offence, price, purity and use in prison, and country responses to the drug situation in Europe. http://www.emcdda.europa.eu/data/stats2015
* The EMCDDA also publishes the most recent national data on drug-related public expenditures available in Europe.
* http://www.emcdda.europa.eu/topics/drug-related-public-expenditure
 |
| **WHO Database** | * **Global Information System on Resources for the Prevention and Treatment of Substance Use Disorders** (includes information about: [prevalence and burden of Disease](http://apps.who.int/gho/data/node.main-euro.A1211?lang=en&showonly=RSUD), [monitoring and surveillance](http://apps.who.int/gho/data/node.main-euro.A1221?lang=en&showonly=RSUD); [policy](http://apps.who.int/gho/data/node.main-euro.A1229?lang=en&showonly=RSUD); [treatment system and services](http://apps.who.int/gho/data/node.main-euro.A1233?lang=en&showonly=RSUD); [pharmacological treatment](http://apps.who.int/gho/data/node.main-euro.A1280?lang=en&showonly=RSUD); [prevention programmes for substance use and related harm](http://apps.who.int/gho/data/node.main-euro.A1319?lang=en&showonly=RSUD); and [human resources and civil society involvement](http://apps.who.int/gho/data/node.main-euro.A1333?lang=en&showonly=RSUD)).
 |
| **Eurostat**  | **Public expenditure according to the Classification of the Functions of Government (COFOG)**COFOG published data according to two levels of classification (United Nations, 2008). The first classifies expenditure into 10 general functions, one of which is “Public order and safety”. The second classifies expenditure into 69 groups, in which there are three indicators of interest: police service, law courts and prisons. The definitions below are provided by the UNODC.From the Public order and safety section:**Police services**- Administration of police affairs and services, including alien registration, issuing work and travel documents to immigrants, maintenance of arrest records and statistics related to police work, road traffic regulation and control, prevention of smuggling and control of offshore and ocean fishing.- Operation of regular and auxiliary police forces, of port, border and coast guards, and of other special police forces maintained by public authorities; operation of police laboratories; operation or support of police training programmes.**Law Courts**- Administration, operation or support of civil and criminal law courts and the judicial system, including enforcement of fines and legal settlements imposed by the courts and operation of parole and probation systems.- Legal representation and advice on behalf of the government or on behalf of others provided by government, in cash or in services.**Prisons**- Administration, operation or support of prisons and other places for the detention or rehabilitation of criminals such as prison farms, workhouses, reformatories, asylums for the criminally insane, etc. |
| **UN-CTS (Crime and Criminal Justice Statistics)** | Data produced by UNODC have multiple sources. Member States regularly submit to UNODC statistics on drugs (through the Annual Report Questionnaire) and crime and criminal justice (through the annual Surveys on Crime Trends and Operations of Criminal Justice Systems). Other data are collected through national surveys implemented by UNODC in co-operation with national governments or are compiled from scientific literature. UNODC attempts to maximise the comparability of the data and estimate regional and global statistics. |
| **SPACE** | SPACE unites two related projects: SPACE I provides data on penal institutions and the population held in custody, as well as on certain conditions of detention, while SPACE II collects information on persons serving non-custodial sanctions and alternative measures.Data are collected every two years by means of two questionnaires sent to the equivalents of the ministries of justice, the penitentiary administrations and the probation authorities of each country in Europe. The collection and validation of these data then takes place at the University of Lausanne, where analyses and interpretations for both projects are formulated through a common methodology. This methodology aims to allow comparisons among states at European level, by proposing SPACE categories instead of each country’s own national categories, while still including questions regarding the particularities of their specific sanctions and measures. The SPACE project produces two annual reports: SPACE I – Prison Populations and SPACE II – Persons Serving Non-Custodial Sanctions and Measures, presenting the data collected and the key points of the results. |
| **European Sourcebook on Crime and Criminal Justice Statistics** | The Sourcebook contains data from 41 European countries regarding their criminal justice systems. The book is structured into six main chapters covering different stages of the judicial system: Police Statistics, Prosecution Statistics, Conviction Statistics, Prison Statistics, Probation Statistics and, for the 2014 edition, a final chapter on National Victimization Surveys. The data provided are systematically accompanied by texts and notes relating to the specificity of each country and which discuss the different challenges attributed to the comparison of the data. |
| **Social Expenditure Database** | The OECD Social Expenditure Database (SOCX) provides a unique tool for monitoring trends in aggregate social expenditure and analysing changes in its composition. The main social policy areas are as follows: old age, survivors, incapacity-related benefits, health, family, active labour market programmes, unemployment, housing, and other social policy areas. |
| **ESPAD** | Drug abuse prevalence among teenagers in European countries. |
| National | **Database of national statistics** | Expenditures of different groups, in which can be found some indicators of interest: police service, law courts, prisons, medical and social services.  |
|  | **Annual report from Social Services Department** | Data on Social Services Department expenditures at regional level and the number of drug users receiving social benefits in connection with drug use. |

# Appendix 2: The international Classification of the Functions of Government (COFOG)

The COFOG classification has three structural levels. At the first level, government expenditure is broken down into 10 functions. These are then divided into 69 groups (second level of COFOG), which are themselves divided into classes at the third level – the most detailed classification level. COFOG permits an examination over time of trends in government outlays on particular functions (Eurostat, 2011).

The detailed three-level structure of COFOG includes financial flows of public finance, which are going from state and local (regional and municipal) budgets to non-profit organisations (NPOs) with drug-policy programmes. COFOG is a functional classification system used by the System of National Accounts 1993. COFOG is a useful international classification system for spatial comparison (between countries) and also for time comparison (over time). In principle, its units of classification are individual transactions. This means that each outlay (purchase or transfer) should be assigned a COFOG code according to the function that the transaction serves. This principle is valid for both capital transfers (investment) and current (non-investment) transfers. Eurostat has published annual data according to the COFOG definitions for the European Union countries since the early 2000s.

The extensive structure of COFOG contrasts with the four-category division introduced by Reuter (2006), based on the likely effects of services provided by drug policy programmes (namely prevention, treatment, enforcement and harm reduction). Reuter’s programme division is the classification of the recipients (NPOs) with drug-policy programmes.

An example of an overview of public expenditure groups, broken down according to the main public functions pursuant to the international classification of the functions of the government at the third level, is shown in the table below.

A pragmatic approach towards drug-related research and public expenditure estimates would suggest adopting a classification such as COFOG, as proposed by Eurostat. The COFOG classification system guarantees annually available data for most European countries, according to harmonised definitions and standard data collection procedures.

*Public expenditures according to the classification of public functions*

|  |  |
| --- | --- |
| **Public functions** | **Public functions at the third level of classification** |
| 01 General public services | 014 Basic research |
| 03 Public order and safety  | 031 Police services |
| 033 Law courts |
| 034 Prisons |
| 07 Health | 071 Medical products, appliances and equipment |
| 072 Outpatient services |
| 073 Hospital services |
| 074 Public health services |
| 075 R&D health |
| 09 Education | 091 Pre-primary and primary education |
| 092 Secondary education |
| 094 Tertiary education |
| 095 Education non-definable by level |
| 096 Subsidiary services to education |
| 10 Social protection | 105 Unemployment |
| 106 Housing  |
| 107 Social exclusion  |

# Appendix 3: Summary tables: data from international databases

**Table 1 - Public expenditure**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data and Statistics** | **Dataset** | **Type of information** | **DATABASE** | **YEARS** | **Number of observations(\*)**  |
| **Public expenditure** | Expenditure of the general government | Law Courts | **Eurostat,** **European Union** **(EU)** | 1995-2015 | Europe (31) = **473**/651 |
| Police Services | Europe (31) = **473**/651 |
| Prisons | Europe (31) = **473**/651 |
| **Drug-related public expenditure** | Public expenditure on supply reduction | Total drug-related public expenditure | **Country Drug Profiles,****EMCDDA, (EU)** | Last year available | EU (30) =**20**/30 |
| Percentage spent on supply reduction |
| Percentage spent on demand reduction |

(\*) The number of observations reports the number of data records, taking into account the territory; countries and years available. The ratio compares the number of effectively reported observations with the total number of records, if no data were missing. Example: Europe (44) = 28/368: in Table 4, the conviction statistics of the European Sourcebook of crime and criminal justice statistics reports 28 data records, for the community sanctions imposed to drug offences in 2010, compared to the 368 data records that would exist if no data were missing, in the region Europe (which accounts with 44 countries).

**Table 2 - Drug law offences**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data and Statistics** | **Dataset** | **Type of information** | **DATABASE** | **YEARS** | **Number of observations(\*)** |
| **Drug law offences** | Drug Law Offences | Number of offences | Offences | **EMCCDA****(EU)** | 1995-2014 | EU (30) = **364**/600 |
| Offender | EU (30) = **262/**600 |
| Offences by Types | Use | 2004-2013 | EU (30) = **230**/300 |
| Supply | EU (30) = **238**/300 |
| Offences by drug | Cannabis | Total | 2004-2013 | EU (30) = **203**/300 |
| Use | 2005-2013 | EU (30) = **163**/270 |
| Supply | EU (30) = **160**/270 |
| Heroin | Total | 2004-2013 | EU (30) = **186**/300 |
| Use | 2005-2013 | EU (30) = **159**/270 |
| Supply | EU (30) = **160**/270 |
| Cocaine | Total | 2004-2013 | EU (30) = **185/**300 |
| Use | 2005-2013 | EU (30) = **159**/270 |
| Supply | EU (30) = **176**/270 |
| Crack | Total | 2005-2013 | EU (30) = **50**/270 |
| Use | EU (30) = **47**/270 |
| Supply | EU (30) = **37**/270 |
| Amphetamine | Total | 2005-2013 | EU (30) = **163**/270 |
| Use | EU (30) = **74**/270 |
| Supply | EU (30) = **87**/270 |
| Methamphetamine | Total | 2005-2013 | EU (30) = **98**/270 |
| Use | EU (30) = **74**/270 |
| Supply | EU (30) = **87**/270 |
| Ecstasy  | Total | 2005-2013 | EU (30) = **162**/270 |
| Use | EU (30) = **144**/270 |
| Supply | EU (30) = **153**/270 |
| LSD | Total | 2005-2013 | EU (30) = **127**/270 |
| Use | EU (30) = **108**/270 |
| Supply | EU (30) = **95**/270 |

**Table 3 - Prison population**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data and Statistics** | **Dataset** | **Type of information** | **DATABASE** | **YEARS** | **Number of observations(\*)** |
| **Prison population** | Persons held in institutions for drug users offenders outside penal institutions | Availability of institutions for drug users offenders, outside penal institutions | **Space I, Council of Europe (CoE)** | 2014 | CoE (47) =**28**/53 |
| Situation of prison population | Population on 1st January  | 2009 &2014 | 2009: CoE (47) = **343**/4242014: COE (47) = **255**/265 |
| Total number of prisoners (including pre-trial detainees) |
| Total number of detainees held in remand institutions/sections (pre-trials) |
| Total number of prisoners held in institutions serving a sentence |
| Total capacity of penal institutions |
| Surface area per prisoner (m^2)  |
| Evolution of prison population | Total number of prisoners | 2000-2014 | CoE (47) = **707**/795 |
| Prison population | CoE (47) = **683**/795 |
| Legal status of prison population | Untried detainees (no court decision)” | 2009 &2014 | 2009: CoE (47) = **274**/4242014: CoE (47) = **315**/477 |
| Detainees found guilty but no sentence yet |
| Sentenced prisoners (appealed or can do so) |
| Detainees with no final sentence, but serving a prison sentence in advance |
| Sentenced prisoners (final sentence), of which: |
| * fine defaulters
 |
| * in revocation, suspension or annulment of the conditional release or probation
 |
| Other cases |
| Total number of prisoners (including pre-trial detainees) |
| Main offence of sentenced prisoners (Final Sentence)  | Drug offences | 2009 & 2014 | CoE (47) = **88/**106 |
| Lengths of sentences imposed (final sentenced prisoners) | Length of the sentences by month, years or lifetime | 2009 | CoE (47) = **405**/583 |
| 2014 | CoE (47) = **557**/689 |
| Prison population (including pre-trial detainees): stock | Prison populationStock – Total | **European Sourcebook of crime and criminal justice statistics,****Université de Lausanne** | 2003-2011 | Europe (44) = **387**/414 |
| Prison populationPre-trial detainees | Europe (44) = **356**/414 |
| Convicted prison population by type of offence | Total criminal offences | 2006 & 2010 | Europe (44) = **88**/92 |
| Drug offences (of which %) | 2010 | Europe (44) = **38**/46 |
| Convicted prison population in 2010 Drug offences: Total | 2006 & 2010 | Europe (44) = 46/92 |
| Sentenced persons held in prisons | Drug Offences | **UNODC** | 2010-2012 | Europe (26) = **49**/81 |
| Drug Trafficking | Europe (26) =**36**/81 |

**Table 4 - Cases registered by the police, prosecutors and law courts**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Data and Statistics** | **Dataset** | **Type of information** | **DATABASE** | **YEARS** | **Number of observations(\*)** |
| **Police statistics** | Crime Recorded by the Police | Total | **Eurostat** | 1993-2007 | Europe (36) = **536**/585 |
| Unlawful acts involving controlled drugs or precursors | 1993-2007 | Europe (36) = **486**/585 |
| 2008-2014 | Europe (39) = **275**/287 |
| Drug-Related Crimes at the national level, number of police-recorded offences | Total | **UNODC** | 2003-2008 | Europe (40) = **215**/258 |
| Drug Possession | Europe (21) = **101**/138 |
| Drug Trafficking | Europe (37) = **175**/240 |
| Police Statistics- Offences/Offenders | Offences | Criminal Offences | **European Sourcebook of crime and criminal justice statistics** | 2003-2011 | Europe (42) = **347**/387 |
| Drug Offences | Europe (42) = **333**/387 |
| Drug Trafficking | Europe (41) = **269**/387 |
| Offenders | Criminal Offenders | Europe (42) = **263**/396 |
| Drug Offenders | Europe (42) = **245**/396 |
| Drug Trafficking | Europe (42) = **190**/396 |
| **Conviction statistics** | Criminal cases handled by the prosecuting authorities  | Output cases: Total | 2003-2011 | Europe (42) = **218**/396 |
| Percentage brought before a court of the total output of criminal cases handled by the prosecuting authorities | Europe (42) = **198**/396 |
| Output cases by offence group | Drug Offences | 2010 | Europe (42) = **33**/88 |
| Drug Trafficking | Europe (42) = **25**/88 |
| Convictions Statistics- Persons convicted | Criminal offences | 2003-2011 | Europe (42) = **293**/369 |
| Drug offences | Europe (42) = **272**/369 |
| Drug trafficking | Europe (42) = **193**/369 |
| Total persons receiving sanctions/measures | Criminal offences | 2006 | Europe (41) = **203**/473 |
| 2010 | Europe (41) = **176**/602 |
| Drug offences | 2006 | Europe (41) = **175**/473 |
| 2010 | Europe (41) = **158**/602 |
| Drug trafficking | 2006 | Europe (41) = **113**/473 |
| 2010 | Europe (41) = **104**/602 |
| Community sanctions and measures imposed | Criminal offences | 2010 | Europe (44) = **52**/368 |
| Drug offences | Europe (44) = **28**/368 |

**Acronyms**

Council of Europe (47) = CoE(47): Albania, Andorra, Armenia, Austria, Azerbaijan, Belgium, Bosnia-Herzegovina, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, San Marino, Serbia, Slovak, Slovenia, Spain, Sweden, Switzerland, TRF-Macedonia, Turkey, Ukraine, United Kingdom

European Union (30)= EU(30): Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom

Europe (21): Belarus, Bulgaria, Czech Republic, Hungary, Poland, Romania, Finland, Iceland, Lithuania, Norway, Sweden, United Kingdom, Albania, Croatia, Malta, Slovenia, Belgium, France, Liechtenstein, Luxembourg, Switzerland

Europe (26): Bulgaria, Czech Republic, Poland, Romania, Russian, Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom, Andorra, Greece, Italy, Malta, Portugal, Serbia, Slovenia, Austria, Liechtenstein, Monaco, Netherlands, Switzerland

Europe (31): Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom

Europe (36): Europe (31) + Liechtenstein, Montenegro, TRF-Macedonia, Serbia, Turkey

Europe (37): Europe (21) + Republic of Moldova, Russian Federation, Slovakia, Ukraine, Denmark, Estonia, Ireland, Bosnia-Herzegovina, Italy, Montenegro, Portugal, Serbia, Spain, TRF- Macedonia, Germany, Monaco

Europa (39): Europe (36) + Albania, Bosnia-Herzegovina, Kosovo

Europa (40): Belarus, Bulgaria, Czech Republic, Hungary, Poland, Moldova, Romania, Slovakia, Ukraine, Denmark, Estonia, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, United Kingdom, Albania, Bosnia-Herzegovina, Croatia, Greece, Italy, Malta, Montenegro, Portugal, Serbia, Slovenia, Spain, TRF- Macedonia, Austria, Belgium, France, Germany, Liechtenstein, Luxembourg, Monaco, Netherlands, Switzerland

Europa (41): Europa (42), except Luxembourg

Europe (42): Europa (31) + Albania, Armenia, Bosnia-Herzegovina, Georgia, Kosovo, Moldova, Russia, Serbia, TRF- Macedonia, Turkey, Ukraine

Europe (44): Europe (42) + Azerbaijan, Montenegro

**Table references**

Aebi, M. F., Delgrande, N. (2011). SPACE I- Council of Europe Annual Penal Statistics. Survey 2009. Strasbourg: Council of Europe

Aebi, M. F., Tiago, M. M. & Burkhardt, C. (2015). SPACE I- Council of Europe Annual Penal Statistics: Prison populations. Survey 2014.Strasbourg: Council of Europe

EMCDDA. (2017). Obtido de http://www.emcdda.europa.eu/data/stats2015

EMCDDA. (2017). Obtido de <http://www.emcdda.europa.eu/topics/drug-related-public-expenditure>

Eurostat. (2017). Obtido de http://ec.europa.eu/eurostat/data/database?node\_code=gov\_10a\_exp

UNODC. (2017). Obtido de http://www.unodc.org/unodc/en/data-and-analysis/statistics/crime.html

UNODC. (2017). Obtido de http://www.unodc.org/unodc/en/data-and-analysis/statistics/crime.html

1. C.S.J. Fazey / International Journal of Drug Policy 14 (2003) 155\_/169 [↑](#endnote-ref-1)
2. <https://www.ncjrs.gov/ondcppubs/publications/policy/99ndcs/iv-g.html>

**REFERENCES**

Anderson P, Braddick F, Conrod P, Gual A, Hellman M, Matrai S, Miller D, Nutt D, Rehm J, Reynolds J and Ysa T. (2016). *The New Governance of Addictive Substances and Behaviours*. Oxford: Oxford University Press.

Alibegović D. J and Slijepčević S. (2015) Assessment of drug-related public expenditures in Croatia“, Društvena istraživanja, 24(1), pp. 1-20, doi:10.5559/di.24.1.01, <http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=204088>

Aitken, C., Moore, D., Higgs, P., Kelsall, J., &Kerger, M. (2002). The impact of a police crackdown on a street drug scene: Evidence from the street. *International Journal of Drug Policy*, 13, 189–198.

Bargagli, A. M., Hickman, M., Davoli, M., et al. (2006), ‘Drug-related mortality and its impact on adult mortality in eight European countries’, *European Journal of Public Health* 16 (2), pp. 198–20

Barry, M., Usher, C. and Tilson, L. (2010), ‘Public drug expenditure in the Republic of Ireland’, in: *Expert review of pharmacoeconomics & outcomes research* 10:3, pp. 239-245.

Bastos, F. I., & Strathdee, S. A. (2000). Evaluating effectiveness of syringe exchange programmes: Current issues and future prospects. *Social Science and Medicine*, 51(12),1771–1782.

Battjes, R. J., Pickens, R. W., Haverkos, H. W., and Sloboda, Z. (1994). HIV risk factors among injecting drug users in five US cities. *AIDS*, 8(5), 681–687

Bell, J., Mattick, R., Hay, A., Chan, J. & Hall, W. (1997). Methadone maintenance and drug-related crime. *Journal of Substance Abuse,* 9**,** 15-25.

Bukten, A., Skurtveit, S., Gossop, M., Waal, H., Stangeland, P., Havnes, J. & Clausen, T. (2012). Engagement with opioid maintenance treatment and reductions in crime: a longitudinal national cohort study. *Addiction,* 107**,** 393-399.

Blankenship, K., & Koester, S. (2002). Criminal law, policing policy, and HIV risk in female street sex workers and injection drug users. *Journal of Law, Medicine and Ethics*, 30, 548–559.

Bluthenthal, R.N., Kral, A.H., Erringer, E.A., & Edlin, B.R. (1999a). Drug paraphernalia laws and injection-related infections disease risk am ong drug injectors. *Journal of Drug Issues*, 29 (1), 1-16

Bluthenthal, R. N., Kral, A. H., Lorvick, J., & Watters, J. K. (1997). Impact of law enforcement on syringe exchange programs: A look at Oakland and San Francisco. Medical Anthropology, 18(1), 61–83.

Broadhead, R. S., Kerr, T. H., Grund, J. P., & Altice, F. L. (2002). Safer injection facilities in North America: Their place in public policy and health initiatives. *Journal of Drug Issues,* 32(1), 329–355.

Campbell, K. M., Deck, D. & Krupski, A. (2007). Impact of substance abuse treatment on arrests among opiate users in Washington State. *American Journal on Addictions,* 16**,** 510-520.

Caraceni A, Hanks G, Kaasa S, Bennett MI, et al., (2012) Use of opioid analgesics in the treatment of cancer pain: evidence-based recommendations from the EAPC. Lancet Oncol 13:e58–e68

Carvell, A. & Hart, G. (1990). 'Risk behaviours for HIV infection among drug users in prison', *British Medical Journal*, vol. 300, pp. 1383-4

Caulkins, J. P. (1992). Thinking about displacement in drug markets: Why observing change of venue isn’t enough. *Journal of Drug Issues*, 22(1, Winter), 17–30.

Chaisson, R. E., Moss, A. R., Onishi, R., Osmond, D., & Carlson, J. R. (1987). Human immunodeficiency virus infection in heterosexual intravenous drug users in San Francisco. *American Journal of Public Health*, 77(2), 169–172.

CHRI. (2005). *Police Accountability. Too important to Neglect, Too Urgent to Delay* (New Delhi).

Churcher S. (2013). Stigma related to HIV and AIDS as a barrier to accessing health care in Thailand: a review of recent literature. *WHO South-East Asia J Public Health*; 2:12-22

Clarke J. G., Stein M. D., McGarry K. A., Gogineni A. (2001). Interest in smoking cessation among injection drug users. *American Journal on Addictions*, 10, 159–166 oi:10.1080/105504901750227804 [PubMed

Clausen, T., Waal, H., Thoresen, M. & Gossop, M. (2009). Mortality among opiate users: opioid maintenance therapy, age and causes of death. *Addiction,* 104**,** 1356-1362.

Coffin PO, Sullivan SD. (2013). Cost-effectiveness of distributing naloxone to heroin users for lay overdose reversal. *Ann Intern Med*; 158:1–9.

Coyle SL, Needle RH, Normand J (1999) Outreach-based HIV prevention for injecting drug users: a review of published outcome data. *Public Health*, 113 (Supplement 1). 19-30.

Collins, D.J., Lapsley, H.M. (2002), Counting the cost: estimates of the social costs of drug abuse in Australia 1998-1999, Sydney <http://www.emcdda.europa.eu/attachements.cfm/att_1981_EN_International%20guidelines%202001%20edition-4.doc>

Cooper, H., Moore, L., Gruskin, S., & Krieger, N. (2004). Characterizing perceived police violence: Implications for public health. *American Journal of Public Health*, 94(7), 1109–1118.

Darke, S., & Ross, J. (1998). Heroin-related deaths in South Western Sydney (No. Technical Report No. 52). Sydney: National Drug and Alcohol Research Centre.

Darke, S., Ross, J., & Hall, W. (1996). Overdose among heroin users in Sydney Australia: I. Prevalence and correlates of non-fatal overdose. *Addiction*, 91(3), 405–411

Davidson, P. J., Ochoa, K. C., Hahn, J. A., Evans, J. L., & Moss, A. R. (2002). Witnessing heroin-related overdoses: The experiences of young injectors in San Francisco. *Addiction*, 97(12), 1511–1516.

Degenhardt L., Bucello C., Mathers B., Briegleb C., Ali H., Hickman M. et al. (2011). Mortality among regular or dependent users of heroin and other opioids: a systematic review and meta-analysis of cohort studies. *Addiction*; 106: 32–51.

Degenhardt, L., Randall, D., Hall, W., Law, M., Butler, T. & Burns, l. (2009). Mortality among clients of a state-wide opioid pharmacotherapy program over 20 years: Risk factors and lives saved. *Drug and Alcohol Dependence,* 105**,** 9-15.

Des Jarlais, D. C. (2000). Structural interventions to reduce HIV transmission among injecting drug users. *AIDS*, 14(Suppl. 1), 41–46.

Des Jarlais, D. C., & Friedman, S. R. (1990). Shooting galleries and AIDS: Infection probabilities and ‘tough’ policies. *American Journal of Public Health*, 80(2), 142–144.

Diaz, T., Vlahov, D., Hadden, B., & Edwards, V. (1999). Needle and syringe acquisition among young injection drug users in Harlem, New York City. *National HIV Prevention Conference*, 654.

Dixon, D., & Maher, L. (2002). Anh Hai: Policing culture and social exclusion in a street heroin market. *Policing & Society*, 12(2), 93–110.

Dolan, K. A., Shearer, J., Macdonald, M., Mattick, R. P., Hall, W. & Wodak, A. D. (2003a). A randomised controlled trial of methadone maintenance treatment versus wait list control in an Australian prison system. *Drug Alcohol Depend,* 72**,** 59-65.

Dole, V. P., Robinson, J. W., Orraca, J., Towns, E., Searcy, P. & Caine, E. (1969). Methadone treatment of randomly selected criminal addicts. *N Engl J Med,* 280**,** 1372-5.

Doyon S, Aks SE, Schaeffer S. (2014). Expanding access to naloxone in the United States. *Clinical Toxicology* (Phila); 52:989–92.

European Monitoring Centre for Drugs and Drug Addiction (2008). Towards a better understanding of drug-related public expenditure in Europe, Luxembourg:*Publications Office of the European Union*.

European Monitoring Centre for Drugs and Drug Addiction (2011) Cost and financing of drug treatment services in Europe, Luxembourg: *Publications Office of the European Union*.. <http://www.emcdda.europa.eu/publications/selected-issues/treatment-costs>

European Monitoring Centre for Drugs and Drug Addiction (2011). ‘*Concluding remarks of the First international multidisciplinary forum on new drugs*’. Available at: http://www.emcdda.europa.eu/news/2011/new-drugs-forum-conclusion

European Monitoring Centre for Drugs and Drug Addiction –Europol (2012a),

EMCDDA–Europol 2011 *annual report on the implementation of Council Decision* 2005/387/JHA , European Monitoring Centre for Drugs and Drug Addiction, Lisbon, available online at: <http://www.emcdda.europa.eu/publications/implementation-reports/2011>

European Monitoring Centre for Drugs and Drug Addiction (2013), Drug supply reduction and internal security policies in the European Union: an overview, EMCDDA Papers, *Publications Office of the European Union*, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction (2014) Financing drug policy in Europe in the wake of the economic recession, *Luxembourg: Publications Office of the European Union*. <http://www.emcdda.europa.eu/attachements.cfm/att_233505_EN_TDAU14008ENN.PDF>

European Monitoring Centre for Drugs and Drug Addiction (2015), Preventing fatal overdoses: a systematic review of the effectiveness of take-home naloxone, EMCDDA Papers, *Publications Office of the European Union*, Luxembourg.

European Monitoring Centre for Drugs and Drug Addiction (2016). European Drug Report 2016: Trends and Developments. *Publications Office of the European Union*, Luxembourg.

Eurostat (2014). General government expenditure by function (COFOG) (gov\_a\_exp), Reference Metadata in Euro SDMX Metadata Structure (ESMS). *Anonymous*.  <http://epp.eurostat.ec.europa.eu/cache/ity_sdds/en/gov_a_exp_esms.htm>

Fox, R. (2014). Technological Advances in Banking. In: American Finance Association Northeast Regional Conference. Hartford: AFA, p. 24.

Friedman, S. R., Kottiri, B. J., Neaigus, A., Curtis, R., Vermund, S. H., & Des Jarlais, D. C. (2000). Network-related mechanisms may help explain long-term HIV-1 sero prevalence levels that remain high but do not approach population-grouaturation [in process citation]. *American Journal of Epidemiology*, 152(10), 913–922

Fugelstad, A., Annell, A., Rajs, J. & Agren, G. (1997). Mortality and causes and manner of death among drug addicts in Stockholm during the period 1981-1992. *Acta Psychiatrica Scandinavica,* 96**,** 169-175.

Gleghorn, A. A., Jones, T. S., Doherty, M. C., Celentano, D. D., &Vlahov, D. (1995). Acquisition and use of needles and syringes by injecting drug users in Baltimore, Maryland. *Journal of Acquired Immune Deficiency Syndromes and Retrovirology*, 10(1), 97–103.

Gibson, A., Degenhardt, I., Mattick, R. P., Ali, R., White, J. & O'brien, S. (2008). Exposure to opioid maintenance treatment reduces long‐term mortality. *Addiction,* 103**,** 462-468.

Gilson AM, Maurer MA, Ryan KM, Cleary JF, Rathouz PJ. (2013). Using a Morphine Equivalence Metric to Quantify Opioid Consumption: Examining the Capacity to Provide Effective Treatment of Debilitating Pain at the Global, Regional, and Country Levels. *Journal of pain and symptom management*.;45(4):681-700. doi:10.1016/j.jpainsymman.2012.03.011.

Godfrey, C., Eaton, G., McDougall, C. and Culyer, A. (2002), *The economic and social costs of class A drug use in England and Wales*, 2000, Home office research, development and statistics directorate,  London, pp.62.<http://www.countthecosts.org/resource-library/economic-and-social-costs-class-drug-use-england-and-wales-2000>

Godfrey C., Parrott S. (2007) Costing Drug problems and Policies, Paper prepared the *First Annual Conference of the International Society for the Study of Drug Policy*, March 22-23, 2007 <http://www.issdp.org/conferences/2007/papers/Christine_Godfrey.pdf>

Gossop, M., Marsden, J., Stewart, D. & Rolfe, A. (2000). Patterns of improvement after methadone treatment: 1 year follow-up results from the National Treatment Outcome Research Study (NTORS). *Drug and Alcohol Dependence,* 60**,** 275-286.

Gowing L, Farrell M, Bornemann R, Ali R.(2004) Substitution treatment of injecting opioid users for prevention of HIV infection. *The Cochrane Database of Systematic Reviews*, Issue 4.

Gruber, V. A., Delucchi, K. L., Kielstein, A. & Batki, S. L (2008). A randomized trial of 6-month methadone maintenance with standard or minimal counseling versus 21-day methadone detoxification. *Drug and alcohol dependence,* 94**,** 199-206.

Grund, J. P., Stern, L. S., Kaplan, C. D., Adriaans, N. F., & Drucker, E. (1992). Drug use contexts and HIV-consequences: The effect of drug policy on patterns of everyday drug use in Rotterdam and the Bronx. *British Journal of Addiction*, 87(3), 381–392.

Gunne, L. M. & Gronbladh, L. (1981). The Swedish methadone maintenance program: acontrolled study. *Drug and Alcohol Dependence,* 7**,** 249-256.

Human Rights Watch (2003). *Bangladesh. Ravaging the vulnerable: abuses against persons at high risk of HIV infection in Bangladesh*. New York, Aug. 51 p.15, No. 6

Human Rights Watch. (2004). Not enough graves: *The war on drugs, HIV/AIDS, and violations of human rights in Thailand*. New York, Vol. 16.

Inturrisi, C. E. & Lipman, A. G. (2010). *Opioid analgesics*. In J.C.Ballantyne, J. P. Rathmell, & S. M. Fishman (Eds.),Bonica's Management of Pain (4th ed., pp. 1172‐1187). Philadelphia: Lippincott Williams & Wilkins.

Kerr, T., Kaplan, K., Suwannawong, P., Jurgens, R., & Wood, E. (2004). *The global fund to fight AIDS tuberculosis and Malaria: Funding for unpopular public-health programmes.* Lancet, 364(9428), 11–12.

Kimber, J., Copeland, L., Hickman, M., Macleod, J., Mckenzie, J., De Angelis, D. & Robertson, J. R. (2010). Survival and cessation in injecting drug users: prospective observational study of outcomes and effect of opiate substitution treatment. *British Medical Journal* [Online], 341:c3172. Available: http://www.bmj.com/content/341/bmj.c3172 [Accessed 30.07.2012].

Kinlock, T. W., Gordon, M. S., Schwartz, R. P., O'grady, K., Fitzgerald, T. T. & Wilson, m. (2007). A randomized clinical trial of methadone maintenance for prisoners: results at 1-month post-release. *Drug Alcohol Depend,* 91**,** 220-7.

Kirschner, R. H. (1997). *Police brutality in the USA*. Lancet, 350(9088), 1395.

Koester, S. K. (1994). Copping, running, and paraphernalia laws: Contextual variables and needle risk behavior among injection drug users in Denver. *Forthcoming in* *Human Organization*, 53(3), 287–295.

Kopp P., Fenoglio P. (2002), *Calculating the Social Cost of Illicit Drugs*, Pompidou Group, Council Of Europe Publishing <http://www.emcdda.europa.eu/attachements.cfm/att_1362_EN_public_expenditure.pdf>

Kopp P. ,Fenoglio P.(2003), *Public spending on drugs in the European Union during the 1990s*, EMCDDA, EN
<http://www.emcdda.europa.eu/attachements.cfm/att_1766_EN_exec_sum_public_expenditure.pdf>

Koulierakis, G., Gnasdellis, C., Agrafiotis, D., Power, K.G.,(2000). HIV risk behaviour correlates among injecting drug user in Greek prisons. *Addiction* 95, 1207–1307.

Ledberg, A. (2017). Mortality related to methadone maintenance treatment in Stockholm, Sweden, during 2006–2013. *Journal of Substance Abuse Treatment,* 74**,** 35-41.

Lind, B., Chen, S. L., Weatherburn, D. & Mattick, R. (2005). The effectiveness of methadone maintenance treatment in controlling crime - An Australian aggregate-level analysis. *British Journal of Criminology,* 45**,** 201-211.

Lindgren, B. and Grossman, M. (eds.) (2005), *Advances in health economics and health services research* vol 16, pp. 257-275.<http://www.emeraldinsight.com/books.htm?chapterid=1759922&show=abstract>

Liu, Y, Bartlett, N, Li, N, et al., (2012). “Attitudes and knowledge about naloxone and overdose prevention among detained drug users in Ningbo, China”, *Substance Abuse Treatment, Prevention, and Policy*, vol. 7,

Maher, L & Dixon, D (1999) 'Policing and Public Health: Law Enforcement and Harm Minimization in a Street-level Drug Market', *British Journal of Criminology*, vol 39 pp488-512

Maher, L., & Dixon, D. (2001). The cost of crackdowns: Policing Cabramatta’s heroin market. *Current Issues in Criminal Justice*, 13(1), 5–22

Marsch, L. A. (1998). The efficacy of methadone maintenance interventions in reducing illicit opiate use, HIV risk behavior and criminality: a meta-analysis. *Addiction,* 93**,** 515-532.

Mathers, B. M., Degenhardt, L., Bucello, C., Lemon, J., Wiessing, L. & Hickman, M. (2013). Mortality among people who inject drugs: a systematic review and meta-analysis. *Bulletin of the World Health Organization,* 91**,** 102-123.

Mattick, R. P., Breen, C., Kimber, J. & Davoli, M. (2009). Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *Cochrane Database Syst Rev***,** CD002209.

Mattick RP, Breen C, Kimber J, Davoli M. (2003). Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. *The Cochrane Database of Systematic Reviews*, Issue 2.

Maxwell, S., Bigg, D., Stanczykiewicz, K., & Carlberg-Racich, S. (2006). Prescribing naloxone to actively injecting heroin users: A program to reduce heroin overdose deaths. *Journal of Addictive Diseases*, 25, 89–96

May, T., &Hough, M. (2001a). Illegal dealings: The impact of low-level police enforcement on drug markets. *European Journal on Criminal Policy & Research*, 9(2), 137–162.

McGregor, C., Darke, S., Ali,R., & Christie, P. (1998). Experience of non-fatal overdose among heroin users in Adelaide, Australia: Circumstances and risk perceptions. *Addiction*, 93(5), 701–711.

Moolenaar, D.E.G. (2009), ‘Modelling Criminal Justice System Costs by Offence; lessons from the Netherlands’ in: *European Journal of Criminal Policy Research* 15, pp. 309-326.[http://link.springer.com/article/10.1007%2Fs10610-009-9110-2](http://link.springer.com/article/10.1007/s10610-009-9110-2)

Norris, C., & Armstrong, G. (1999). *The maximum surveillance society: The rise of CCTV*. Oxford: Berg.

Office of National Drug Control Policy. (2002). *The Economic Costs of Drug Abuse in the United States 1992-1998*, Washington DC: Executive Office of the President <http://www.emcdda.europa.eu/attachements.cfm/att_6551_EN_economic_costs98.pdf>

Oliver, P., Keen, J., Rowse, G., Ewins, E., Griffiths, L. & Mathers, N. (2010). The effect of time spent in treatment and dropout status on rates of convictions, cautions and imprisonment over 5 years in a primary care-led methadone maintenance service. *Addiction,* 105**,** 732-739

Pain & Policy Studies Group. (2013). *Improving Global Opioid Availability for Pain & Palliative Care: A Guide to a Pilot Evaluation of National Policy*.  University of Wisconsin Carbone Cancer Center. Madison, WI.

Papamalis E. F. (2012). *Economic recession and treatment of substance misuse: the need for community resource-driven approach*, Seea Addiction, Vol XII, Supl 1.

Papamalis E. F. (2017). Manuscript submitted

Papamalis, E. F. (2012). Initiate Dialog: Towards a balanced and comprehensive system of care. *In SENSE Symposium for the International Day Against Drug Abuse and Illicit Trafficking,* Belgrade, Serbia

Papamalis E. F, Knight K, Papanastasatos G (2013). Translating research to practice: The role of treatment evaluation for policy formulation and clinical applicability. In proceeding of: *In 14th Conference of European Federation of Therapeutic Communities*, At Prague, Czech Republic.

Postma, M. (2004), *Public expenditure on drugs in the EU*, EMCDDA, EN [http://www.emcdda.europa.eu/attachements.cfm/att\_6549\_EN\_final%20expenditure(22%5B1%5D.09.2004).pdf](http://www.emcdda.europa.eu/attachements.cfm/att_6549_EN_final%20expenditure%2822%5B1%5D.09.2004%29.pdf)

Radbruch, L., Junger, S., Mantel‐Teeuwisse, A., Gilson, A., Cleary, J., Payne, S. et al. (2012). Letter to the Editor. *Journal of Pain and Palliative Care Pharmacotherapy*, 26, 200‐201.

Rajkumar As, French MT. (1997). Drug abuse, crime costs and the economic benefits of treatment. *Journal of quantitative criminology*. 13(3):291-323

Reuter P. (2004), *Developing a Framework Government Drug Policy Expenditure,* EMCDDA, EN <http://www.emcdda.europa.eu/attachements.cfm/att_21247_EN_Reuter%202004.pdf>

Rhodes T, Mikhailova L, Sarang A, Lowndes CM, Rylkov A, Khutorskoy M, Renton A. (2003). Situational factors influencing drug injecting, risk reduction and syringe exchange in Togliatti City, *Russian Federation: a qualitative study of micro risk environment*. Soc Sci Med.;57(1):39–54. [PubMed]

Righter, H. (2006), What drug policies cost. Drug policy spending in the Netherlands in 2003, *Addiction* 101: 3, pp. 323-329 <http://onlinelibrary.wiley.com/doi/10.1111/j.1360-0443.2006.01337.x/abstract>

Robillard, H., Banys, P. & Hall, S. M. (2000). Methadone maintenance vs 180-day psychosocially enriched detoxification for treatment of opioid dependence: A randomized controlled trial. *Journal of the American Medical Association.283(10)()(pp 1303-1310).*

Rotily, M., Weilandt, C., Bird, S. M., Kall, K., van Haastrecht, H . J. A., Landolo, E., & Rousseau, S. (2001).Surveillance of HIV infection and related risk behavior in European prisons. *European Journal of Public Health*, 11, 243-250.

Schwartz, R. P., Gryczynski,,J., O’grady, K. E., Sharfstein, J. M., Warren, G., Olsen, Y., Mitchell, S. G. & Jaffe, J. H. (2013). Opioid agonist treatments and heroin overdose deaths in Baltimore, Maryland, 1995–2009. *American journal of public health,* 103**,** 917-922.

Schwartz, R. P, Highfield D.A. & et al. (2006). A randomized controlled trial of interim methadone maintenance. *Archives of General Psychiatry,* 63**,** 102-109.

SEES, K. L., DELUCCHI, K. L., MASSON, C., ROSEN, A., CLARK, H. W.,

Seal, K. H., Downing, M., Kral, A. H., Singleton-Banks, S., Hammond, J. P., Lorvick, J., et al. (2003). Attitudes about prescribing take-home naloxone to injection drug users for the management of heroin overdose: A survey of street-recruited injectors in the San Francisco Bay Area. *Journal of Urban Health*, 80(2), 291.301.

Seaman, S.R., Bird, S.M. & Brettle, R.P. (2000) Historical HIV prevalence in Edinburgh Prison: a database-linkage study. *Journal of Epidemiological Biostatistics*, 5, pp. 245–250

Shepard, C.W., Simard, E.P., Finelli, L., Fiore, A.E., Bell, B.P. (2006). Hepatitis B virus infection: epidemiology and vaccination. *Epidemiol Rev*. 28 (1):112-125.

Sergeev, B., Karpets, A., Sarang, A., & Tikhonov, M. (2003). Prevalence and circumstances of opiate overdose among injection drug users in the Russian Federation. *Journal of Urban Health,* 80(2), 212–219.

Single et Al. (2001): *International Guidelines for Estimating* the Economic Costs of Substances Abuse <http://www.emcdda.europa.eu/attachements.cfm/att_1981_EN_International%20guidelines%202001%20edition-4.doc>

Substance Abuse and Mental Health Services Administration (SAMHSA) (2014). *Opioid overdose prevention toolkit*. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014. Available at <http://store.samhsa.gov/product/Opioid-Overdose-Prevention-Toolkit-Updated-2014/SMA14-4742>

Strang, J., Hall, W., Hickman, M. & Bird, S. M. (2010). Impact of supervision of methadone consumption on deaths related to methadone overdose (1993-2008): analyses using OD4 index in England and Scotland. *British Medical Journal,* 341.

Teesson, M., Ross, J., Darke, S., Lynskey, M., Ali, R., Ritter, A. & Cooke, R. (2006). One year outcomes for heroin dependence: findings from the Australian Treatment Outcome Study (ATOS). *Drug Alcohol Depend,* 83**,** 174-80.

Thaisri, H., Lerwitworapong, J., Vongsheree, S., Sawanpanyalert, P., Chadbanchachai, C., Rojanawiwat, A. et al. (2003). HIV infection and risk factors among Bangkok prisoners, Thailand: a prospective cohort study. *BMC Infectious Diseases*, *3*, 25. <http://doi.org/10.1186/1471-2334-3-25>

Tobin KE, Sherman SG, Beilenson P, Welsh C, Latkin CA. Evaluation of the Staying Alive programme: training injection drug users to properly administer naloxone and save lives. *International Journal of Drug Policy*. 2009; 20: 131 – 136.

Yancovitz, S. R., Des Jarlais, D. C., Peyser, N. P., Drew, E., Friedmann, P., Trigg, H. L. & Robinson, J. W. (1991). A randomized trial of an interim methadone maintenance clinic. *Am J Public Health,* 81**,** 1185-91.

United Nations Office on Drugs and Crime. UNODC (2016). *World Drug Report*. United Nations publication, Sales No. E.16.XI.7

Vanags A. and Zasova A. (2010), Budget and non-budget social costs of drug abuse in Latvia in 2008, *Analytical report by BICEPS*, Centre of Health Economics, March 2010 <http://www.biceps.org/en/node/359>

Vander Laenen F., Vandam L. and De Ruyver (2009), Studies on public drug expenditures in Europe: possibilities and limitations, Bulletin on Narcotics, *Measurement issues in drug policy analysis*, Vol LX, 2008 , United Nations, February 2011<https://biblio.ugent.be/input/download?func=downloadFile&recordOId=1099661&fileOId=1099703>

Walley A, Xuan Z, Hackman HH, et al. (2013). *Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts*: interrupted time series analysis. BMJ; 346:1–12

World Health Organization (2008). *Essential prevention and care interventions for adults and adolescents living with HIV in resource-limited settings*. Available from: <http://www.who.int/entity/hiv/pub/prev_care/OMS_EPP_AFF_en.pdf>

World Health Organization (2008). *Essential prevention and care interventions for adults and adolescents living with HIV in resource-limited settings*. Available from: <http://www.who.int/entity/hiv/pub/prev_care/OMS_EPP_AFF_en.pdf>

World Health Organization (2008). Post-exposure prophylaxis to prevent HIV infection. Joint WHO/ILO guidelines on post-exposure prophylaxis (PEP) to prevent HIV infection. Geneva: World Health Organization Available from: http://whqlibdoc.who.int/publications/2007/9789241596374\_eng.pdf [accessed on 2 June 2009].

World Health Organization (2010). *Antiretroviral therapy for HIV infection in adults and adolescents: recommendations for a public health approach*.

World Health Organization (2011). *Ensuring balance in national policies on controlled substances Guidance for availability and accessibility of controlled medicines*. Geneva. World Health Organization.

World Health Organization. (2014). *Community management of opioid overdose*. Geneva, Switzerland: World Health Organization;

World Health Organization. (2006). WHO expert committee on drug dependence: thirty‐fourth report. Geneva, Switzerland: World Health Organization, 2006.

World Health Organization (2016). *Expert Committee on Drug Dependence*: thirty-sixth report (Geneva, Switzerland, 16-20 June 2014). EU Drugs Market Report, p. 28

World Health Organisation (2016). *Monitoring health for the SDGs, sustainable development goals*. Geneva. World Health Organization.

Wood, R. A., Zettel, P., & Stewart, W. (2003). *Harm reduction nursing practice: The Dr Peter Centre Centre supervised injection project*. Canadian Nurse, 99(5), 20–24.

Zakrison, T. L., Hamel, P. A., & Hwang, S. W. (2004). Homeless people’s trust and interactions with police and paramedics. *Journal of Urban Health*, 81(4), 596–605.

Zarei N, Joulaei H, Darabi E, Fararouei M. (2015). Stigmatized Attitude of Healthcare Providers: A Barrier for Delivering Health Services to HIV Positive Patients. *International Journal of Community Based Nursing and Midwifery*.;3(4):292-300

Zolopa, A. R., Hahn, J. A., Gorter, R., Miranda, J., Wlodarczyk, D., Peterson, J., et al. (1994). HIV and tuberculosis infection in San Fran- cisco’s homeless adults. Prevalence and risk factors in a representative sample. *Journal of the American Medical Association*, 272(6), 455– 461.

Zimmer, L. (1990). Proactive policing against street-level drug trafficking. *American Journal of Police*, 9(1), 43–74

Zule, W. A. (1992). Risk and reciprocity: HIV and the injection drug user*. Journal of Psychoactive Drugs*, 24(3), 243–249. [↑](#endnote-ref-2)
3. Convention for the Protection of Human Rights and Fundamental Freedoms, European Treaty Series No. 5 [↑](#footnote-ref-1)
4. National estimates sometimes use alternative definitions. See (Lievens et al., 2016) or (Kopp, 2006) for further details. [↑](#footnote-ref-2)
5. Although it is also possible to use a bottom-up approach, since police activity is normally financed by the central government budget, a pragmatic approach frequently used is to prepare estimates based on these aggregated budgets. In this case, estimates for public spending are relatively complete, considering all relevant costs. Additionally, this method facilitates the international comparability of results, since comparable data are available for most European countries. [↑](#footnote-ref-3)
6. See http://www.emcdda.europa.eu/topics/drug-related-public-expenditure. [↑](#footnote-ref-4)