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# Drug Decriminalization Policy

Literature Review: Models, Implementation  
and Outcomes



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## Abstract

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The prevalence of drug use has increased for decades all around the world despite all the strict measures taken. The traditional approach creates not only social injustices at the individual level but also public health problems and high social costs at the macro level. Decriminalization policy has emerged to balance the unresponsive prohibitionist drug policy. Hence, the primary purpose of this study is to evaluate the impact of decriminalization policy. The literature reviews are based on reports published by governments and NGOs and peer-review articles, as well as critical response papers on the topic. To this end, relevant keywords were used to search Google Scholar and other academic search engines. The results were analyzed to examine the models, implementation procedures, and as well as the outcomes.

Although decriminalization is generally used as an umbrella term representing contemporary strategy, countries have developed models according to their priorities, social and administrative settings. Each model seems to be unique; nevertheless, the categorization is utilized to provide a framework and to give an estimate about potential outcomes. Since the way the issue has emerged in each country has varied, each design focuses on particular needs, which has led to different results. Nevertheless, while policy expectations define the means, the context mainly shapes the ends. Thus, the considerable contextual variation between countries complicates policy adaptation and comparison, which brings challenges and criticism.

The study shows that one of the essential steps in policy design is the necessity of the paradigm shift. The general expectation from the decriminalization policy is to alter the government approach in managing drug problem. Drug policy has been considered a criminal justice issue for many decades, and it has been acknowledged that the system is not able to produce the best or sought-after results. However, the power politics of government institutions may play a role in policy design. The security and judicial power in government may affect the decision-making process. It may be perceived as losing control or authority on this matter. However, the issues should be discussed beyond the power politics of government institutions. The loosening of the role of law enforcement may be a crucial prerequisite for transition; however, the ongoing influence of the criminal justice system has the potential to remove gains in the long run. Thus, intervening on drug issues within a health framework will produce better outcomes.

Decriminalization policy is generally utilized to reduce public health risks, overdose deaths, and the costs of prohibition. However, the complexities around drug policy affect society in several areas. Coherent policy design is needed to produce the expected outcomes at the macro level. For instance, if the aim is to prevent overdose deaths, more resources should also be devoted to harm reduction services. A simple change in the status in law in terms of personal drug use or possession is not an adequate response to reduce the number of overdose deaths. The outcomes should be defined more carefully, and the impacts of policy should be interpreted more cautiously.

Finally, besides reviewing different existing decriminalization models from different global regions, as well as their outcomes and policy implications, we provided the overall policy outcomes of the three European countries to emphasize the contextual factors. Since the contexts were clearly seen to matter strongly throughout this report, it cannot be stressed enough that every country must find the model that best fits its aims, values, and local circumstances.

Key words: decriminalization, policy analysis, Europe, models, implementation, outcomes

## Yhteenveto

Ali Unlu, Tuukka Tammi ja Pekka Hakkarainen. Drug Decriminalization Policy. Literature Review: Models, Implementation and Outcomes. [Huumeiden käytön dekriminisointi. kirjallisuuskatsaus: mallit, toteutustavat ja seuraukset]. Terveyden ja hyvinvoinnin laitos (THL). Raportti 9/2020. 93 sivua. Helsinki, 2020. ISBN 978-952-343-506-3 (painettu); ISBN 978-952-343-504-9 (verkkopainettu)

Huumeiden käyttö on lisääntynyt vuosikymmenten ajan ympäri maailmaa tiukoista kontrollitoimenpiteistä huolimatta. Perinteisen lähestymistavan haittavaikutuksia ovat sosiaalinen epäoikeudenmukaisuus yksilötasolla ja kansanterveysongelmat sekä järjestelmän korkeat kustannukset makrotasolla. Dekriminalisointipolitiikka on syntynyt tasapainottamaan kieltopolitiikan vaikutuksia. Tämän tutkimuksen ensisijaisena tarkoituksena on arvioida dekriminisoitipolitiikan vaikutuksia. Raportin perustana oleva kirjallisuuskatsaus perustuu hallitusten ja kansalaisjärjestöjen julkaisemiin raportteihin, vertaisarvioituihin tieteellisiin artikkeleihin sekä huumeepolitiikkaa käsitteleviin kriittisiin arviointeihin. Aineisto kerättiin Google Scholarista ja muista akateemisista hakukoneista käyttäen relevantteja avainsanoja. Analyysissä huomio kiinnitettiin erilaisiin malleihin, toteutusmenettelyihin ja muutosten seurauksiin.

Nykykirjallisuudessa dekriminisointi esiintyy usein yleisenä kattoterminä, jonka alla maat ovat kehittäneet mallejaan omien prioriteettiansa sekä sosiaalisten ja hallinnollisten perinteidensä mukaisesti. Dekriminalisointi luo uudistukselle ja sen vaikutusodotuksille yleisen kehyksen, mutta jokainen konkreettinen malli näyttää olevan ainutlaatuinen. Koska dekriminisoinnille asetetut tavoitteet ovat vaihdelleet maittain, kansalliset ratkaisut keskittyvät kunkin maan erityisiin tarpeisiin. Tämän vuoksi myös uudistusten tuloksissa ja seurauksissa on kansallisia eroja. Dekriminalisoinnille asetetut poliittiset tavoitteet ja sen toteutuksen kansallinen konteksti vaikuttavat sen tuloksiin. Toteutustapojen huomattava vaihtelu vaikeuttaa maiden vertailua ja dekriminisaatiopolitiikan arviointia.

Tutkimus osoittaa, että yksi keskeinen askel dekriminisaatiopolitiikan suunnittelussa on koko huumeepolitiikan paradigman muutos. Dekriminalisointipolitiikka muuttaa hallituksen lähestymistapaa huumeongelman hallintaan. Suhtautumista huumeiden käyttöön on pidetty rikosoikeudellisena kysymyksenä vuosikymmenten ajan, mutta monissa maissa on nyt tunnustettu, että näin ei pystytä tuottamaan parhaita tai haluttuja tuloksia. Poliitiikan suunnitteluun vaikuttaa kuitenkin myös hallinnon sisäinen valtopolitiikka. Esimerkiksi turvallisuus- ja oikeusviranomaiset voivat kokea menettävänsä auktoriteettinsa asiassa. Huumeepolitiikasta tulisi kuitenkin voida keskustella riippumatta hallinnon valtopoliittisista asetelmista. Dekriminalisointi vahvistaa sosiaali- ja terveydenhuollon kehystä huumeiden käyttöön puuttumisessa ja tuottaa parempia tuloksia.

Dekriminisaatiopolitiikkaa käytetään yleensä vähentämään kansanterveydellisiä riskejä, yliannostuksesta johtuvia kuolemia ja kontrollipolitiikan kustannuksia. Vaikutukset ovat kuitenkin monimutkaisia useilla yhteiskunnan alueilla. Johdonmukaista politiikan suunnittelua tarvitaan odotettujen tulosten tuottamiseksi makrotasolla. Esimerkiksi, jos tavoitteena on estää yliannostuksesta johtuvia kuolemia, resursseja olisi käytettävä myös haittojen vähentämispalveluihin. Pelkkä lainsäädännön muutos henkilökohtaisen huumeiden käytön tai hallussapidon suhteen ei riitä yliannostuksesta johtuvien kuolemien määrän vähentämiseksi. Tavoiteltavat tulokset olisi määriteltävä tarkemmin ja politiikan vaikutuksia olisi tutkittava pitkäjännitteisesti.

Sen lisäksi, että tarkastelemme tässä katsauksessa nykyisiä dekriminisaatiomalleja ja niiden tuloksia ja poliittisia vaikutuksia eri puolella maailmaa, esitämme myös kolmen Euroopan maan tarkemman vertailun havainnollistaaksemme kansallisen kontekstin keskeistä merkitystä politiikan muutoksissa. Tutkimukseen liittyvässä tilannekatsauksessa (Appendix 2) esitämme vertailun vuoksi myös lukuja Suomesta. Yhteenvetona katsauksen tuloksista voi todeta, että jokaisen maan on löydettävä malli, joka parhaiten sopii sen arvoihin ja tavoitteisiin sekä soveltuu paikallisiin olosuhteisiin.

Avainsanat: dekriminisaatio, huumepolitiikka, Eurooppa, mallit, toteutus, seuraukset



## Sammandrag

Ali Unlu, Tuukka Tammi and Pekka Hakkarainen. Drug Decriminalization Policy. Literature Review: Models, Implementation and Outcomes. [Dekriminalisering av narkotikabruk. Litteraturgenomgång: modeller, implementering och konsekvenser]. Institutet för hälsa och välfärd (THL). Rapport 9/2020. 93 sidor. Helsingfors, Fin-land 2020. ISBN 978-952-343-506-3 (tryckt); ISBN 978-952-343-504-9 (nätpublikation)

Förekomsten av droganvändning har ökat i årtionden över hela världen trots alla stränga åtgärder som vidtagits. Den traditionella metoden att ta i tu med droganvändning skapar inte bara sociala orättvisor på individnivå utan också folkhälsoproblem och höga sociala kostnader på makronivå. För att balansera en stel och likgiltig narkotikapolitik har dekriminalisering av narkotika framkommit som ett policyalternativ. Det primära syftet med denna studie är att utvärdera effekterna av dekriminaliseringspolitik. Litteraturgranskningen som rapporten baserar sig på har granskat rapporter som publicerats av regeringar och icke-statliga organisationer, peer review artiklar samt kritiska narkotikapolitiska utvärderingar. Materialet har samlats in via Google Scholar och andra akademiska sökmotorer genom att använda relevanta sökord. I analysen fästes speciell uppmärksamhet vid följderna av olika modeller, implementeringssätt och förändringar.

Även om dekriminalisering vanligtvis används som ett allmänt paraplybegrepp, har länder utvecklat egna modeller som baserar sig på egna prioriteringar och härrör från ländernas sociala och administrativa bakgrund. Dekriminaliseringspolitik används som ett allmänt rambegrepp för förnyelse och förväntade resultat i narkotikapolitiken, men trots detta verkar varje modell som tillämpas vara unik. Eftersom målsättningarna för dekriminalisering varierar land för land, koncentrerar sig de nationella lösningarna på enskilda länders särskilda behov. De politiska målsättningarna för dekriminalisering och de nationella kontexten har en inverkan även på resultatet. Därför kompliceras den betydande variationen i tillvägagångssätten också jämförelse länderna emellan och utvärderingen av dekriminaliseringspolitik.

Studien visar att ett av de väsentligaste stegen i utformningen av dekriminaliseringspolitiken är ett paradigmskifte i narkotikapolitiken. Dekriminaliseringspolitiken förändrar regeringens tillvägagångssätt vad gäller hanteringen av narkotikaproblem. Användning av narkotika har betraktats som en straffrättslig fråga i många decennier, men i många länder har det erkänts att man på så sätt inte kan uppnå de bästa och mest eftertraktade resultaten. Statliga institutioners maktpolitik kan även spela en roll i utformningen av politiken. Till exempel säkerhets- och rättsväsendet kan uppleva att de förlorar auktoritet i frågan. Frågorna bör emellertid diskuteras oavsett regeringens maktpolitiska positioner. Dekriminalisering förstärker social- och hälsovårdens roll i att ta i tu med narkotikabruk och genererar bättre resultat.

Dekriminaliseringspolitik används i allmänhet för att minska riskerna för folkhälsan, dödlighet i överdoser och kostnaderna för kontrollpolitik. Komplexiteten kring narkotikapolitiken påverkar dock samhället på flera områden. En konsekvent policyutformning behövs för att producera de förväntade resultaten på makronivå. Till exempel, om syftet är att förhindra dödsfall pga. överdos bör mer resurser också ägnas åt att minska skadorna. En enkel lagförändring gällande personlig droganvändning eller innehav av droger är inte ett tillräckligt för att minska dödsfall pga. överdos. Målsättningarna bör definieras mer noggrant och konsekvenserna av politiken bör tolkas mer långsiktigt.

Slutligen, förutom att vi i denna översikt granskar olika dekriminaliseringsmodeller, deras resultat och politiska implikationer runt om i världen, presenterar vi även en noggrannare jämförelse från tre europeiska länder för att klargöra vilken betydelse den nationella kontexten har i politiska förändringar. I studiens lägesrapport (Appendix 2) presenterar vi även siffror från Finland för jämförelsens skull. Sammanfattningsvis kan vi konstatera att varje land måste hitta en modell som passar deras värderingar och målsättningar och lämpar sig bäst för lokala förhållanden.

Nyckelord: dekriminalisering, narkotikapolitik, Europa, modeller, implementering, konsekvenser



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# 1 Introduction

The prevalence of substance use and illegal drug production has increased in the last decades. This trend is not limited to countries where liberal approaches are adopted but also in states without such policies (Manthey, 2019; The Global Commission on Drug Policy, 2016; Werb, Fischer, & Wood, 2010). Challenges in the form of novel psychoactive substances, changes in supply and purchasing methods (e.g., dark web), cultural and attitudinal shifts, globalization, and an aging population of people who use drugs (PWUD) have been pushing governments to reconsider their drug strategies (Benfer et al., 2018; Hughes, Wiessing, Des Jarlais, & Griffiths, 2018).

The social and economic consequences of drug policy are another driving force behind the transition to liberal approaches. Governments are under pressure from rising state budgetary costs resulting from a steady increase in arrests and incarcerations of nonviolent drug offenders (European Monitoring Centre for Drugs and Drug Addiction, 2018a). According to the 2016 World Drug report, 18 percent of the global prison population comprises people convicted of drug crimes. Over 80% of the reported drug crimes in European countries were for possession or drug use offenses, with the rest related to trafficking (The Global Commission on Drug Policy, 2016). The US government expenditure on drug control policy is around \$15 billion annually (Benfer et al., 2018).

A balanced drug policy incorporating harm reduction policies is a more cost-effective and humanitarian approach than a full prohibition policy. For instance, in Portugal, there was a 12% reduction in the social cost of drugs in the first 5-year period of decriminalization. It was attributed to direct and indirect cost reduction in the criminal justice system, mostly associated with fewer imprisonments and indirect health cost savings, such as from reduced drug-related deaths (Domoslawski & Siemaszko, 2011; Gonçalves, Lourenço, & da Silva, 2015; Greenwald, 2009; Pinto Coelho, 2010).

Besides the social and economic costs, global drug policy has been criticized for being shaped for several decades by political and moral approaches, such as ‘being tough on crime’ or the ‘war on drugs.’ Current policy outcomes deepen not only social and individual problems, but are also contradicted by the evidence (Kalant, 2010; Taylor, Buchanan, & Ayres, 2016). In many countries, negative public opinions on drugs have led politicians to stick to harsh control measures, since fulfilling widespread demand for strict policies is generally a comfortable and politically safe option (Hyshka, 2009).

Prohibition distresses hundreds of millions of PWUD every year. When punitive drug laws are not met with respect and compliance from citizens, trust in the rule of law and the credibility of government is undermined (The Global Commission on

Drug Policy, 2016). It is expected that more balanced regulations will enhance the reliability of the state and the rule of law. These policies aim to change the perspective and to reach isolated problem drug users (PDU) whose drug dependence has been typically met only with severe penalties in some countries.

Scientific evidence for the therapeutic benefits of cannabinoids in the cannabis plant has grown, and this has attracted attention (European Monitoring Centre for Drugs and Drug Addiction, 2018b). Besides its herbal forms, cannabinoids have gained market space in recent decades following medical cannabis regulations. Moreover, despite its potential harms, a growing number of people who have a voice and impact on elections are demanding cannabis use for recreational purposes.

In addition, the nexus between infectious disease and injection drug use is also another health issue. Prohibition leads to more deaths, particularly among people who inject drugs (PWID) because they face enormous barriers to access humane and affordable treatment in many countries. Aggressive policing practices have been associated with an increased risk of overdose and rushed injections (Csete et al., 2016). Alarming threat levels associated with the spread of HIV have forced many states to adopt policies that explicitly support harm reduction measures, including needle exchange, opiate substitutions, and drug consumption rooms. For instance, of the 16 million PWID globally, approximately two-thirds are living with hepatitis C and at least 13 percent with HIV, with many at a heightened risk of contracting tuberculosis (Csete et al., 2016).

It is widely recognized that harsher penalties have a limited deterrent effect on the prevalence of drug use, while perversely creating more harm to users than the drugs themselves (Adam & Raschok, 2017; The Global Commission on Drug Policy, 2016). Moreover, the literature shows that there is no association between legislative changes and the prevalence of drug use (Adam & Raschok, 2017). Instead, restrictive drug laws are more likely to affect racial, ethnic, and poor minorities in many countries. Studies indicate that law enforcement tends to apply rules discriminatorily in the field, which victimizes disadvantaged groups in the community (Csete et al., 2016; Turnbull, 2009).

These developments necessitate global changes in drug policy. The literature shows that the driving force of the policy shift toward decriminalization is the magnitude of the drug problem in society. When the prohibition approach is recognized as the source of uncontrollable social problems, decriminalization becomes a valid government response (Mravčik, 2015). However, the change is made possible through a mix of political leadership, global and domestic advocacy, and public support (Hughes, Stevens, Hulme, & Cassidy, 2019).

The decriminalization of drug use can be limited to either cannabis alone or all drug types. Countries that have decriminalized all drug use include Armenia, Chile, Colombia, Costa Rica, Czech Republic, Denmark, Ecuador, Estonia, Italy, Latvia, Netherlands, Paraguay, Peru, Portugal, Slovenia, Spain, Uruguay (The Global

Commission on Drug Policy, 2016). Countries that have decriminalized only cannabis use include Australia, Belgium, Germany, Georgia, Israel, Jamaica, South Africa, Switzerland, and the USA (The Global Commission on Drug Policy, 2016). As of 2019, 21 US states have decriminalized use of medical marijuana and 29 US states have enacted medical marijuana laws, and 9 of them legalized cannabis in the US (Coley, Hawkins, Ghiani, Kruzik, & Baum, 2019). However, it is challenging to classify countries, particularly according to the two models, since there is significant variation in implementing similar models in other contexts, producing different results.

The primary purpose of this study is to evaluate the impact of decriminalization policy in the European situation. The literature reviews are based on reports published by governments and NGOs and peer-review articles, as well as critical response papers on the topic. The main aim is to examine the decriminalization models, implementation procedures, and outcomes. To this end, relevant keywords were used to search Google Scholar and other academic search engines.

Presently there is no clear political desire to adopt the decriminalization policy in Finland; the issue has gained public attention and attracted advocacy groups. Thus, this report intends to provide a research base for further societal discussions on the known effects of decriminalization, as well as to highlight different decriminalization models that could be adapted if the issue moves forward.

The report is divided into five parts. The first section discusses the conceptualization of decriminalization policy and implementation models. The outcomes of decriminalization will be debated in the second section, with focus given to the impact of contextual factors, chosen models, as well as implementation variation. In the third section, three examples of the decriminalization policy in Europe will be evaluated in more detail. The three European countries considered—Portugal, the Czech Republic, and Denmark—have social and structural similarities to Finland. The final section evaluates decriminalization policy briefly but comprehensively. In addition, Appendix 2 presents figures on the prevalence of drug use, health issues, and crime statistics for the three previously mentioned countries and Finland. Although the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has done excellent work in collecting data from different EU countries, we know that the data is not directly comparable in all details. For example, studying and registering drug deaths can vary significantly between countries. Therefore, in this context, we present these figures in an Appendix as additional information, without trying to draw any definite conclusions therefrom.



## 2 Conceptualization of decriminalization and contextual factors

The prohibition approach to drugs entails several promises, while at the same time being confronted with scientific evidence and social realities (Taylor et al., 2016). The central premise of prohibition claims that it protects society, but when all costs are calculated, the claim is seen to be questionable. Substantial evidence shows that the consequences of prohibition impose a greater cost burden on society. For instance, while it is claimed that scientific evidence endorses the prohibition of drugs, the use of cannabinoids in medical science has been gaining new momentum (Taylor et al., 2016). Cannabinoids have been used to treat over 50 conditions or symptoms, such as anxiety, depression, pain management, and nausea.

Moreover, it has been found to improve the social behavior of people diagnosed with autism spectrum disorders, while it can be used with minimal side effects and tolerance risk (Weiss, Howlett, & Baler, 2017). One reason that society is rarely seen to approve or tolerate drug use is the perceived relation to crime and social problems. Others argue that drug use has no place in a society because it inevitably leads to addiction. These types of arguments blur outcomes and create confusion for decision-makers. Moreover, comparative studies of policy, such as decriminalization policy, bring challenges, since outcomes are found to be largely determined by context (Taylor et al., 2016). A policy formulation that produces better results may not fit other countries' frameworks.

Each country has experienced drug problems to a varying degree. European countries have already followed for over two decades a more 'balanced approach' that includes lower penalties for drug use and possession, public health-oriented policies, and law enforcement actions focused on supply (B. Hughes et al., 2018). Nevertheless, several states still prefer to stick to the prohibition policy, which has not been found to produce better outcomes than contemporary approaches (Blickman, 2014).

Criminal sanctions against drug use are criticized for being too much paternalistic, since drug use typically entails only minimal harms to others. Nevertheless, punishment and deterrence is preferred for symbolic and political reasons. It aims to prevent others from doing the same, although the actions of PWUD are not harmful to others (Adam & Raschok, 2017; Marthinussen, 2018). However, sacrificing PWUD to protect others creates a highly questionable moral dilemma (Marthinussen, 2018), since the life of every human being is valuable.

Although decriminalization policy has expanded around the globe in the last decades, the policy outcomes have been criticized as controversial, which prevents many governments from adopting similar approaches. The conceptualization of the

framework is one reason for the controversy. It is used interchangeably to represent all variations of policy shifts in many countries (The Global Commission on Drug Policy, 2016). For example, softening sanctions for drug use and possession or for the cultivation of a limited number of plants for personal use has blurred the boundaries between decriminalization and medical cannabis policies. It may lead to the development of a gray market, where users can buy or cultivate cannabis (Bewley-Taylor, Blickman, & Jelsma, 2014). Thus, poor understanding of decriminalization policy may lead to poor implementation and results.

## 2.1 Conceptualization of decriminalization

Decriminalization refers to a change in the criminal status of a specific behavior or action. The term generally refers to laws related to personal drug use or possession rather than supply. There are no legal means to obtain drugs for personal use in this framework. Drug purchase is still illegal; drugs can be confiscated, while non-criminal penalties may even be applied. Nevertheless, drug use or possession will not result in a criminal record, at least not if it is the first such offence (European Monitoring Centre for Drugs and Drug Addiction, 2018a).

Decriminalization represents a shift in policy away from the criminal justice system (CJS) to a health care framework. The frame creates an enabling environment for the provision of public health interventions for PWUD while minimizing the potential for negative impacts from a criminal record on the future well-being of people (Benfer et al., 2018; International Drug Policy Consortium, 2016).

The advent of contemporary drug policy often centers on the concepts of depenalization and legalization, though these differ from each other in many ways. Depenalization refers to a reduction in the severity of penalties and may result in closing a criminal case without punishment. The drug case would be considered ‘minor’ or to not be in the public interest to pursue as a criminal case, a conceptualization that has been adopted in Austria, Germany and Poland (Babor et al., 2018; European Monitoring Centre for Drugs and Drug Addiction, 2018a). In other words, in the case of drugs, depenalization generally refers to the elimination of custodial penalties (Greenwald, 2009).

There are also arguments that decriminalization is a sort of depenalization because both policies infer no policy changes in relation to drug supply, with changes targeted at users, possession of the drug, or drug use. Both drug use and possession remain illegal and punishable, either by means of criminal or civil sanctions. Although the consequences of this kind of decriminalization appear identical to offenders, the main difference rests in the drug-related act having a different status in law, being seen as a non-criminal offense. For instance, a criminal charge may affect an individual’s ability to obtain and/or keep work, student loans, and public assistance (Babor et al., 2018; Pacula et al., 2005).

Finally, legalization refers to making an act that was previously prohibited lawful. The term is generally used in the context of drug supply, as in Uruguay, in some US states (e.g., Colorado and Oregon), and Canada (European Monitoring Centre for Drugs and Drug Addiction, 2018a). Legalization is only limited to cannabis. Unlike legalization, the decriminalization philosophy considers drug use to be harmful and undesirable and as not subject only to individual choice (Domoslawski & Siemaszko, 2011).

In the regulatory framework spectrum (Figure 1), decriminalization fits between prohibition and legalization. In more general terms, it creates a legal structure for implementing strategies to reduce harms caused by drug use and to reintegrate PWUD. It aims to remove fears and other barriers that would inhibit PWUD from obtaining treatment (Domoslawski & Siemaszko, 2011). Moreover, it also generates savings because of the reduction in incarceration costs and the burden on the CJS (Pacula et al., 2005).

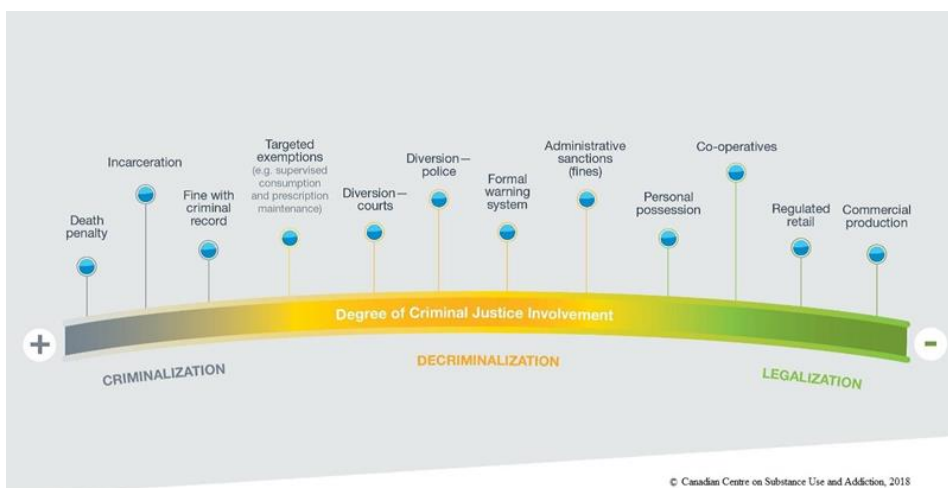


Figure 1: The Regulatory Continuum

## 2.2 Legal frameworks

### 2.2.1 De facto

Decriminalization has been formulated according to two legal frameworks. In de facto decriminalization, both drug use and personal possession remain criminal offenses, but in practice, the criminal penalties are not enforced. Since there is no enforcement, there will be no criminal conviction, though there may be some administrative sanctions. These sanctions can include referral to treatment, to health and/or social services or to counseling and education (Eastwood, Fox Edward, & Rosmarin Ari, 2016; International Drug Policy Consortium, 2016).

De facto decriminalization can be adopted and implemented rapidly through pragmatic adjustments. However, it can also be reversed equally rapidly. A well-known implementation of this kind was developed in the Netherlands many years ago; other states that have likewise implemented such a policy include some Australian states, the UK, and some US states and cities, such as Albany, Seattle, and Santa Fe (International Drug Policy Consortium, 2016).

Hughes et al. (2019) categorized two de facto decriminalization frameworks: depenalization and police diversion. Slightly different versions of depenalization (also known as deprioritization) can be seen in the USA, the UK, and Denmark. Examples of features of this framework include the use of cannabis and khat warnings in the UK and Denmark. The police diversion program has been implemented in Australia and the UK, by way of police diversion schemes. The USA also applies similar versions of the police diversion program, such as the Baltimore pre-booking scheme and the LEAD program.

**Table 1: De facto decriminalization**

Type	Referral to education, therapy and social services	Administrative or civil sanction	Example
Depenalization	No	No	<ul style="list-style-type: none"> <li>• Netherlands Gedoogbeleid 'tolerance policy' (cannabis only)</li> <li>• US police 'deprioritization.'</li> <li>• UK cannabis and khat warnings</li> <li>• Denmark warnings</li> </ul>
Police diversion (de facto)	Yes	No	<ul style="list-style-type: none"> <li>• Police diversion schemes in most Australian states</li> <li>• Netherlands diversion (hard drugs only)</li> <li>• English police diversion schemes in Durham, West Midlands, and Avon</li> <li>• US LEAD program</li> <li>• Baltimore pre-booking scheme</li> </ul>

Adopted from Hughes et al., 2019, p.7

No administrative or civil sanction is inferred in these frameworks, but police diversion program includes referral programs such as education, therapy, or social service (Table 1). However, drug type is vital for decision-making. For instance, the Netherlands implements a tolerance policy for cannabis as a depenalization practice, but the police diversion scheme is applied to hard drugs, which requires additional conditions (Hughes et al., 2019).

Depenalization saves police time and reduces government costs by removing the criminalization of simple possession. Instead of dealing with drug possession, law enforcement spends its time and resources in tackling drug trafficking and other serious crimes (Hughes et al., 2019). Since “doing nothing” does not require a change in the law, it can be quickly enforced. It is a fast remedy for unrealistic traditional policing methods. The primary benefit of this strategy is the cut in conviction and unemployment rates, the overload on the CJS, and a boost in voluntary treatment admissions (Hughes et al., 2019).

If the police have full authority and discretion, they determine the crime type and set the sanction accordingly. This burden tends to be given to senior officials at the police station, who evaluate these referrals. If the decision is taken at the prosecutor or judiciary level, police only arrest and refer possession-related offenders to the judicial authorities (Shanahan, Hughes, & McSweeney, 2017). Law enforcement plays an essential role in de facto decriminalization because they are the primary gatekeeper. The known risks of this model include justice by geography or disadvantaged groups, which can be defined as targeting specific areas or people from low-income groups and minorities (Hughes et al., 2019).

### 2.2.2 De jure

Under de jure, criminal penalties for selected activities are formally removed through legal reforms. The use or possession of drugs is considered a civil or administrative rather than a criminal offense. Countries that have adopted this approach include the Czech Republic, Portugal, Germany, Estonia, Spain, and Switzerland (International Drug Policy Consortium, 2016; Sabet, 2012).

Drug use and drug supply are separated in some countries, and the police still enforce laws for supply-side offenses (International Drug Policy Consortium, 2016). Hughes et al. (2019) classified de jure decriminalization frameworks into four groups based on sanction and referral to services such as education therapy and other social services. Germany and the state of Vermont in the USA have implemented a type of decriminalization that does not require referral and sanction. On the other hand, Portugal and several US states (Maryland, Connecticut, and Nebraska) have adapted targeted diversion programs, which require both referral and administrative sanction (Table 2)(Hughes et al., 2019).

If decriminalization is implemented without sanction but with referral services, it is known as de jure police diversion, which has been adopted by the South Australian and Queensland Police in Australia. Finally, the Czech Republic, Jamaica, three Australian states, and several US states (Ohio, Mississippi, Massachusetts, and Rhode Island) impose only civil or administrative sanctions, but they do not use a referral program (Table 2) (Hughes et al., 2019).

**Table 2: De jure decriminalization types**

Type	Referral to education, therapy and social services	Administrative or civil sanction	Example
Police diversion (de jure)	Yes	No	<ul style="list-style-type: none"> <li>• South Australian Police Drug Diversion Initiative</li> <li>• Queensland Police Drug Diversion Program</li> </ul>
Decriminalization with civil or administrative sanctions	No	Yes	<ul style="list-style-type: none"> <li>• The Czech Republic and Jamaica</li> <li>• Cannabis Expiation Notice schemes in three Australian states (ACT, SA, NT)</li> <li>• 11-16 US states (e.g. Ohio, Mississippi, Massachusetts, Rhode Island)</li> </ul>
Decriminalization with targeted diversion to health / social services	Yes	Yes	<ul style="list-style-type: none"> <li>• Portugal</li> <li>• several US states (Maryland, Connecticut &amp; Nebraska)</li> </ul>
Decriminalization with no sanctions attached	No	No	<ul style="list-style-type: none"> <li>• Germany (by virtue of Constitutional ruling)</li> <li>• Vermont USA since 2018)</li> </ul>

Adopted from Hughes et al., 2019, p.7

The decision-making process can be differentiated according to the level of the government body. For instance, in Spain and some Australian states, it is the discretion of the police to determine possible sanctions (e.g., confiscation, warning, or fine), though in the Czech Republic and Portugal, it is a civil or administrative body (CDTs) that determines the relevant health or social interventions. Moreover, in some countries, such as Germany, Peru, Estonia, and Argentina, judicial authorities (including state prosecutors) have the sole right to impose administrative sanctions (International Drug Policy Consortium, 2016; International Drug Policy Consortium, 2019).

## 3 Decriminalization policy and the context

Currently, the drug problem is a reality for societies, and there is no longer a realistic way to opt out of this problem. Instead, policy preferences determine what type of problem societies face. On a scale, countries suffer either from the adverse effects of prohibition or the consequences of self-destructively high-levels of use within the legalization framework (Caulkins & Kleiman, 2018). By defining socioeconomic risks and costs, states regulate the relationship between PWUD and society. It can be regarded as either an individualized risk or a societal risk.

Drug policy is one of the rare areas where penal policies and welfare policies intersect. How the problem is defined decides whether individuals are processed by the criminal justice system or the health care system. Moral judgment inevitably shapes drug policy, which brings several social and health risks (Houborg, 2010; Houborg, 2012).

A comprehensive framework is necessary for the systematic evaluation of drug policy outcomes (Stevens, Hughes, Hulme, & Cassidy, 2019). However, decriminalization is often used as an umbrella term for policy changes. In practice it describes a range of principles, policies, and practices that can be implemented in various ways (Jesseman & Payer, 2018). The ubiquitous use of the term inhibits reflection on the policy differences across countries. Outcomes are generally merged into a single indicator of the concept, which increases ambiguities in understanding policy effectiveness (Eastwood et al., 2016; Pacula et al., 2005).

The priorities and the nature of the drug problem vary among countries. Adaptation of the policy model should thus fit the circumstances. States variously prioritize the social cost of prohibition or liberal thinking. The motivation for change may come from the ‘moral dissonance’ of the prohibition in liberal democracies, which produces double standards for PWUD (Stevens et al., 2019). The limits of the policy change are determined by social structural variables, politicized moral/cultural values, and significance of interest groups. Besides, the contradictory evidence and a lack of an evaluation plan are of greater concern to politicians. A failed policy may have the potential to harm their future electability and may lead to them being labeled ‘soft on drugs’ (Hyshka, 2009).

Decriminalization policy should be coherent in prescribing a logical consistency in regard to goals and actions within and across the policy sector (Adam & Raschok, 2017). In other words, it should be framed to support and justify the expected outcomes. The primary force behind the policy adaptation of several countries is to reduce drug-related mortality, health problems, social disorder, and disad-



vantage (Benfer et al., 2018). Thus, previously defined outcomes eliminate the ambiguity of the evaluation plan.

Policymakers have several decriminalization policy options, as detailed above. Each model comes with varying advantages and disadvantages. For instance, if the main aim is to reduce the burden on the CJS, de facto decriminalization will be a good option. However, if the policy should lead to a focus on PDU and increase treatment demands, then diversion programs are more likely to be of benefit. As an example, the primary objective of Dutch drug policy is to reduce the associated social and medical problems, rather than to diminish drug prevalence. Taking full control of the problem is an unrealistic and unreachable goal, but normalizing the issue and treating it like any other health issue may give a degree of control (Grund & Breeksema, 2017).

The initial intent needs to be structured realistically to produce expected results, else the policy is likely to fail. For example, decriminalization of possession of small amounts of drugs in Mexico has been criticized for not being effective in achieving the same results as seen in Portugal, although the policy was more likely to be formulated in the CJS rather than in health care. During implementation, penalties for small-scale dealers have been increased, referral to treatment is an option only after the third offense, and finally, courts have continued to process drug offenses (Russoniello, 2012). Overall, keeping PWUD within the CJS did not remove the stigma and barriers to accessing treatment.

Specific drugs sometimes become more problematic than others, and policy may prioritize specific interventions or rapid responses to these drugs. For instance, the estimated number of PDU in the Czech Republic was 35,100 in 2002, and it had stabilized at close to 30,000 in 2008. However, according to the 2009 estimate, two-thirds were related to methamphetamine, and almost a third related to opiates, which lead to a reassessment of the drug policy (Csete, 2012).

Furthermore, without investment in treatment and harm reduction programs, the decriminalization policy could not meet expectations, as experienced in Mexico. While decriminalization was formulated to transfer more funds into treatment and other harm reduction programs in Portugal (Greenwald, 2009), Mexico has suffered from insufficient resources and failed to reduce drug-related diseases (Russoniello, 2012). The main reason for the failure was attributed to goal setting, with policy objectives aimed at allowing counter-narcotics officials to focus their efforts on drug traffickers and to free up capacity in Mexican jails while emphasizing treatment and harm reduction. Since the policy was not designed to protect users' rights or to develop an effective public health system, it resulted instead in more incarceration and criminalization (Russoniello, 2012).

The political dimension of the drug problem generally inhibits policy makers from giving control of the policy design to experts. However, pressure due to the extent of the problem in Portugal led the government to address the drug problem without an

ideological predisposition. They considered the advice of external experts rather than solutions derived from the police and the judiciary system (Adam & Raschzok, 2017). One primary rationale for decriminalization in Portugal was to break the barriers resulting from the stigma attached to criminal prosecution. It encouraged treatment-seeking and enabled addicts to benefit from treatment options, once they no longer feared prosecution, which brought an end to senseless punishments while simultaneously achieving better control over the drug problem (Domaslawski & Siemaszko, 2011; Greenwald, 2009).

### 3.1 Decision-making in decriminalization

Ongoing assessments of the PWUD situation and the related use of sanctions require daily monitoring and an efficient decision-making process. Depending on the context, governments can identify decision-makers to this end, either in the CJS or in health care settings. Some states, such as Portugal, have formed a commission or have appointed a coordinator to adjust the defined policies toward the desired ends. In contrast, others may prefer to sustain the current administrative body with newly established goals and legislative frameworks. The technical capacity of the stakeholders and their power in the legislative body defines the decision-making system (Csete, 2012).

In many countries, the inter-ministerial governing body is dominated by the police, the military, and criminal justice officials, which has a significant role in framing the drug policy. The culture and priorities of these stakeholders are critical contextual elements in the provision of front-line health and social services (Csete, 2012; Stevens et al., 2019). Although empowering law enforcement prevents attempts to affect health-related outcomes (International Drug Policy Consortium, 2016), an expedient decision at a very early point in the evaluation process may be more beneficial if the objective is to take people out of the CJS (Eastwood et al., 2016). Therefore, determining who is best to carry out decision-making is very much reliant on circumstances, such as relating to policy expectations and the strength and weaknesses of the institutions in the administrative body.

The legal system of the jurisdiction, especially administrative laws that permit non-criminal sanctions, is an important contextual factor in the design of decriminalization policy. For instance, while administrative laws give broader options, such as suspending licenses as in Portugal, a more restricted form in the Czech Republic allows only civil penalties equivalent to fines, similar to fines for motoring offenses (Stevens et al., 2019).

Besides the challenges facing actors at the macro-level of policy decision-making, discretion at the micro-level also has an impact on outcomes. A set of decisions should be enacted regularly at the frontline of the program, such as separating dealers from users, enforcing a fuzzy threshold value, such as greater than a small

amount, applying estimated fines or administrative sanctions. While some states regulate these issues by means of legislation, some leave them to the ministries to adjust them to the local and institutional settings.

### 3.1.1 Counselor expert determination

The authority for decision-making in the administrative body of the government varies across states. There is a growing global tendency to establishing councils to coordinate national drug policy. It is also expanded through local coordination branches among institutional boards or counselors that coordinate and guide institutions at the local level (European Monitoring Centre for Drugs and Drug Addiction, 2019a). However, for frontline decision-making and assessment of individual cases, the CJS still plays a significant role in many countries, with a few exceptions such as Portugal. In Portugal, a committee consisting of three experts from the medical and legal sector decides what is best for the person who is referred for drug possession and use (Domoslawski & Siemaszko, 2011; European Monitoring Centre for Drugs and Drug Addiction, 2019d; Greenwald, 2009; Van Het Loo, Van Beusekom, & Kahan, 2002).

Despite some criticism, Portugal's approach is generally accepted as one of the successful models in the world (discussed further below). Decriminalization policy is supported by investments in treatment, harm reduction, and social reintegration programs, which in turn, facilitate and encourage treatment for PWUD (International Drug Policy Consortium, 2016). The core idea of establishing a committee is to persuade PWUD to get involved in treatment. Intervention that takes place out of the context of the CJS encourages people to reassess their circumstances and thus facilitates engagement with health professionals.

### 3.1.2 Judicial determination

Prosecutor involvement in the decision-making process is not very common, but in Denmark and Germany, they may be able to issue cautions directly (Egnell, Villman, & Obstbaum, 2019; International Drug Policy Consortium, 2016; Pacula et al., 2005). Nevertheless, courts generally have authority in many countries to determine sanctions or dismiss criminal proceedings involving drug possession or personal use (Pacula et al., 2005). Likewise, some states, particularly in Latin America and the USA, have established drug courts, and they offer different options to PWUD, such as compulsory treatment, detoxification in clinical settings, and treatment or rehabilitation (International Drug Policy Consortium, 2016).

The objective is to help PWUD before punishment, but it also serves to relieve public prosecutors from the overwhelming caseload of low-level drug offenses. It is expected that inducing PWUD to contact health experts initiates treatment and rehabilitation (Pacula et al., 2005). The length of the decision-making process and/or pre-trial detention period is the most criticized aspect of this practice, since it may

cause distress to individuals, which contradicts the stated policy aims (Eastwood et al., 2016). When combined with weak institutional settings and the risk of corruption, people may not benefit to any great extent from the decriminalization model.

### 3.1.3 Law enforcement

Depending on the legal structure, law enforcement has different roles. If the decriminalization framework gives some authority for discretion, the police determine the nature of the offense (supply vs. personal use) and then apply a sanction (confiscation and warning or a fine). If responsibility for imposing a sanction is given to other institutions such as commissions, then the police refer PWUD to the administrative body after an arrest. Generally, in the CJS dominated frameworks, the police have no authority to determine the nature of the offense; they detain PWUD, and then the case is referred to state prosecutors or judges (Eastwood et al., 2016).

The primary gatekeeper of the decriminalization policy is law enforcement, since initial contact with PWUD starts with the police. According to their traditional role, they should arrest offenders and bring them to justice. However, trying to keep PWUD away from the CJS requires special adjustments in law enforcement. Statistics in the USA show that despite ongoing decriminalization implementation in states, possession-related arrests have skyrocketed between 2001 and 2010 (140,000 vs. 889,000), with cannabis making up 88% of drug possession arrests. Law enforcement still tends to prioritize drug possession in any scenario as they consider it an indicator of quality of life, maintaining order, and a part of policing practices (Logan, 2014).

Empowering law enforcement with room for discretion is expected to reduce PWUD's contact with the CJS, its caseload and cost burden, convictions, and the collateral consequences of conviction (e.g., on employment). Furthermore, rapid police interaction for simple possessions saves extra time for the policing of serious crimes (Hughes et al., 2019). Evidence in the literature suggests that a policy-oriented to empowering law-enforcement leads to an increase in referrals to health and social services, improvement in knowledge and skills amongst PWUD, and a reduction in drug-related harms (Hughes et al., 2019).

In practice, law enforcement in many countries has an active role in decriminalization policy. Even a lack of support from law enforcement has the potential in some countries to make decriminalization politically unfeasible (Hyshka, 2009). Since de facto decriminalization requires no legislative changes or the establishment of alternative systems, its enforcement is solely based on police practices. Some states, such as Australia, have given police the authority to implement a de jure decriminalization policy (as police diversion) in South Australian and Queensland states (Hughes et al., 2019).

The police may also be resistant to implementing health-oriented programs if they consider drug use to be the result of 'personal weakness' or 'moral failing'

rather than a complex health and social problem (International Drug Policy Consortium, 2016). Particularly officers from older generations who consider drugs to be evil may resist a policy shift and complain about a loss of potential valuable informants (Domoslawski & Siemaszko, 2011). Police officers tend to believe that arrest for cannabis often leads to the detection of other offenses (Turnbull, 2009).

On the other hand, PWUD may distrust the police due to prior experience of police abuse or corruption (International Drug Policy Consortium, 2016), which hinders the enabling environment between PWUD and the police that would facilitate treatment. Training and incentives can overcome the resistance of law enforcement. However, more sustainable development can be achieved simply by adapting *de jure* decriminalization to reduce police discretion (Stevens et al., 2019)

Law enforcement attitudes, arrest quotas, and performance measurements are essential components of the police presence in policy outcomes (Csete, 2012; Logan, 2014; Shiner, 2015). The implementation of the warning system may create a fast-track path to achieve certain targets at a time when law enforcement performance is under scrutiny (Shiner, 2015). The literature shows that the implementation of sanctions or non-criminal penalties is not a time-consuming task for law enforcement (Room & Reuter, 2012). Moreover, it is claimed that even after decriminalization, police contact did not change noticeably; police tend to consider the ‘warnings,’ ‘infractions,’ or ‘violations’ as a crime or public offense (Laqueur, 2015; Logan, 2014). For instance, a contact that was previously seen as informal could be recorded as a warning after decriminalization policy enactment (Turnbull, 2009).

Thus, increased police discretion in terms of issuing notices or fines compared to a previous system that required more extensive criminal booking procedures may result in a net-widening effect. The police may arrest more people and issue more fines or warnings. As a result, more people can be incarcerated due to non-payment of fines, as happened in Australia (Eastwood et al., 2016; International Drug Policy Consortium, 2016; Laqueur, 2015; Shiner, 2015)

Although giving greater levels of discretion has enabled the police to implement the policy successfully in several countries, it contradicts the idea of handling drug issues within the health framework. The literature suggests that decriminalization policy functions better if the police refer PWUD to the judicial or other administrative units rather than managing it within their institutional settings. Even police performance indicators that concentrate on crime, such as the number of citations and arrests, can inhibit the expected outcomes of decriminalization (International Drug Policy Consortium, 2016; Shiner, 2015).

## 3.2 Drug thresholds

Since decriminalization regulates the personal use of drugs, a drug threshold level is commonly used to separate the dealers from PWUD, such as the quantity of a drug

necessary for a user for single-use or on a daily basis. However, this estimation involves discussions not only among politicians but also among scientists, since each has different notions about ‘protecting society’ from drug-related harms and crimes. Some of the arguments may even contradict the evidence of harms related to harsh penalties, as in creating a situation where the harms from allowing too high levels of daily consumption can create negative health effects that are more serious than the negative effects of prohibition (Mravčík, 2015).

The factors involved in predicting a drug threshold have generally been based on the political climate, the impact of law enforcement on legislation, and the drug prevalence in the country. For instance, threshold levels for cannabis and methamphetamine were lowered four years after the enactment in the Czech Republic due to law enforcement pressure (Mravčík, 2015). On the other hand, Portugal set the level for “a small amount” of any drugs as up to ten days' worth of personal use, which is higher than the initial threshold level of the Czech Republic (Sabet, 2012). Governments have adopted a variety of threshold levels for personal consumption in decriminalization policy. It ranges from a daily dose to five days' worth (in Spain), a week's worth (seven times the average daily dose), ten days' worth (in Portugal) or ten doses with a day consisting of more than a single dose (Estonia)(see Appendix 1)(Eastwood et al., 2016; Greenwald, 2009; International Drug Policy Consortium, 2016).

Setting a standardized threshold can sometimes be problematic as drug trends and potency may change over time. For that reason, some governments such as Armenia, Croatia, Estonia, and Germany refrain from setting specific quantity limits and give discretion to prosecutors or judges to determine whether the quantity of drugs possessed is intended for personal use (Eastwood et al., 2016). Nevertheless, the policy context still plays an essential role in applying discretion. For example, while there is no defined threshold level in Polish legislation, the police determine who is a dealer and user. However, the results show that drug possession still accounted for approximately 80% of drug-related offenses (Eastwood et al., 2016). The number of drug-related crimes has even increased, and the proportion of supply vs. possession constitutes approximately a 10 to 90 ratio (3398 vs. 29159) of the drug-related crimes in Poland according to the latest available data (The European Monitoring Centre for Drugs and Drug Addiction, 2019).

Weak definitions such as ‘greater than small,’ ‘minor amount,’ ‘small amount,’ or ‘larger extent’ create confusion and significant levels of discretion in determining personal use. For instance, in Germany, states (Länder) define values for a “small amount” as typically being 6-10 grams; however, a federal ruling states a “non-small” amount to be 5 grams or more of the drugs (European Monitoring Centre for Drugs and Drug Addiction, 2019b). Street-level bureaucracy, a service of frontline officers who have direct contact with society, has a prominent role in this kind of policy implementation. Some states define threshold levels strictly; as a result, law

enforcement only needs to follow the regulations. However, some nations prefer to give law enforcement a great deal of discretion to implement decriminalization policies.

On the other hand, an unrealistically low threshold creates confusion regarding trafficking and personal use. A minimal amount automatically turns many PWUD into dealers in the eyes of law enforcement, which generally results in long imprisonment, as is the case in Russia and Mexico. Additionally, a higher threshold may facilitate drug trafficking, or people tend to buy a bulk amount of drugs without any intent to supply as the bulk price is always lower (Eastwood et al., 2016; International Drug Policy Consortium, 2016). Consequently, quantity should not be the only determining factor in distinguishing between possession for personal use and possession with intent to supply. Rather, thresholds should be indicative. The limits should reflect market realities and ensure the principle of decriminalization is being achieved appropriately (Eastwood et al., 2016; International Drug Policy Consortium, 2016).

### 3.3 Sanctions and penalties

#### 3.3.1 No response

Particularly in de facto decriminalization, it is more likely that PWUD would face no sanction when caught in possession for personal use. However, implementation of de jure decriminalization without penalty is also possible, as has been implemented in Germany and the US state of Vermont. The so-called ‘partial depenalization’ could also be applied if the quantity of the drug is low, and the number of prior offenses is negligible (Pacula et al., 2005). The primary rationale behind this approach is that not only is the criminalization of people using drugs for personal use wrong, but an alternative system or sanction itself has potential harms and counterproductive results. Besides, this non-sanction practice is also cost-effective since there is no need to invest in arrangements for new services, such as referral or monitoring efforts (Hughes et al., 2019).

The evidence from the Netherlands on this practice shows a reduction in demands on the police, courts, and prisons. De facto decriminalization also reduces and avoids the collateral consequences of a conviction that may affect employment possibilities. Moreover, it can lead to an increase in demand for drug treatment and harm reduction services (Hughes et al., 2019). Similar results have been reported in Germany; the rates of heroin users, drug prevalence, and problematic drug use, as well as HIV and drug-related overdose, have been diminishing compared to other EU countries (Hughes et al., 2019).

Unpaid fines or unfulfilled sanctions can also have consequences on PWUD, such as incarceration. In some jurisdictions, treatment referral is bound to payments; if a person fails to make a payment, they cannot benefit from treatment. However,

PDU and minors typically suffer from a financial deficit as well as having difficulties in arranging their daily life rationally. Thus, a failure to fulfill these regulations entails potential risks similar to prohibition (Eastwood et al., 2016).

It will be better if the program imposes incremental responses to users based on their profiles. In Portugal, proceedings will be suspended following the first arrest if the person has no problem with drug dependency. Authorities keep the person's name on the record through the prescribed period, and it can be removed later. However, if a person is arrested before the prescribed period, then a sanction will be considered (Eastwood et al., 2016).

Implementation of de facto decriminalization can, therefore, entail some risks, such as justice by geography and net-widening, as discussed above (Hughes et al., 2019). While there is a general reduction in cannabis-related arrest, an increase can be observed where a targeting policy is implemented. Similarly, policing results may not match with the actual prevalence rates in certain areas; disproportionate police practices in specific areas are more likely to affect disadvantaged groups and minorities (Hughes et al., 2019).

On the other hand, a no-response policy may bring some risks in reaching problematic drug users, since procedures to distinguish between risky users and regular or recreational users are absent. Assessing the individual situation of PWUD by discussing their circumstances extends the reach of treatment services, and may lead them to a treatment referral. A need for more investment in treatment and harm reduction services would be inevitable. For instance, even with this policy framework, voluntary treatment admissions increased in Germany after the stigma was eliminated (Hughes et al., 2019).

### 3.3.2 Fines or other administrative penalties

It is argued that proposing a sanction comes from the idea that drug use and possession should not be tolerated by society and that there have to be some consequences even though it would no longer be considered a crime (Hughes et al., 2019). The main aim is still to punish the behavior but without the risk of criminal convictions. There is a wide range of sanction options in the field, which include fines, community service orders, cautions or formal warnings, mandatory treatment or counseling and education sessions, suspension of driver's or professional licenses, mandatory drug testing, a ban on visiting certain places, a ban on associating with specific other persons, withdrawal of the right to carry a gun, and cessation of subsidies or allowances that a person receives from a public agency (Eastwood et al., 2016; International Drug Policy Consortium, 2016; Van Het Loo et al., 2002).

On-the-spot monetary fines can be issued either by police or be issued later through a council or judiciary process. The size of the fine typically varies by average income level and policy design. The level should not, however, be out of the reach of most people, since unpaid fines may lead to incarceration or other criminal



proceedings. Fines differ by country and can vary from EUR 25-100,000. For instance, in individual states it can range from EUR 60-180 (Australia), EUR 340 (Armenia), EUR 1,200-2,400 (Estonia), and EUR 1,000-100,000 (Belgium)(Eastwood et al., 2016; Van Het Loo et al., 2002).

The police authorities implement diversion programs in Australia by means of cautions, expiation, and warnings. A caution aims to divert offenders from the CJS using verbal cautions, assessment, education and/or treatment programs. The expiation requires offenders to pay an expiation notice, and finally, warnings refer to informal warnings (Shanahan et al., 2017). Another implementation in the USA is called expungement, which enables the removal of an individual's public records as if an offence never occurred. It is only possible when possession-related drug offenders fulfill the mandated requirements of punishment, such as payment of a fine, fulfilling drug education, treatment, or community service (Pacula et al., 2005).

Jurisdictions where authorities (most likely the police) issue fines can trigger a net-widening effect, since penalizing PWUD on the spot is fast and more comfortable than proceeding through the bureaucratic justice system. Hence, a high number of people may be at risk of sanctions than would previously have been if the police are motivated by the ease of issuing fines to intercept more people (Eastwood et al., 2016). For instance, early implementation results in South Australia showed a 2.5-fold increase in detections resulting from a cannabis expiation notice (Hughes et al., 2019) and only 45% of those issued with notices went on to pay their fines by the due date between 1988/88 and 1993/94 (Babor et al., 2018). Thus, the policy has brought some risk for people living with financial difficulties.

Finally, administrative detention is not prevalent as a penalty but still exists in several countries, such as up to 30 days in Estonia and up to 15 days in Russia (Eastwood et al., 2016). Studies show that sanctions can be useful if the consequences of administrative penalties are minor, such as small fines or drug confiscation, rather than detention. Besides budgetary benefits (such as an increase in revenue), it also eliminates the social exclusion of PWUD (Hughes et al., 2019). Any forms of sanctions or penalties, such as the seizure of a passport or driving license, should aim to keep a person under control rather than harming an individual's life (Eastwood et al., 2016).

### 3.3.3 Treatment, therapy, education and social services

In both *de jure* and *de facto* decriminalization, it is possible to introduce education, therapy, or social services. The police can refer offenders to health or social services, which may not otherwise be accessible. In this approach, drug use is considered not only a criminal justice issue but also a health and social issue (Hughes et al., 2019). In *de jure* criminalization, as found in some Australian states, the police are obligated to refer everyone who possesses drugs to the health or social services. It aims to remove police discretion and to reduce the risk of an inconsistent applica-

tion of the law. It eliminates the risk of justice by geography and exclusion of particular groups, and it gives the same opportunity to offenders of a health and social response (Hughes et al., 2019). However, referring all offenders impacts treatment services significantly, requiring additional investment in health services. For example, treatment admissions doubled in the UK between 1997 and 2006, when the police referral system was active (Babor et al., 2018).

Some governments still tend to intervene by means of the CJS in trying to manage drug problem in society. Rehabilitation programs in prisons or diversion programs are believed to lead to a reduction in drug use (Babor et al., 2018). With a referral system, PWUD can increase their knowledge and skills about dependence, treatment, rehabilitation, health, and social services, reoffending, and employment issues (Hughes et al., 2019). Programs, such as the Drugs Education Program (DEP) in Bristol in the UK and the Law Enforcement Assisted Diversion (LEAD) in Seattle in the USA, aim to support individuals caught for possession. The police may also offer some of these drug education programs, and they may include comprehensive case management and community support services. When people complete the course or program requirements, their charge can be dropped (Jesseman & Payer, 2018).

However, police referral practices also bring some risks. For instance, the type of drugs involved might be a criterion for police. It is observed in DEP practices that some officers seem to be hesitant to refer heroin and cocaine users. However, this type of discrimination contradicts the main expectation of the program. There is also a risk of exclusion if eligibility criteria are narrowly defined, then less PWUD would benefit from diversion (Hughes et al., 2019; Jesseman & Payer, 2018).

Although most of PWUD are non-problematic and need no treatment and social services, it is claimed that targeting problematic users and referring them to services is useful and beneficial (Hughes et al., 2019). For example, Grucza et al. (2018) found that the implementations in Maryland and Connecticut resulted in a lower level of regular use compared to states employing civil penalties alone in their decriminalization. Similarly, the policy reduced not only illegal drug use among PDU and adolescents but also drug-related harms such as opiate-related deaths and infectious diseases (Hughes et al., 2019).

Treatment, either voluntary or compulsory, is an option in many countries as a part of decriminalization policies. For instance, the committee in Portugal cannot mandate compulsory treatment, although its orientation is to encourage addicts to enter and remain in treatment (Van Het Loo et al., 2002). However, many countries provide compulsory treatment without the consent of the patient, which may be considered a type of low-security imprisonment. Evidence shows that this approach is not beneficial to the individual or the community; furthermore, it is expensive and non-cost-effective (Eastwood et al., 2016).

Nevertheless, findings suggest that only an individualized and voluntary treatment referral route can produce the expected outcomes (Eastwood et al., 2016; The Global Commission on Drug Policy, 2016). Treatment programs can include opioid substitution therapy, counseling, as well as inpatient treatment. The literature suggests that good practice requires an individualized arrangement that complies with human rights, norms, and respect for the dignity of the patient.

The disciplinary method of enforced treatment with a court order under police or government supervision does not produce expected results. Rather, treatment can more likely be achieved in a supportive and voluntary manner (Eastwood et al., 2016). The judges determine the necessity of the treatment and even determine its success in the compulsory system. Nevertheless, this process would be best accomplished by health experts. Furthermore, the provision of treatment services or options is generally structured within criminal justice settings, which may not necessarily employ evidence-based models. Thus, keeping PWUD in the CJS contradicts the expectations of decriminalization, which aims to treat PWUD within the scope of health and social services. For instance, evaluating relapse has different consequences in the two fields; while it might be seen as a failure of treatment in criminal justice, from a health perspective, it is anticipated as a potential stage in treatment (Eastwood et al., 2016).

### 3.4 Regulating the drug market

The softening of the prohibition regime has opened debate around the drug market, as regulations relating to demand can also be expected to affect supply. More specifically, limited or no sanctions may lead more people to initiate drug use. However, the literature suggests that drug enforcement has not had as significant an impact on drug prices as expected (Caulkins & Reuter, 2010). Rather, prohibition has generated a parallel economy run by criminal networks. The market has been fueled by violence, as either criminals or law enforcement have sought to either protect or disrupt markets (Csete et al., 2016). Conversely, the harsh struggle that has been the ‘war on drugs’ has made communities more vulnerable and insecure. It has contributed to the incarceration of low-level retailers and drug couriers, who are easily replaceable, and to an escalation in property crimes, as more resources are directed at drug offenses (Reuter, Pollack, & Pardo, 2016).

Moreover, it is expected that the integrity of contemporary policies may necessitate the protection of people not only from the adverse consequence of using drugs but also from dealing with drugs. If one of the policy aims of decriminalization is to protect PWUD from the risks of the illegal market (Belackova, Tomkova, & Zabransky, 2016), many supporters of the policy suggest that drug-access should be regulated within the market structure. Although decriminalization policy does not infer

supply-side regulations, some countries have already sought to control the market to a certain degree.

It has been argued that if drug supply is entirely prohibited, it is impossible to regulate the market. However, the illegal market will still function underground. Without strategic planning, enforcement is not only ineffective but also leads to social problems (Reuter et al., 2016). Since the elimination of the drug market is unrealistic, enforcement should concentrate on reducing associated harms (Caulkins & Reuter, 2010). One of the market interventions may be separating hard and soft drug markets, as regulated in the Netherlands (Wouters & Korf, 2009).

Cannabis constitutes the primary concern for states, and it is the main issue in decriminalization or legalization debates. As a result, even some countries under the decriminalization framework follow a more pragmatic approach and tolerate cannabis access. The main goal of this approach is to reduce the size of the market, rather than eliminate it. It is claimed that pushing drugs from the ‘black’ market to the ‘white’ market incrementally reduces the size of the criminal market. Starting from the least harmful drug and carrying out the least contentious steps, it facilitates a change in users’ attitudes and behaviors in the long run. It will also be easier for the police to suppress criminals in a thinner market (Pacula, Chriqui, & King, 2003; Palmer, Wodak, Douglas, & Stephens, 2016).

## Supply-side models in decriminalization policy

### 3.4.1 Prohibited model: no tolerance to buy, sell or grow

Most of the countries that have adopted a decriminalization policy have prohibited PWUD from accessing cannabis or any other drugs within the legal framework. All forms of drug supply are still banned. Some countries have even increased the upper limits on penalties for trafficking charges, such as Denmark. In this framework, a person who is selling or distributing drugs will be arrested for trafficking, even if the amount is less than the threshold level that is defined for personal use or possession (Sabet, 2012).

### 3.4.2 Commercial models:

#### 3.4.2.1 A system of limited distribution:

In this model, production is still prohibited, but users can buy it in specific locations, such as is the case in the Netherlands (European Monitoring Centre for Drugs and Drug Addiction, 2018a). The basic idea of coffee shops in the Netherlands is the separation of markets, which may have weakened the link between cannabis use and other drugs (MacCoun, 2011). In other words, it is anticipated that this separation of markets protects cannabis users from exposure to hard drugs, which are considered more hazardous to health. Even the government puts effort into keeping the cannabis

THC potency lower, in order to sustain this goal. If the THC potency is above 15%, it is regarded as a hard drug, which results in harsher consequences (Van Laar, Van Der Pol, & Niesink, 2016). A goal of totally eliminating illegal drug markets has typically targeted less risky drug sales and low diversion of drugs to minors (European Monitoring Centre for Drugs and Drug Addiction, 2018a; Wouters & Korf, 2009).

The Dutch government empowered municipalities to regulate the market in the Netherlands. Local authorities regulate coffee shops: they stipulate business hours, zoning criteria, impose limited sales (maximum 5 g) and stock limits (maximum 500 g in the store), prohibit the sale of hard drugs, sales to minors, advertising, public nuisance, as well as setting a minimum distance from schools (European Monitoring Centre for Drugs and Drug Addiction, 2019c; Grund & Brecksema, 2017). Coffee shop owners generally comply with the regulations and take precautions to prevent the trouble that could lead to closure (Jacques, Rosenfeld, Wright, & van Gemert, 2016).

The licensing system is aimed at limiting the number of coffee shops and controlling cannabis sales. While the previous sale limit was set at 30 grams of cannabis, it was reduced to 5 grams in 1995 (Pacula et al., 2005). Moreover, the regulation in the market does not make the price of cannabis cheaper; it has remained high due to production-level prohibition (MacCoun, 2011).

Coffee shops serve as the leading supplier of cannabis in the market (Monshouer, Van Laar, & Vollebergh, 2011). According to the study of Wouters and Korf (2009), cannabis users tend to purchase their cannabis from coffee shops rather than illicit suppliers if the shop density is higher in their area. However, the illegal market still exists and supplies cannabis sales. Since minors are not allowed to purchase cannabis from coffee shops, they are much more likely to buy it from the illegal market. Finally, although implementation and enforcement vary by municipalities, coffee shops can only legally sell cannabis to Dutch residents since January 2013 (European Monitoring Centre for Drugs and Drug Addiction, 2018a).

#### 3.4.2.2 Medical marijuana practices

Although medical cannabis has emerged from a different theoretical framework, its implementation is intertwined with decriminalization at some points. Notably, the implications of medical cannabis in US states go far beyond those of the medical practices of cannabis in Europe. One criticism is that demanding medical cannabis in herbal form contradicts the concept of medicine. The US states permit the herbal form of cannabis, which may constitute dried leaves and flowering heads of the cannabis plant, which is the most commonly used form of cannabis for recreational use (Bogdanoski, 2010). The medicalization of cannabis in the USA has resulted in similar outcomes to decriminalization. It was introduced as a solution to prohibition in many states (Zarhin, Negev, Vulfsons, & Szintman, 2017). Since the coverage of

this paper is limited to the decriminalization framework, we will focus on the available options in the cannabis distribution market as regards medical cannabis.

Cannabis dispensaries have emerged in the USA that serve as a supplier of medical cannabis to users. These are protected by state laws, such as found in California and Colorado. However, results imply that competition and commercialization have an impact on the recreational use of cannabis through increased consumer access, normalizing the behavior, and lowering the perceptions of risk as well as possible price reductions (Pacula, Powell, Heaton, & Sevigny, 2015).

Even though the legal framework allows for medical cannabis in herbal form, without sufficient legal market, users tend to buy it from an illegal market. For instance, before cannabis legalization in Canada, only 7% of the medical cannabis users were able to obtain it from authorized sources (Belle-Isle et al., 2014). Hence, accessibility and price are still the main concerns of users in the market.

Regulated distribution is expected to supply more potent and higher quality cannabis than either home-grown or black-market cannabis because of the higher quality control, efficiency in production, and competition in the market. Nevertheless, it is legal allowances for retail dispensaries that have the most substantial influence on increasing potency, by around one percentage point on average (Sevigny, Pacula, & Heaton, 2014). On the other hand, when legalization practices are combined with a profit-oriented licensing system, it leads to the opening of more outlets, serving longer hours of operation, increased promotion, and importantly, increased sales and use (Pacula, Kilmer, Wagenaar, Chaloupka, & Caulkins, 2014).

### 3.4.3 Non-commercial models

Since commercialization practices (as in Colorado and Washington) have been criticized for not ensuring policy objectives in the areas of price regulation and public health, non-commercial models of supply (Belackova & Wilkins, 2018), such as cannabis cultivation or cannabis social clubs, might produce effective outcomes.

#### 3.4.3.1 Cannabis cultivation

Allowing cannabis cultivation is not a technical issue for policy formulation; instead, it is a political and moral issue that is not separable from the culture. Although it is a complicated and multi-dimensional phenomenon, it will provoke and challenge the current drug policy in various aspects (Hakkarainen & Perala, 2011).

Drug sharing is a common practice among users. Particularly for cannabis, many users consider it a social drug and the act of using it is seen as a group activity (Belackova & Vaccaro, 2013). If the policy aims to eliminate dealers in the market, an alternative way is to permit cannabis cultivation. Allowing small amounts of cannabis cultivation may be beneficial because it may challenge the more destructive forces of cannabis commerce and serious crime (Hammersvik, Sandberg, & Pedersen, 2012; Pacula et al., 2005). If its cultivation is allowed, the cannabis mar-

ket becomes less hierarchical and less populated by criminal organizations (Hakkarainen & Perala, 2011).

Even if it is prohibited, users tend to cultivate cannabis for their own needs, for instance, approximately 20% of the Czech, Italian and Swedish cannabis users, as well as 9% of users in the UK and 5% in the Netherlands reported that they cultivated cannabis (Belackova & Wilkins, 2018). Similarly, as of 2012, 72% of jurisdictions (13 out of 18) permit home growing by medical cannabis patients (Pacula, Boustead, & Hunt, 2014).

However, it is a challenge for law enforcement to distinguish profit-oriented drug distribution networks from generous sharing among friends. Although friendly sharing protects PWUD from illicit market risks, the majority of cannabis users, such as in the USA, New Zealand, and the Czech Republic, purchase their drugs from their friends who are also in this business (Belackova & Vaccaro, 2013).

The threshold level of cultivation has also emerged as a policy issue in this model. From the supply-side perspective, growing fewer than 20 small plants is generally accepted as a small-scale business. Growing cannabis at this level is cheap or even maybe free of apprehension risks (Hammersvik et al., 2012). Most states in the USA follow Americans for Safe Access (ASA) and the Marijuana Policy Project (MPP) model statutes for the cannabis cultivation threshold, which defines the allowable quantity of marijuana to include "no more than 12 cannabis plants per qualified patient" (Pacula et al., 2014). However, states that regulate cannabis cultivation in the decriminalization framework generally allow only for smaller amounts. For instance, it is limited to one or two non-hydroponic plants in Australia (if it is regulated in-state), one in Belgium, and five in the Czech Republic (Table 1 in the appendix) (Eastwood et al., 2016).

#### 3.4.3.2 Cannabis social clubs

Cannabis social clubs are private non-organizations, who allow their members to grow cannabis according to organizational rules and settings for their personal needs (Decorte, 2015). They enable users to avoid charges of trafficking, drug supply, or encouraging drug use, which is still subject to criminal penalties in many jurisdictions. The primary reason for their establishment is to avoid the black market and the risks involved in it (Belackova et al., 2016).

Although they can be seen in several countries, cannabis social clubs initially emerged in Spain. Since drug consumption has never been a crime under Spanish legislation, social clubs serve on the principle of 'shared' production and consumption. Despite Supreme Court decisions and court rulings, interpretation of judicial rulings may lead to police raids of cannabis associations; nevertheless, the model still works (Bewley-Taylor et al., 2014). Since it is not a profit-seeking transaction, it is interpreted that there is no crime (Apfel, 2015; European Monitoring Centre for Drugs and Drug Addiction, 2018a).

Clubs operate based on a collective agreement and do not serve the public. Invitation-based registration requires a membership fee that aims to cover the cost of a joint purchase. The cost is calculated to reflect the expected individual consumption. An age restriction (18 or 21), residency, and membership rules are generally strictly applied. Typically, the cannabis allowance for members is usually limited to 2 or 3 grams per day, and it is supposed to be consumed immediately. However, implementation and interpretation of the model are vague; for instance, club membership may vary from 50 to 5000 members, which makes it impossible to monitor cannabis production and consumption rates (Apfel, 2015; Decorte, 2015; European Monitoring Centre for Drugs and Drug Addiction, 2018a).

Although the small-scale of clubs tend to restrict enlargement and to serve only local spheres, a more commercial type of model has emerged in Barcelona in recent years. They have been criticized for operating like the Dutch coffeeshops, but with an additional membership policy (Bewley-Taylor et al., 2014; Decorte, 2015). Without formal authorization and central regulation, the number of clubs and members is increasing, which diminishes the expected outcomes (Belackova & Wilkins, 2018). The Spanish Supreme Court gave a verdict on cannabis social clubs in 2015 and clearly states that “organized, institutionalized and persistent cultivation and distribution of cannabis among an association open to new members is considered drug trafficking.” Nevertheless, regional attempts to regulate these clubs were denied for being unconstitutional (European Monitoring Centre for Drugs and Drug Addiction, 2019e).

Furthermore, it is claimed that the high potency of THC in the market has escalated the treatment demand for cannabis in Europe in the last decade. For instance, cannabis accounted for 21% of all treatment requests connected with illegal drugs (Belackova et al., 2016). Besides, the cannabis acquired from the illicit market, or other non-controlled cultivation settings, may include a variety of contaminants or adulterants that are more harmful than cannabis itself (Belackova et al., 2016). Cannabis social clubs give users the possibility to take control of production and grow cannabis that meets a reasonable quality and potency (Decorte, 2015). Thus, well-regulated cannabis social clubs may also serve to inform cannabis users about the risks of dependence development and other health issues.

The cannabis social club experience in Spain shows that members learn more about the content, quality, types of cannabis, proper dosage, usage instructions, consequences of driving under the influence, driving test limits, controlling side effects and other legal issues, such as carrying cannabis out of the club or buying it from the illegal market during socialization at clubs, even though it is not a formal requirement (Belackova et al., 2016).

Except for Spain, national authorities in Europa reject this model (European Monitoring Centre for Drugs and Drug Addiction, 2018a). Nevertheless, it has been experimented for recreational purposes in Belgium (Apfel, 2015; Belackova & Wil-



kins, 2018; Decorte, 2015), Chile, Colombia, Argentina, the United Kingdom, and France, and for medicinal purposes in Slovenia, Switzerland, and Italy (Belackova & Wilkins, 2018), while it serves medical cannabis users in Slovenia, Switzerland, New Zealand, and Italy (Belackova et al., 2016).

## 4 Outcomes

Predicting the social impact of decriminalization is difficult because of the numerous factors and assumptions that need to be considered. The results rely upon the characteristics of the PWUD population in a particular area, consumption practices, drug potency, the structure of the legal system, and the level of enforcement. Moreover, even the relationship between legal and illegal substances might change the equation. For instance, the level of income and legal risks could shift drug preferences from illicit to legal drugs, which may alter market demand in unpredictable ways (Kilmer & Pacula, 2017; Pacula et al., 2003; Pacula et al., 2014).

Multiple types of evidence have been used in measuring policy effectiveness in the literature; nevertheless, many aspects are contested amid assertions of deceit, misinformation, and manipulation. Instead of employing relevant indicators, selective evidence might be used to support specific policies (Hughes & Stevens, 2012). There is still a gap in the literature in determining causal links between policy and indicators. One of the main challenges is to isolate and evaluate the effects of specific policies or practices, since states may implement several strategies simultaneously (Jesseman & Payer, 2018).

Selected indicators have the potential to justify policy outcomes, though they may vary across states or studies. For instance, the selected measurement of drug use (such as lifetime, recent, last 12 months, last 30 days, and current) can yield different outcomes. Similarly, the policy can have a different effect on the study population based on age, race, and income groups. Thus, employing several indicators can strengthen the estimation of policy impact of drug use (Jesseman & Payer, 2018; Hughes & Stevens, 2012). Thus, even within the same study, estimated effects can have different significances depending on whether consumption is measured by last-year, past-month use, frequency of use, or dependence (Pacula & Smart, 2017).

Determining the indicators that best represent the drug situation in society is crucial and itself needs extensive research. For instance, total grams and typical potency per dose consumed could also provide comprehensive information about the size and depth of the problem in society (Kilmer & Pacula, 2017). In spite of the methodological challenges and limitations in carrying out a systematic evaluation, narrowly defined indicators tend to be credited for the broader impacts of decriminalization or any other drug policy (Jesseman & Payer, 2018; Hughes & Stevens, 2012).

Finally, it is difficult to differentiate between the impacts of decriminalization itself on substances and the substitution effects between drugs. A policy change at the macro level may affect not only the relationships between illegal substances but also the use of commercially available substances such as tobacco and alcohol. The literature shows considerable evidence of the substitution effect, particularly between cannabis and alcohol. Without considering alcohol policy and outcomes, any esti-

mate about the impact of decriminalization on cannabis may be misleading. The same association has also been shown to exist between other substances, as discussed below.

The literature provides a wide variety of evidence for decriminalization impacts. We will first discuss the power and causality mechanism of the evidence. We will then expand our policy analysis to three European countries where decriminalization has been implemented for more than a decade. All three countries, Portugal, the Czech Republic, and Denmark, have similar social and structural settings, as well as having adapted similar versions of decriminalization. Moreover, they have common indicators for reporting, which enable us to make a more consistent comparative analysis.

## 4.1 Impacts on drug prevalence

### 4.1.1 Cannabis

It has been discussed in the literature whether drug policy leads to an increase in drug use. Proponents of the liberal drug policy have claimed that policies do not affect or at least have a limited effect on drug problems. On the contrary, policies do appear to be influenced by the drug situation (Červený, Chomynova, Mravčík, & van Ours, 2017; European Monitoring Centre for Drugs and Drug Addiction, 2018a). Nevertheless, the results of a series of research studies analyzing the effect of the decriminalization of cannabis use have shown that it varies considerably according to the data source used and the outcome examined. As mentioned above, methodological challenges exist regarding the selection of indicators (past 30-day prevalence vs. days past 30-day use vs. last 12-month use), the conditionality of the sample (recent use vs. estimated use) and many other related technical specifications (e.g., parametric vs. nonparametric estimators, functional form)(Kilmer & Pacula, 2017).

Although the prevalence of cannabis use varies by and within regions, studies indicate little to no relationship between the consumption of cannabis and the type of sanctions, whether punitive or not. Kotlaja and Carson (2019) compared the variation in prevalence rates within 27 countries based on four cannabis policy models for the period 2005 to 2007. Their macro-level study found that cannabis policy is not associated with the prevalence of its usage when individual-level and country-level indicators are included in the analysis (Kotlaja & Carson, 2019). A similar study that evaluated ten years of drug prevalence in 38 countries based on four cannabis policy models found that the prevalence of cannabis use among people at the age of 15 is more likely to increase in countries where liberal cannabis policy exists. Compared to decriminalization, other policy options have higher prevalence rates, and the impact can be best observed after five years of implementation (Shi, Lenzi,

& An, 2015). Finally, a systematic review of cannabis policy liberalization also showed that while decriminalization and medical cannabis policy have no significant impact on the prevalence of youth cannabis use, liberalization has (Melchior et al., 2019).

While both *de facto* and *de jure* decriminalization have been implemented in Australia, conflicting results were reported on the decision to use cannabis or other drugs (Eastwood et al., 2016). There was a small increase in cannabis use, mainly among people over age 25 (Babor et al., 2018; Damrongplisit, Hsiao, & Zhao, 2010), no reduction in drug use or offending but also no higher levels of drug use or offending (Shanahan et al., 2017). A study in the USA that compared the impact of decriminalization on cannabis use in five states found that it was not associated with an increase in the past-30 day prevalence of cannabis use overall or in any of the individual decriminalization states (Grucza et al., 2018).

In the European context, the Dutch drug policy, which is also known as *de facto* decriminalization, has been monitored for a long time. Many years of studies show that the high availability of cannabis through coffee shops is not associated with high prevalence rates (Monshouwer et al., 2011). The prevalence rate of cannabis use among the adolescent population is higher than the European average but does not rank first (European Monitoring Centre for Drugs and Drug Addiction, 2019c; Monshouwer et al., 2011). The age of onset of cannabis use is relatively lower than the European average (Monshouwer et al., 2011). Moreover, the lifetime prevalence of cannabis use has decreased from 16.5% to 9.2% among 12-16 years old students for the period 2003 to 2017. However, according to ESPAD results, lifetime use of cannabis among students (15-16 years old) is still notably higher (22% vs. 16%) than the European average (European Monitoring Centre for Drugs and Drug Addiction, 2019c).

The UK government re-classified cannabis as a class C drug in 2004, which was considered a depenalization practice (i.e. there was a considerable reduction in the potential punishment, from 5 to 2 years in custodial sentencing and also lowered fines). However, some criticism and a negative political climate lead to reclassifying it once again in 2009 to its previous class B level. Although the main argument claimed an overall increase in cannabis use, the results showed that its consumption did not increase, though this result was limited to 15-17-year-olds (Braakmann & Jones, 2014). According to the latest statistics of 2017, cannabis use in the general population has been relatively stable and typical of other European countries (The European Monitoring Centre for Drugs and Drug Addiction, 2019).

Cannabis social clubs protect users in Spain, and as expected, the prevalence of cannabis use among adults (15-64 years old) is above the European average (27.4% vs. 35.2%). However, it has been relatively stable in recent years in Spain. Similarly, the lifetime prevalence of cannabis use among students (15-16 years old) is above

the ESPAD average; about 3 in 10 students reported lifetime usage (European Monitoring Centre for Drugs and Drug Addiction, 2019e).

#### 4.1.2 Perceived harms of cannabis use

The “signaling hypothesis” implies that decriminalization sends a signal to youth that cannabis is not dangerous, and it may lead to an increase in youth acceptance and use of cannabis (Miech et al., 2015). Similarly, it is even claimed for medical cannabis that it may lead adolescents at younger ages to think cannabis is safe, whether prescribed or not, something for use by individuals who are sick, which would prevent them from using it (Ammerman, Ryan, Adelman, & Committee on Substance Abuse, 2015; Keyes et al., 2016). Thus, according to the proponents of prohibition, criminalization of drug use is required to stigmatize drug use such that it sends the right message to young people (Stevens et al., 2019).

It is known that favorable views of cannabis among teens are associated with increased user rates in this age group. However, positive views of cannabis have increased among teens in the last decades following exposure to cannabis-positive messages in social media, debates on the news, and even advertisements (D’Amico, Rodriguez, Tucker, Pedersen, & Shih, 2018). Using cannabis may seem appealing as fun or recreational activity at older ages (Ammerman et al., 2015; Keyes et al., 2016). Moreover, this effect on adults may give rise to different consequences in the policy process. A lower level of perceived harm is associated with an increased likelihood of support for legalization and decriminalization (Darke & Torok, 2013).

After decriminalization in California, youth attitudes toward cannabis become significantly more permissive among 12th graders as compared to their peers in the rest of the USA. However, this effect does not extend down to 8th graders (Keating, 2004). For medical cannabis, perceived harmfulness decreased across time among adolescents (all grades) in states with Medical Marijuana Laws (Cerdá et al., 2017; Wall et al., 2011) and among adults (Schuermeyer et al., 2014). However, some evidence shows that the perceived harmfulness increased among 8th grades (Keyes et al., 2016); some of the studies claimed no change (Harper, Strumpf, & Kaufman, 2012).

Research has tried to show that there is no such negative impact on 8th graders, since it is argued that their social and cognitive capacities are not developed enough to realize public discussion and debates about cannabis (Harper et al., 2012; Keyes et al., 2016; Miech et al., 2015). Therefore, their apprehension and lack of interest prevent them from using cannabis in that age group.

On the other hand, research shows that higher medical cannabis advertising exposure was significantly associated with a higher probability of cannabis use and stronger intentions to use, which brought first cannabis use forward by a year. The relationship has a similar effect on younger people; stronger intentions to use were

associated with higher medical cannabis advertising exposure one year later among middle school adolescents (D'Amico, Miles, & Tucker, 2015).

#### 4.1.3 Hard drugs and problematic drug use

The 'gateway drug' argument suggests that taking one drug, particularly cannabis, increases the use or likelihood of use of other drugs. It is claimed that the deterrence of all sorts of drugs without any separation leads to at least a control or maybe a reduction in PDU (Stevens et al., 2019). On the other hand, a contrary argument claims that accessibility of the less harmful substance deters people from using the most harmful ones. The unique experience for the European context is the tolerated cannabis market in the Netherlands, which aims to separate drug markets. Some studies claim that low numbers of young people are transitioning into problematic use compared to the rest of Europe (Eastwood et al., 2016; Monshouwer et al., 2011).

The Netherlands has one of the lowest percentages of injecting among people who use opiates (7% of all people in treatment for heroin dependence) among 15–64-year-olds (0.22 per 1000) in Europe (European Monitoring Centre for Drugs and Drug Addiction, 2019c; Grund & Breeksema, 2017). Additionally, although lifetime cannabis use among students (15-16 years old) is higher than the European average, lifetime use of illicit drugs and new psychoactive substances (NPS) is more or less in line with the average (European Monitoring Centre for Drugs and Drug Addiction, 2019c).

Conversely, the last-year prevalence of MDMA, cocaine, and amphetamine is still higher than the European average among the general population; even though the Netherlands is at the top of the list. Furthermore, cannabis abuse constitutes the main high-risk drug in the Netherlands; 1.4% of the population older than 18 years old was estimated to be high-risk cannabis users (European Monitoring Centre for Drugs and Drug Addiction, 2019c).

The second argument infers that for many people, cannabis is not only an effective medicine but also a potential exit drug for PDU (Lucas et al., 2013). Nevertheless, medical cannabis studies show that it has no impact on heroin and cocaine consumption rates in the USA (Chu, 2015; Wen, Hockenberry, & Cummings, 2014). Similarly, studies focusing on juveniles' use of illegal drugs other than cannabis show a similar trend to that of adults (Stolzenberg, D'Alessio, & Dariano, 2016).

#### 4.1.4 Opioid prescription

One of the arguments of cannabis opponents is that cannabis has the function of pain killers; thus, it is claimed that the accessibility of cannabis should result in a reduction in opioid prescriptions. The association has been studied mainly in the medical cannabis field, and it shows that the most frequently cited reason for either pre-

scribed medical cannabis or self-medication with cannabis by adult patients was pain management (Park & Wu, 2017).

The literature suggests medical cannabis could be associated with decreased use of prescription opioid medications, fewer prescription opioid medication-related hospitalizations, lower rates of opioid overdose involving natural and semi-synthetic opioids, and reduced national health care expenditures related to decreased prescription opioid medications overdose and misuse (Powell, Pacula, & Jacobson, 2018; Vyas, LeBaron, & Gilson, 2018).

Research carried out in the USA and Canada have produced contradictory evidence. Medical cannabis is associated with approximately a 30% reduction in the number of prescriptions of Schedule III (e.g., codeine) drugs, and a 28.8% reduction in dosage among patients enrolled in free-for-service Medicaid programs in the USA. A relationship to schedule II drugs has not been shown, which covers approximately 95% of all opioid prescriptions (Liang, Bao, Wallace, Grant, & Shi, 2018). Furthermore, less evidence is available on synthetic opioids or heroin in states where medical cannabis laws have been enacted (Powell et al., 2018).

However, many other studies have claimed that it has reduced opioid prescriptions, 8.5% in the Medicare Part D population (Bradford, Bradford, Abraham, & Adams, 2018). Moreover, there was a 14.4% reduction in the use of cannabis associated with any opioid-based medical cannabis prescription. Where home cultivation has been allowed, a 6.9% reduction in any opioid prescribing has been found (Bradford et al., 2018).

A study conducted among medical cannabis cardholders in Michigan showed that medical cannabis use was associated with a 64% decrease in prescribed opioid use and in decreased self-reported numbers and side-effects of medications used (Boehnke, Litinas, & Clauw, 2016). There was a 23% reduction in opioid-dependence-related hospitalizations and a 13% reduction in hospitalizations related to OPR overdose (Shi, 2017).

Medical cannabis patients have reported cannabis substitution for prescription drugs: 67.8% in Canada (Lucas et al., 2013), 74% in the USA (Reiman, 2009). Use of prescription drugs in fee-for-service Medicaid and Medicare Part D was lower in US states where medical cannabis was allowed than in states without such laws (Bradford & Bradford, 2016; Bradford & Bradford, 2017)

Overall, medical cannabis policies could reduce mortality associated with prescription opioid medications (POM), improve pain management, and significantly reduce health care costs (Vyas et al., 2018). However, Pacula et al. have suggested (2014) that the language of defining the permissible use of cannabis needs more clarification. The reasons for cannabis use can be categorized into the following groups; (1) pain caused by a diagnosable medical condition, (2) any pain of unknown causes, and (3) on the recommendation of a physician (Pacula et al., 2014).

#### 4.1.5 Alcohol

The association between cannabis and alcohol relies upon three perspectives: substitution, a complementary relationship, and an independent relationship. It is argued that the regulation of cannabis may alter alcohol use as a result of (a) economic shifts affecting end-user costs (b) shifts in policy that affect availability (c) legal shifts that affect criminal risk and associated repercussions or (d) psychoactive/pharmacological substitution (Lucas et al., 2013). It is hypothesized that the policies designed to limit alcohol use have an unintended consequence on the consumption of cannabis use by either increasing or decreasing it (Crost & Guerrero, 2012).

According to neuroscience research, low-dose alcohol and cannabis share the neuropharmacological effects of reward and sedation, which may lead to them being substitutes, particularly for occasional, low consumption users (Guttmanova et al., 2016). However, people substitute drugs not only based on the desired effects but also on the expected monetary cost and health, legal and social consequences. For instance, people may use cannabis instead of alcohol to achieve a similar intoxication effect at a lower price if the costs of cannabis decrease while that of alcohol does not (Guttmanova et al., 2016).

Some studies found a substitution effect between cannabis and alcohol and claimed that cannabis is preferred to alcohol. Among treatment patients, reported cannabis substitution for alcohol can vary by 41% (Lucas et al., 2013), 50% (Reiman, 2006), 50.8% (Nunberg, Kilmer, Pacula, & Burgdorf, 2011), 53% (Reiman, 2009) across USA and Canada samples. On the other hand, some studies show that the effects vary according to demographics, such as age. While 8th grade students in Washington State were more likely to use cannabis after legalization, they were less likely to use alcohol (12.4% vs. 8.3%)(Mason et al., 2016).

Minimum drinking age limits in the USA have a negative impact on cannabis use. Crost and Guerro (2012) found a sharp decrease in cannabis use at the age of 21, while alcohol consumption increased. Yörük and Yörük (2011; 2013) reported similar results: a 10% increase in the probability of drinking and an 8% increase in the probability of binge drinking among young adults at the age of 21. Moreover, the substitution effect between alcohol and marijuana is stronger for women than for men (Crost & Guerrero, 2012).

On the other hand, it is also argued that the liberalization of cannabis policy can lead to an increase in both cannabis and alcohol use. There is some support for this conclusion, as pharmacological studies have shown that plasma tetrahydrocannabinol (THC) levels increase if alcohol is consumed simultaneously (Guttmanova et al., 2016). If the value of cannabis, such as from feeling “high”, is enhanced by the consumption of other substances or vice versa, it is regarded as complementary. The pleasurable effects of cannabis may lead individuals to combine the use of both substances within a fixed, limited period, particularly among regular users. Moreo-



ver, the impact of cannabis use, such as impaired judgment and decision-making, may lead to higher alcohol use than intended (Guttmannova et al., 2016; Lucas et al., 2013).

Some population-based studies in the USA support the complementary argument that there was an increase in both last-month cannabis use and alcohol use in states allowing medical cannabis dispensaries (Guttmannova et al., 2016). O'Hara et al. (2016) found evidence for complementary alcohol and cannabis use at both the within and between-person levels among substance-using college students. Other studies that claimed an increase in alcohol use suggest that medical cannabis policy increased the frequency of binge drinking by 6-9% among those aged 21 or above, but it did not affect drinking behavior among those aged 12-20 in the USA (Wen et al., 2014; Wen, Hockenberry, & Cummings, 2015).

Finally, if the use of others does not alter the presence or absence of any substance, this may refer to an independent relationship (Lucas et al., 2013). The literature yields contradictory results, providing substantial evidence for both substitutes and complements (Crost & Rees, 2013; Guttmannova et al., 2016), which may also indicate an independent relationship.

Many studies show that the effects vary by context. Medical cannabis use increased the frequency of binge drinking by 6-9% among those aged 21 or above, but it did not affect drinking behavior among those aged 12-20 in the USA (Wen et al., 2014; Wen et al., 2015). Among 8th graders, the prevalence of cannabis use, binge drinking, cigarette use, non-medical use of opioids, amphetamines, tranquilizers, and any non-marijuana illicit drug use was found to decrease after medical cannabis use was legalized (Cerdá et al., 2018).

Overall, studies show that context matters when evaluating the impact of substitution effects between cannabis and alcohol. There seems to be a strong correlation between cannabis accessibility in terms of the implementation variability of legalization, decriminalization, and medical cannabis policy and alcohol policy that relates to legal age limits for purchase and alcohol prices.

#### 4.1.6 Cigarettes

While 8th grade students in the Washington State after the cannabis legalization were more likely to use cannabis, they were less likely to use cigarettes (12% vs. 4.1%) (Mason et al., 2016). Similar results were also reported in states permitting medical cannabis; while there was no significant change among 10th graders on the prevalence of cigarette use, it increased among 12th graders (Cerdá et al., 2018).

One study found no association between cannabis and cigarette use among young adults over 21 (Yörük & Yörük, 2011; Yörük & Yörük, 2013). However, more recently, Cerda et al. (2018) found an increase in both cannabis use and cigarette use among 8th graders in states where medical cannabis laws were enacted.

## 4.2 Impacts on health

It can be expected that decriminalization policy removes stigmatization barriers. It is overall a shift from a criminal justice framework to a health framework; it enables PWUD to be defined as people who need care and health services rather than as criminals who need to be prosecuted. Stigma is a substantial barrier to help-seeking by PWUD, even when they would feel like they need it. Moreover, it might also trigger usage to overcome feeling worthless and hopeless. Stigmatization is also possible within the code of laws, although efforts to protect targets can reduce stigmatization (Eastwood et al., 2016; Lancaster, Seear, & Ritter, 2017).

A study that evaluated 20 countries' policies shows that people in prohibition-based policy regimes were more likely to change their help-seeking behavior when their government adopts a more liberal drug policy (Benfer et al., 2018). Countries that adopt a decriminalization policy were more likely to invest more resources into treatment and harm reduction programs. An increase in the availability of health services would be expected to reduce the adverse health consequences of drug use. Since one of the main goals of decriminalization is to increase help-seeking attitudes, it is expected that if the policy is successful in removing stigma, fear of arrest and structural barriers, then PWUD are more likely to access counseling from family, friends or professionals, to visit the emergency room following an overdose, to access needle exchange services for sterile injecting equipment or to visit medical professionals or help centers (Benfer et al., 2018).

### 4.2.1 Treatment

A recently observed trend showed a 76% increase in treatment demand in Europe for cannabis problems, while the prevalence of cannabis use remained mostly stable in the same period (Manthey, 2019). A similar trend in cannabis abuse and dependence was also reported in the USA (Hasin et al., 2015). The increase has been attributed not only to policy changes but also to use patterns and type of cannabis (more cannabidiol precursors in the market and higher THC potency in cannabis) (Adam & Raschzok, 2017; Hasin et al., 2015; Manthey, 2019).

The literature on global trends also shows that the number of people accessing treatment has risen after decriminalization in all countries (Eastwood et al., 2016). On the other hand, the admission rate for opioids and heroin declined globally by about 38% in the long run, likely as a result of operational dispensaries, over and above legislative changes (Powell et al., 2018).

Since the Dutch policy aims to differentiate drugs and encourage users to seek treatment, its higher cannabis treatment admissions compared to other European countries is to be expected. However, proactive and generous support may be the main features of the policy, since according to estimates, the Dutch government spends about EUR 9200 per PDU on treatment, which is even higher than Sweden,

where an active coerced treatment costs approximately EUR 7600 (MacCoun, 2011). In Europe, the number of first-time admissions of primary heroin users to treatment has declined since 2007 and has remained stable since 2012 (European Monitoring Centre for Drugs and Drug Addiction, 2019c).

#### 4.2.2 Drug-related deaths and infectious diseases

Harm reduction approaches aim to encourage ‘help-seeking’ behavior by reducing the fear of criminal sanctions, decreasing social stigma, and making drug services more accessible for the individuals and their support network (Benfer et al., 2018). Keeping HIV under control is accepted as one of the primary decriminalization policy accomplishments in many EU countries (Csete, 2012). The low rate of drug injection and the associated lowered risks for overdose and HIV have contributed to the relatively high survival rates of people involved in heroin and crack use in the Netherlands (Grund & Breeksema, 2017).

The Netherlands has one of the lowest HIV incidence rates in Europe, according to the latest available data; it is around 0.1 per million (European Monitoring Centre for Drugs and Drug Addiction, 2019c). Less than 5% of HIV infections in the Netherlands are associated with injecting drug use (Grund & Breeksema, 2017). The Netherlands also has low numbers of deaths from heroin and methadone use compared to the rest of the globe and one of the lowest rates of injecting drug use in Europe (Eastwood et al., 2016)

### 4.3. Impacts on welfare, criminal justice and drug market

#### 4.3.1 Social cost

Decriminalization can save financial resources and may even potentially reduce rates of recidivism. Bypassing criminal records is beneficial to future employment, education, and housing prospects (International Drug Policy Consortium, 2016). However, these expected outcomes also depend on policy formulation; for instance, the low drug possession threshold level in Mexico resulted in a higher imprisonment rate, even doubling in some states (Eastwood et al., 2016).

According to Rivera et al.’s study (2017), the costs of outpatient treatment for HIV/AIDS and expenses for the penal system make up 55.4% of the total estimated costs of illegal drug use in Spain. They found that the minimum value for the total cost of prohibition represented 0.14% of Spain’s GDP in 2012. Put differently, the minimum amount for health care costs related to drugs accounted for 1.1% of spending in the country’s health system (Rivera et al., 2017).

The diversion programs in Australia show that police diversion has a range of positive social outcomes, including less disruptive relationships, fewer employment problems, and more positive perceptions of police legitimacy. More importantly,

diversion programs cost 6 to 16 times less than a criminal charge (Shanahan et al., 2017). Australia has very low rates of imprisonment for drug offenses, with less than 1% of offenders imprisoned for use or possession (Eastwood et al., 2016). According to the decriminalization policy outcomes in five US states, there was a significant decrease (75% for adolescents vs. 78% for adults) in cannabis possession arrests for both youth and adults in states where decriminalization laws were passed (Gruza et al., 2018).

In comparison to other European nations, arrests and convictions for the use of illegal substances and possession for personal use are very low in the Netherlands (3 per 1000 users, compared to 44 per 1000 users in Austria) (Room et al., 2008). Arrests and criminal records for use or minor possession are sporadic in the Netherlands (Grund & Breeksema, 2017).

It is also important to note that the imprisonment rate does not always reflect the penalty schema in legislation since attitudes and social realities are also associated with the enforcement of the laws. For instance, Belackova et al. (2017) studied whether a variation exists in enforcing the drug laws in three different social settings, from having harsh penalties to no penalties for drug possession (Florida, USA, Australia, and the Czech Republic). They found that the population-adjusted number of cases presented at court and the number receiving custodial sentences were concordant with the categorization of the “laws on the books,” but that the average sentence length and percentage of court cases sentenced to prison did not accord between the countries (Belackova et al., 2017).

#### 4.3.2 Accidents

Driving under the influence of drugs is not allowed in decriminalization policy. Individuals under the influence of drugs exhibit a general reckless driving pattern and have a high risk of being involved in traffic accidents (Bergeron & Paquette, 2014; Ghosh et al., 2015). For instance, drivers under the influence of cannabis suffer from impaired driving performance, in the form of increasing lane weaving and mean distance headway to the preceding vehicle. Acute and long-term dependence-related impairments may still affect cognitive functions and psychomotor abilities for several weeks even after the cessation of use. Moreover, the combined use of cannabis and alcohol has a higher risk for driving errors than the use of either alcohol or cannabis alone (Bondallaz et al., 2016).

Although national studies provide conflicting evidence on whether cannabis consumption is related to high rates of traffic fatalities, many countries have already passed per se drugged-driving laws. However, little is known about whether legislative precautions are effective (Anderson & Rees, 2015; Ghosh et al., 2015). While a blood sample is required for actual prosecution in many countries, roadside saliva test kits are also increasingly used (European Monitoring Centre for Drugs and Drug Addiction, 2018a). A commonly accepted limit for  $\Delta^9$ -tetrahydrocannabinol (THC)

concentrations per milliliter of blood has been five ng/ml, and above this limit, drivers are considered to be operating under the influence (Ghosh et al., 2015).

It is claimed that tolerating cannabis use may increase traffic accidents. Brady and Li (2014) compared trends in detected alcohol and drugs in drivers who died within an hour of a motor vehicle accident in 6 states in the USA. They found that the ratio of prevalence of positive results for non-alcoholic drugs increased from 16.6% to 28.8% (4.2% to 12.2% for cannabinol) between 1999 and 2010, while the ratio of alcohol alone remained stable in the same period (Brady & Li, 2014). Similar findings have been reported elsewhere; for instance, traffic fatalities have risen among drivers who tested positive for cannabis in the US state of Colorado (Ghosh et al., 2015). Although no increase was found among night-time weekend drivers who were tested in a roadside THC survey in California in the USA, there was an increase in cannabinoid prevalence among fatally injured drivers over the same period, following decriminalization legislation in 2011 (Pollini, Romano, Johnson, & Lacey, 2015). Analysis of non-fatally injured persons involved in motor vehicle accidents in British Columbia showed that there was no evidence of increased crash risk in drivers with  $\Delta$ -9-tetrahydrocannabinol  $< 5$  ng/ml, though a statistically non-significant increased risk of crash responsibility (odds ratio = 1.74) was found in drivers with  $\Delta$ -9-tetrahydrocannabinol  $\geq 5$  ng/ml (Brubacher et al., 2019).

It has been argued that an increase in the detection of drivers under the influence of drugs would be expected in the short term, though not itself necessarily representing a clear upward trend, since individuals typically adopt legal changes rapidly. Variation in results might also be due to differences in drug testing practices and regularity (Masten & Guenzburger, 2014).

Some studies have found no evidence that per se drugged-driving laws reduce traffic fatalities (Anderson & Rees, 2015). Moreover, a reduction in traffic fatalities has been reported in some states; for instance, there was a nearly 9% decrease after the legalization of medical cannabis in the USA. However, results are likely due to lower alcohol consumption in terms of lower alcoholic beverage sales and particularly in lower alcohol consumption among 20-29 year-olds (Anderson, Hansen, & Rees, 2013).

The results were attributed to possible higher compensation for impairment among drugged drivers over drunken drivers and as well as to cannabis serving as a substitute or alcohol or as a complementary substance, but it may also be the case that the use of medical cannabis is prohibited in public spaces. Since cannabis is more likely to be used at home, it precludes people from driving under the influence while on a trip back from a restaurant or bars (Anderson et al., 2013).

### 4.3.3 Crime

Goldstein (1985) conceptualized the association between crime and drugs according to three potential links. According to the first model, the psychopharmacological

effects of the drugs could change behavior in an irrational way, which may, in return, lead to violence or other crimes. The economically compulsive model suggests that PWUD may commit property crimes or other types of crimes that result in an economic gain to support their drug habit. Finally, the systemic violence model infers that violence is unavoidable within the drug market because there is no right way or not right institutional mechanism that would solve disputes between actors. Violence seems to be a reasonable option to protect territory and goods and to resolve disputes between dealers and users (Goldstein, 1985; Maier, Mannes, & Koppenhofer, 2017).

Maier et al. (Maier et al., 2017) divided the US states studied into four groups according to their cannabis policy (full prohibition, decriminalization, medical cannabis, and legalization settings) and compared whether the policy was related to crime rates during the period 2010 to 2014. They found that any decrease in crime rate is not associated with legislative changes. A statistically non-significant result showed that while the trend for property and violent crime rates was higher in states where cannabis remains illegal, the rates were lower in states where decriminalization and medical cannabis laws exist (Maier et al., 2017). According to similar research based on panel data from 1970 to 2012 in the USA, a 4-12% reduction in robberies, larcenies, and burglaries was found to be associated with medical cannabis laws, while the impact was limited for depenalization of cannabis, where even burglary and robbery rates increased by 6-11%. It is claimed that the legal distribution channels for medical cannabis are associated with the reduction in crime rates (Huber III, Newman, & LaFave, 2016).

A systematic review by Werb et al. (2011) suggested that drug prohibition is more likely to contribute to drug market violence and increased homicide rates. The more sophisticated and harsh are the methods for disrupting illicit drug distribution networks, the higher are the levels of violence found in the community. Removing critical players from the market creates new opportunities for others to fill the gap. To protect markets and market share, criminal groups may use more violence (Jacques et al., 2016; Werb et al., 2011). Moreover, in the prohibition framework, many people may face criminal records, which, in turn, diminishes the employability of the PWUD and may drive them to economically motivated crimes (Maier et al., 2017).

On the other hand, the price of drugs is also an indicator of the types of economic crimes that users will engage in to fund their drug use (Maier et al., 2017). An alternative argument suggests that in an unregulated market, reducing penalties for drug possession increases demand, which increases crimes committed to pay for it. The profitability of the drug market attracts organized crime groups and intensifies violence to control the market. However, there is limited evidence in the literature to support this argument (Stevens et al., 2019).

The experience of the Netherlands shows that the decriminalization of cannabis does not necessarily increase crime. Instead, it may even reduce victimization more effectively than legalization (Jacques et al., 2016). Police diversion in Australia resulted in less reoffending among offenders who have a prior or no criminal record (Shanahan et al., 2017) in the following 12-18 months (Payne, Kwiatkowski, & Wunderwitz, 2008). Depenalization in the London Borough of Lambeth in the UK showed that there is a significant reduction in five types of non-drug crimes. At the same time, police effectiveness was improved significantly in terms of offenses, as measured by arrests and clear-up rates (Adda, McConnell, & Rasul, 2014).

Long-term studies show that enforcement is most successful at preventing the establishment of the new drug market. However, prioritizing market disruption may trigger disorder and increase violence in the short term, as experienced in Mexico (Reuter et al., 2016). Enforcement seems to be more effective in preventing the formation of a mass-market than suppressing it, where it has already formed. After the establishment of a mass-market, enforcement may have little impact compared to intensive enforcement (Caulkins & Reuter, 2010). Therefore, a modest level of enforcement is suggested to generate most of the benefits of prohibition.

#### 4.3.4 Price and seizures

Drug prices are another indicator for tracking the impacts of policy changes on the drug market. It provides a means to describe the scale of the market, to project the impact of legal changes, to inform implementation decisions, and to evaluate policy (Kilmer & Pacula, 2017). A positive correlation would be expected between law enforcement activity and the risks to sellers, which in return increases the nonmonetary cost of selling drugs, reduces drug consumption, and the number of users (Caulkins & Reuter, 2010). Costs associated with drug use include not only the monetary cost but also the search time, uncertainty about the quality, and the risks associated with dealing with sellers (Caulkins & Kleiman, 2018). However, pricing also has its own specific consequences: the higher the price, the more revenue dealers would gain and the more likely there would be an increase in property crime and violence (Reuter et al., 2016).

Instead of enforcing prohibition, which remains problematic as a price control mechanism, it is argued that governments could develop efficient ways to achieve the same goal with regulations (Shiner, 2016). The literature suggests that intervention strategies that have been successfully used to reduce the consumption of tobacco and alcohol, and the related health and social harms, can also be applied to the cannabis market (Pacula et al., 2014). Tobacco and alcohol studies show that there is an inverse relationship between the price of substances and the rates of drug use; the cost of drugs influences an individual's decision to use. For instance, for every 10% increase in cigarette prices, a 3-5% decline can be expected in overall smoking rates. Moreover, price is more sensitive in regard to children (5-7% decline) and low-

income groups (Sabet, 2012). Raised taxes has resulted in a reduction in early initiation and use of cigarettes, which in turn has discouraged moves toward being a pack-a-day smoker and has increased attempts to quit (Pacula et al., 2014).

The price mechanism also similarly works for cannabis: A 10% reduction in the cannabis price leads to a 3-5% increase in the number of new cannabis users among youth, per se (Pacula & Lundberg, 2013). Higher cannabis prices reduce not only uptake but also affect current users; the higher the price, the lower the duration of the typical use career. Regular users seem to be sensitive to changes in cannabis prices; a 10% decline in price can lead to a 2.4 to 2.5% increase in the rates among regular users (Caulkins, 2016; Pacula & Lundberg, 2013).

It is expected that decriminalization would increase drug prices because the priority switches from users to dealers and law enforcement is supposed to use its resources to combat dealers and traffickers. The literature shows that the police were more likely to focus on dealers instead of users, even in US states where a medical cannabis policy had been adopted. Estimates indicated a 0–20% decrease in possession arrests for cocaine and heroin combined in US states where medical cannabis policy had been implemented (Chu, 2015), while a 15–20% increase was observed for cannabis arrests among adult males (Chu, 2014).

Pacula et al. (2010) found that a reduction in sanctions not only increases the use of cannabis but also its price in the short run. They found that the cost of cannabis is higher in US states where penalties are lower. Temporary supply shortages or a rapid increase in demand will affect the market price, which may result in upward-sloping at least in the short run. This shift in demand enables dealers to raise their profits (Pacula, Kilmer, Grossman, & Chaloupka, 2010).

The price mechanism can be used to differentiate between decriminalization and legalization policies. The cannabis legalization experience in the USA shows that the price of cannabis fell 62% when the market became more competitive (Sørheim, 2019). Further, lower prices create two profound problems for PWUD, particularly in regard to cannabis users. First, they are more likely to abuse dependence-inducing intoxicants, and secondly, dealers earn more profits from the minority of people who consume very heavily (Caulkins, 2016).

However, a similar threat exists for the decriminalization framework. It is possible that demand may increase the availability of cannabis that has a broader range of THC content, appealing to those who have different preferences regarding the psychoactive properties of their cannabis. Besides, competition among dealers may affect the potency of cannabis. For example, if decriminalization leads to higher demand and a more stable market, growers may be more willing to invest in advanced production technologies. They may cultivate higher-potency cannabis and grow a greater variety of cultivars as a means of differentiating their product (The European Monitoring Centre for Drugs and Drug Addiction, 2019).



# 5 Country comparison in the European context

## 5.1 Country policies

### 5.1.1 Portugal

Before passing decriminalization laws, Portugal initiated the first process in 1995 and established a committee, ‘the Assessment of Drug Addiction, Consumption and Traffic,’ within the Portuguese Parliament. The government then created a multidisciplinary expert group (Commission for a National Drug Strategy - CNDS) to draft a guideline for drug policy in 1998. The report of the commission recommended a significant shift, and it also triggered a public debate, which created room for the new drug reforms that followed. The Portuguese government approved the National Strategy for the Fight Against Drugs (NSFAD) in 1999 to create a broader change in the institutional framework. The new structure, ‘The Portuguese Institute for Drugs and Addiction (IPDT)’ was initiated in 2000 and would work in cooperation with ministerial services. Finally, the government decriminalized all drugs, including cocaine and heroin, in 2001 (Cabral, 2017; Gonçalves et al., 2015; C. E. Hughes & Stevens, 2010; Van Het Loo et al., 2002).

One prime rationale for Portugal's decriminalization effort was to break down barriers resulting from stigmatization attached to criminal prosecution. It would encourage treatment-seeking and it would enable PWUD to benefit from treatment options now that they would no longer fear prosecution, bringing an end to senseless punishments and achieving better control over the drug problem (Domoslawski & Siemaszko, 2011; Greenwald, 2009). Moreover, the decriminalization effort aimed to transfer more funds into treatment and other harm reduction programs (Greenwald, 2009).

Despite the fear that decriminalization would lead to increased drug use, authorities in Portugal embraced the policy as the best option for minimizing all drug-related problems (Greenwald, 2009). Even before 2001, Portugal had rarely imprisoned PWUD, but the high rates of HIV and other drug-related issues led authorities to try new policies that it was hoped would trigger treatment and intervention strategies (Sabet, 2012). The new approach envisioned PWUD as full members of society, rather than as criminals (Russoniello, 2012).

The policy was formulated in Portugal based on five components; (a) prevention, (b) dissuasion commissions, (c) risk and harm reduction, (d) treatment, and (e) a return to life, health and society (Domoslawski & Siemaszko, 2011). Overall, the decriminalization framework in Portugal is described as a coherent policy that is

used to support and justify a range of expected outcomes (Adam & Raschzok, 2014).

Portugal requires each district to establish at least one committee (also called a dissuasion commission) to deal with the administrative offenses of those who use the drug in that district (Greenwald, 2009; Van Het Loo et al., 2002). The committee generally consists of three people, two from the medical sector (physicians, psychologists, psychiatrist, or social worker) and a legal expert (Domoslawski & Siemaszko, 2011; European Monitoring Centre for Drugs and Drug Addiction, 2019d).

When police detect PWUD or possession of up to 10 days' worth of an average daily dose of drugs for personal use, they refer them to the administrative committee without arresting them. The offender has to appear before the committee within 72 hours of the citation's issuance (Eastwood et al., 2016; Greenwald, 2009). The committee determines whether the person ought to be considered a user or a trafficker based on the evidence that the police provide. While traffickers are referred to the courts, users are evaluated by the committee (Van Het Loo et al., 2002).

The committee considers the number of criteria to determine what action to take with a PWUD. Actions or sanctions rely upon the severity of the offense, the type of drug used, whether the drug is used in a public or private space, the addiction status of the user, the occasional or habitual use of drugs, and the personal and economic/financial circumstances of the user (Van Het Loo et al., 2002). Nevertheless, the committee is not authorized to mandate treatment; they can suspend sanctions or make them conditional on the offender seeking treatment, which can serve to induce addicts to enter and remain in treatment (Domoslawski & Siemaszko, 2011; Greenwald, 2009; Van Het Loo et al., 2002). The administrative fines are generally soft, ranging from EUR 25 to EUR 530 (the latter being close to the minimum monthly income)(Cabral, 2017).

The policy in Portugal was not limited to the enactment of laws but included significant investment in harm reduction, treatment, and prevention. Although syringe exchange has been in place since the 1990s, the program was extended to cover 50% of its territory by 2008 (Russoniello, 2012). Social workers distribute kits that include syringes and needles for heroin-injecting users, and hygiene agents (e.g. distilled water), gauze, and a condom (Domoslawski & Siemaszko, 2011).

Despite criticisms, Portugal's approach is generally accepted as a successful model due to the investments made into treatment, harm reduction, and the social reintegration programs for people who use drugs (International Drug Policy Consortium, 2016).

### 5.1.2 The Czech Republic

The Czech Republic recognized drug problems as a multi-sectoral problem and established the Government Council for Drug Policy Coordination in 1993 (formerly known as the National Drug Commission – the NDC) to develop and coordinate

drug policy. Drug use and possession were not considered a criminal act according to legislation enacted in 1993. However, media coverage of drug problems created a ‘moral panic’ in society, and political leaders made the policy more regressive in 1997. For the first time in Czech history, drug possession of ‘greater than a small amount’ became a criminal act in 1999, while less than that amount for personal use was considered to have been decriminalized. The amendment gave judges some discretion to interpret the threshold levels, but it also empowered the police to play an essential role in drug policy within the CJS (Belackova & Stefunkova, 2018; Čecho, Baška, Švihrová, & Hudečková, 2017; Csete, 2012; Eastwood et al., 2016; Filipková, 2015).

The NDC initiated an analysis of the new policy and established a research commission to evaluate the outcomes in 2001. The report showed that the criminalization of drug possession did not produce the expected results. Instead, it led to an increase in the levels of drug use and in social costs, while it had no impact on the availability of drugs or the initiation of illicit drug use. The evaluation of the first two years was found to be too short a time to prompt a policy reformulation, but it was enough to attract public and media attention. The government had to respond to criticisms and formed another expert group in the Ministry of Health to carry out a policy re-evaluation. The expert panel proposed a plan; however, the Ministry of Justice submitted the proposal with some modifications, after which the government passed the bill (Belackova & Stefunkova, 2018; Čecho et al., 2017; Csete, 2012; Eastwood et al., 2016; Filipková, 2015)

Specifically, the drug situation was the driving force behind the change in the Czech Republic. The estimated number of PDU in the Czech Republic was 35,100 in 2002. It stabilized near 30,000 in 2008; however, statistics for 2009 estimated that two-thirds of PDU was related to methamphetamine, and almost one third to opiates. This was in spite of opioid substitution treatment having been widely implemented, covering about 45% of opioid users (Csete, 2012).

The new legislation in 2009 aimed to differentiate cannabis from other illegal substances and lower the penalties for possession of drugs for personal use. More specifically, a conviction for cannabis possession in quantities “greater than small” could result in imprisonment for up to one year and up to two years for other illegal substances. However, possession of small amounts of all drugs remained a misdemeanor, with potential fines of up to EUR 550, but no criminal conviction was recorded. Moreover, the cultivation of plants and mushrooms containing narcotic and psychotropic substances for personal use was also defined in law and treated as a misdemeanor, punishable with a fine (Červený et al., 2017; Csete, 2012; Eastwood et al., 2016; Mravčík, 2015).

The policy aim of the strategic plan of 2010-2018 was to reduce the level of a) experimental and occasional drug use, b) problematic and intensive PWUD, c) drug-related harms and risks, and d) the availability of drugs on the streets. Instead of

changing the structure of government services, the Czech Republic prioritized policies that sustained a conducive environment for harm reduction and health services and encouraged the police to focus on large-scale trafficking and other major crimes (Csete, 2012).

The Council for Drug Policy Coordination has been responsible for designing and implementing drug policy at the highest political level. It also has responsibility for coordinating national, regional, and municipal level policies, as well as being in charge of the drug policy budget (Filipková, 2015). Furthermore, the Czech Republic formed a network of regional drug coordinators and multi-sectoral committees in each of the state's 14 regions (Csete, 2012; European Monitoring Centre for Drugs and Drug Addiction, 2019a). Drug coordinators both at national and local level meet at regular intervals to discuss progress. Regional coordinators, in particular, provide a platform for the representatives of concerned sectors to develop perspectives in a multi-sectoral way and to keep drug issues in the health track rather than being a police matter (Csete, 2012).

NGOs have played an important role in providing many services, initiating the majority of low-threshold programs across the country. National drug coordinators have facilitated cooperation and coordination between the government and NGOs. On the other hand, the government has provided extensive funding to NGOs that meet the quality requirements. The office of the national drug coordinator has implemented a license certification system and they assess NGOs periodically to maintain service quality (Csete, 2012).

Intensive harm reduction programs have targeted PDU, which has extended government outreach to more than 70% of PDU by means of drop-in centers (also called contact centers) and/or street-based services. In 2009 alone, 4.9 million needles were distributed through 95 needle exchange programs across the country (Csete, 2012; Eastwood et al., 2016).

Threshold levels for the “greater than small quantities” were lowered three years after the initial implementation. Although the first version of the drug thresholds was still below those of Portugal, cannabis possession for personal use was reduced from 15 g to 10 g and methamphetamine from 2 g to 1.5 g, based on the argument of strengthening the law to protect society from drug-related crimes (Eastwood et al., 2016; Mravčík, 2015).

### 5.1.3 Denmark

The drug problem in Denmark emerged in the 1950s with morphine abusers, who were seen as isolated individuals in society during that period. However, with the new drug preferences, the phenomenon became socially contagious. The government agenda set out a variety of institutional interventions, including criminal justice activities (Hougborg, 2019). Up to the beginning of the 2000s, guidelines for Public Prosecutions made a distinction between hard drugs and cannabis, and likewise

between users and large-scale dealers. The involvement of law enforcement in policy was limited to struggling with dealers. The depenalization of cannabis use and the non-enforcement of sanctions for possession of cannabis for personal use of up to 10 grams were the main characteristics of the developing drug policy. Nevertheless, Denmark has moved from a more liberal drug policy to a stricter one for both drug use and possession of small amounts of illegal substances, without distinguishing between drug types (Egnell et al., 2019).

Sensational media reports led a discussion in Denmark at the beginning of the 2000s. Conservative political leaders interpreted the hearings and reports in a way that the liberal attitude had led to more drug use among young people (Houborg, 2010). A timely report from the Union of Chiefs of Police claimed that the depenalization of drug possession had sent the ‘wrong signals’ to society. It was suggested that people no longer considered drugs to be illegal (Houborg, 2019). A society in crisis embraced the idea of being tough on crime, as the only solution that could remedy the complex social problems (Kolind, Frank, & Dahl, 2010). According to the interpretation of the conservative government, depenalization had removed the responsibility for controlling drug use from individuals and families. Thus, new legislation in 2004 aimed to reduce the supply, but also it gave substantial emphasis to promoting a change of attitudes and norms in the population, where drugs were seen as a part of youth culture (Egnell et al., 2019; Houborg, 2010).

The zero-tolerance action-plan aimed to be tough on crime, particularly on drug issues. While previous drug policy had differentiated between supply and demand related drug offenses and to apply different measures to each, the new policy allowed the legal system to determine case-by-case who should be criminalized or not (Frank, 2008; Houborg, 2010). Law enforcement had a substantial role in shaping the new policy, since according to the police, drug-dealing with small quantities of drugs, usually equivalent to a user dose, made it impossible to investigate trafficking or to successfully reduce drug supply in cities (Frank, 2008). Thus, by criminalizing possession, police could easily target small-scale drug dealing. The enacted legislation allowed for punishing dealers more severely for selling drugs in small quantities repeatedly, but furthermore, second or third-time convictions for petty drug dealing could result in imprisonment for up to six months (Frank, 2008).

The Ministry of Health is the only authority that coordinates drug policy in Denmark (European Monitoring Centre for Drugs and Drug Addiction., 2019). Danish laws regulate illegal substances via the Euphoriant Substances Act, which infers violations against the act shall result in fines or imprisonment of up to two years. The act prohibits not only supply-side offenses but also possession (Egnell et al., 2019). Possession of drugs, no matter if it is half a gram or two, or for personal consumption or not, is sanctioned with a fine under normal circumstances, though in rare cases, a warning can be imposed. The minimum penalty was set at EUR 67 (for

possession of up to 10 grams of cannabis) in 2004, but it was increased to EUR 269 in 2007 (Houborg, 2010).

It has been claimed that adjusting the balance between control and welfare was left to the discretion of the legal system, based on the Attorney General's guidelines (Houborg, 2010). However, compared to other Nordic countries, the penalties are more lenient and even consumption of cannabis is not criminalized. Possession of smaller amounts of cannabis generally results in fines, and only repeated offenses can result in a short prison sentence or a discharge conditioned on treatment (Egnell et al., 2019).

The prosecutor has the authority to issue fines for minor drug offenses, but individuals may choose to accept or they can demand to be tried in court. According to statistics between 2012 and 2016, only around 5% of possessions result in imprisonment (Egnell et al., 2019). Distribution or possession with the intent to distribute is typically sanctioned with imprisonment, or in rare cases, with a fine. More than 100 grams of cannabis is considered possession with intent to distribute. Furthermore, repeated violations of the Act could also result in imprisonment (Egnell et al., 2019).

A conditional sentence can be imposed that requires a user to enter treatment. It can also be applied for possession of larger quantities for personal use (above 100 grams). Typically a first-time offender will meet with a conditional sentence without community services. Community service is not common in conditional sentencing related to possession for personal use (Egnell et al., 2019).

Fines are calculated based on fixed rates, and unpaid fines can be collected by the police, though this happens only in rare cases. Fines can be converted into imprisonment by an administrative decision only when the individual has the resources to pay but chooses not to. Although the new act has restricted the use of cautions, prosecutors can impose a caution in exceptional circumstances, such as for a first-time offense or to homeless people with heavy substance abuse, as a result of social considerations (Egnell et al., 2019).

Youth contracts can be imposed together with a waiver of measures for those under the age of 18, if the offense is not considered so severe that it would render a fine or caution. The contract requires conditions such as commitment to school, education or leisure activities, the place of abode (institution or family), or drug treatment. The youth penalty, a special sanction, contains special educational treatment, and if needed, substance treatment can be imposed on those aged under 18 for a maximum duration of two years. However, the court should specify this in the sentence, and the provision of the treatment service is under the control of local municipalities (Egnell et al., 2019).

The government increased the maximum penalty for serious drug offenses from 10 years to 16 years in 2004. More specifically, acts of illegal drug distribution on a larger scale for considerable economic gain and under particularly aggravating cir-

cumstances would be punished with a longer sentence. If the substance is considered harmful or dangerous, then the imprisonment may be extendable up to 16 years, and for certain aggravated cases, the penalties can be increased up to 24 years. However, cannabis is not classified in the list of dangerous and harmful substances (Egnell et al., 2019).

Denmark has regulated criminal records for drug offenses in a manner to integrate offenders into society and the labor market. While drug offenses are considered part of the private criminal record, fines for drug violations are not visible in the criminal record regardless, although information of fines are held for 2-5 years on person's record. No criminal record is inferred for first-time offenders under the age of 18 under certain conditions, and waivers of measures with conditions are not visible, no matter the number of violations. The private criminal record is only disclosed to others with the consent of the person (Egnell et al., 2019).

As part of the drug policy, more resources have been allocated for treatment and harm reduction programs. The notion of treatment, also known as 'graduated goals', includes improvements in the clients' social, medical, and mental situation or at least to prevent it from getting worse. Infectious diseases such as HIV/AIDS were seen not only as a risk to PWID, but also to society (Hougborg, 2019). The number of people in drug treatment tripled between 1999 and 2006 following changes in the regulation of social services, which led them to provide prompt services to persons with substance abuse problems (Egnell et al., 2019).

Moreover, new treatment options, including new harm reduction alternatives, were introduced for those in prisons and young problematic cannabis users (Egnell et al., 2019). Despite its limitations in prison settings, the promise of 'treatment services guarantee' in Denmark was a novel approach and has been available since 2004 (Kolind et al., 2010).

Driving under the influence of substances is punishable with a fine and/or up-to 18 months of imprisonment. For cannabis, the new law in 2017 requires only punishment with fines if the THC level is below 0.003 mg per kilogram blood (Egnell et al., 2019).

The strong stream of the dual-track drug policy may be seen as contradictory, but it aims to separate PWUD into two groups, based on whether people are morally accountable for their behavior or not. If they are accountable, then they are treated as deviant PWUD or criminals, else they are considered as sick, dependent PWUD. However, it is claimed that the current practices do not meet the premises set out, and poor and addicted users end up being apprehensive to the same degree as with the old policies (Hougborg, 2019).

In recent decades in Denmark, the perception of drug abusers has changed from being seen as deviant young people being in need re-socialization to the notion of them as a socially excluded group who need relevant social services (Hougborg, 2014). Although the drug policy practices that relate to the prohibition paradigm

have been criticized for being restrictive and costly, the dual approach to policy leads to the provision of harm reduction services, such as methadone and heroin treatments, and drug consumption rooms that are not available even in many states known for their liberal drug policy (Egnell et al., 2019). For the main part, the active engagement of local communities contributes to the development of drug policy in Denmark, such as the establishment of drug consumption rooms and heroin treatment programs (Houborg & Frank, 2014).

## 5.2 Outcomes

### 5.2.1 Drug prevalence

#### **A - Portugal the prevalence of drugs**

As of 2009, Greenwald (2009) claimed that drug usage has decreased in absolute terms following decriminalization policy. He claimed that the prevalence of drug use in the EU continues to increase during the same period, even in states where harsher penalties were enforced. However, a small to moderate level increase has been reported in overall drug use among young adults after ten years of implementation in Portugal. The trend among the general population and youth in Portugal was similar to that of Italy and Spain, which can be not attributable solely to decriminalization but also reflects regional trends (C. E. Hughes & Stevens, 2010).

The prevalence of cannabis use among young adults (15-34 years) has steadily increased in Portugal since 2012, and the rate of use for the previous 12 months was 8% (year of survey 2016), which is still below the European average of 14.4% as of 2019. Similarly, the prevalence of cannabis use in the previous 12 months and in the previous last month among those aged 25-44 has been increasing from 2012 to 2016 (European Monitoring Centre for Drugs and Drug Addiction, 2019d).

Although cannabis use among students (aged 15-16) was still higher than the 2003 level, it has been stable in the last decade. Moreover, the lifetime use of cannabis and other illicit substances was slightly lower than the European average (European Monitoring Centre for Drugs and Drug Addiction, 2019d).

The primary and significant evidence of decriminalization in Portugal shows that the rate of PDU has declined, which is equivalent to a decrease of over 40% (Eastwood et al., 2016; C. E. Hughes & Stevens, 2010). Moreover, the usual median age of initiation of drug use increased from 18 in 2001 to 20 in 2012 across several drugs, including heroin and cocaine (Eastwood et al., 2016).

A comparison between the period 1992-1999 and 2002-2013 in Portugal showed a 20.9% decrease in drug injection. Beyond this, heroin users are choosing to smoke heroin rather than inject it. HIV infection has also decreased (28.0% to 19.6%). The prevalence of use of MDMA, cocaine, and amphetamines in the previous year has reduced since 2007 among young adults (aged 15-34 years), and it is below the av-



erage for European countries. However, about 0.7% of those aged 15-64 could be considered high-risk cannabis users, according to the general population survey held in 2016/2017 (European Monitoring Centre for Drugs and Drug Addiction, 2019d).

Alcohol use and binge drinking among students (aged 15-16) in Portugal in the previous 30 days were much lower than the European average. As of 2015, the use of tobacco in the previous 30 days was much lower in Portugal than the European average, and it has decreased since 2007 (European Monitoring Centre for Drugs and Drug Addiction, 2019d).

## **B - The Czech Republic**

The lifetime prevalence of cannabis use is generally relatively high in the Czech Republic compared to the European average. However, a fluctuation has been observed over time, and the attribution to decriminalization has also been discussed. While the lifetime prevalence of cannabis use was 35% among adults in 2008, it decreased to 25% in 2011 (Červený et al., 2017). Similarly, previous month prevalence of cannabis use across all age groups dropped from 5.3% to 2.1%, a nearly 50% drop in regular users between 2008 and 2013 (Eastwood et al., 2016).

Cannabis prevalence in the Czech Republic has been relatively stable in recent years. Based on the latest available data in 2017, the prevalence of cannabis use among young adults (aged 15-34) was slightly below the levels reported in studies from 2013-2014. Although the prevalence of cannabis use among students (15-16 years) is higher than the European average (37% vs. 16%), the long-term analysis shows a decline from its peak in 2007 (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

The policy also did not affect the age of onset of cannabis use in the Czech Republic. The results were attributed to cannabis accessibility, which has not changed a lot; therefore, a potential customer may have found access to cannabis as easy as before (Červený et al., 2017). Moreover, admission to treatment related to cannabis abuse has declined since 2014, which indicates that drug policy did not lead to compulsive use of cannabis (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

The prevalence of methamphetamine among those aged 15-34 fell from 3.2% in 2008 to 0.7% in 2013, following a similar trend in lifetime prevalence (7.2% to 2%) for the same period (Eastwood et al., 2016). Cocaine and MDMA use among young adults (aged 15-34) has declined since 2016, while amphetamine use has fallen since 2014 in the same population (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

The prevalence of alcohol use, binge drinking and smoking cigarette among students (aged 15-16) has been declining in the Czech Republic since 2011, but it is still above the European average (European Monitoring Centre for Drugs and Drug Addiction, 2019a)

## **C - Denmark**

The prevalence of cannabis use among the general population in Denmark has decreased since 2013; however, it is still above the European average. The long-term trend shows that cannabis use in the previous year among the general population increased up to 2000 and stabilized up to 2010, and was followed by a falling trend. The ratio for monthly use also shows a similar tendency (Stenius, 2019). A similar trend has also been seen for amphetamines among those aged 25 and under since 2000, whereas the prevalence of cocaine and MDMA has increased since 2013 (European Monitoring Centre for Drugs and Drug Addiction., 2019).

On the other hand, lifetime prevalence of cannabis use in Denmark is lower than the European average, and it has declined since 2003 among students aged 15-16 (European Monitoring Centre for Drugs and Drug Addiction., 2019). According to the ESPAD study, the prevalence of cannabis use among students aged 15-16 fell from 24% in 1999 to 12% in 2016, but it is still above the average (7-8%) of other Nordic countries (Stenius, 2019).

Use of cannabis in the previous year declined from 19% to 11% during the same period and finally, 5% of Danish youth aged 15-16 had used cannabis in the previous month, while the average was 2% in other the Nordic countries (Stenius, 2019). Problem use for cannabis is generally regarded as a youth problem, and risky use is mainly measured as frequent use. The prevalence of risky use of cannabis (daily or almost daily use) was 0.7% among people aged 15-64 in 2017. While this ratio was below the Swedish results (0.9% - 2016), it is above that of Norway (0.3% - 2017) and Finland (0.2% - 2017) for the same population (Stenius, 2019).

Alcohol use and binge drinking among students (aged 15-16) is considerably higher in Denmark compared to the European average (European Monitoring Centre for Drugs and Drug Addiction., 2019)

### **5.2.2 Health issues**

#### **A - Portugal**

While imprisonment for drug use was not a common strategy even before the new legislation, high rates of HIV was the main driver in altering the policy and developing novel treatment and intervention strategies (Sabet, 2012). The number of people who entered treatment programs has steadily increased in Portugal, and it reached around 40 000 in 2010, which is accepted as a record-breaking number (Domoslawski & Siemaszko, 2011).

According to a comparison of pre and post-policy evaluations of decriminalization covering a 10-year period, Pombo and Costa (2016) found no statistically significant increase in cannabis treatment admissions between 2001 and 2013 compared to 1992-1999, while treatment demand declined by 37% and treatment engagement increased by 94%; PWUD have aged, become better educated and reported more cocaine use (Pombo & da Costa, 2016). In general, men were more likely

than women to receive treatment (82.3% to 17.7%), but the number of women accessing treatment increased (from 13.0% to 20.9%).

The most recent treatment records show that first-time treatment demands attributable to heroin use have declined since 2009, while first-time treatment entries respecting primary use of cannabis increased up to 2016 and then stabilized. The overall treatment analysis suggests that the number of previously treated entrants had decreased since 2012, while the number of first-time entrants is stable over this period (European Monitoring Centre for Drugs and Drug Addiction, 2019d).

The number of drug overdose deaths fell, from 318 in 2000 to 22 in 2013, with a rate of 2.1 cases per million, which was well under the European average of 16 cases per million during that period (Eastwood et al., 2016). Although drug-induced deaths peaked in 2015, a considerable decrease was recorded in 2016 in Portugal, and it is much lower than the European average (4 vs. 22 per million) (European Monitoring Centre for Drugs and Drug Addiction, 2019d).

The policy also led to an increase in harm reduction activities in Portugal; for instance, social workers distribute kits that include syringes, needles for heroin-injecting users, and hygiene agents such as distilled water, gauze, and a condom (Domoslawski & Siemaszko, 2011). As a result, HIV infections related to injecting drug use have decreased since the 2000s, and the prevalence of hepatitis C infection remains stable in Portugal, as well as being below the European average (European Monitoring Centre for Drugs and Drug Addiction, 2019d; Pombo & da Costa, 2016).

## **B - The Czech Republic**

Although around half of the treatment admissions in the Czech Republic in 2017 were for methamphetamine users, treatment admissions have fallen. This is probably due to a reduction in the prevalence of amphetamine and methamphetamine since 2015. However, treatment admissions relating to both cannabis and other types of drugs have increased since 2014 (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

Home-made methamphetamine, heroin, and other opioids constitute the primary high-risk drug use in the Czech Republic. These characteristics of drug use are much more dominant than elsewhere in the region. According to 2009 records, about 60% of people admitted into drug dependence treatment were people using Pervitin (methamphetamine), 23% opiates, and 18% cannabis (Csete, 2012). Further, the trend in first-time treatment admissions has been falling (approximately five-fold) for heroin since 2009 and for methamphetamine and amphetamine since 2014 (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

Opioids, including fentanyl, morphine, and codeine, constitute the leading drugs in combination with other substances involved in two-thirds of the drug-related deaths in the Czech Republic. Although a new reporting system prevents longitudinal comparison, rates of drug-related deaths in 2017 among those aged 15-64 were lower

than the European average (5 vs. 22 per million) (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

Investment in health services had a widespread impact on drug-related harms. Although the level of injecting use is very high, being the second-highest among EU countries, the rates of HIV among PWID remain below 1% in the Czech Republic (Eastwood et al., 2016; Mravčík, Pitoňák, Hejzák, Janíková, & Procházka, 2018). Although the HIV epidemic has risen rapidly in the past couple of years in the country, it constitutes a more significant risk among men who have sex with men (European Monitoring Centre for Drugs and Drug Addiction, 2019a; Mravčík et al., 2018).

It is estimated that 34.9% of the drug policy budget in 2015, following the deduction of law-enforcement-related expenditures, was dedicated to harm-reduction programs. For instance, 104 NSPs distributed 6.4 million clean syringes altogether in the same year (Mravčík et al., 2018). The number of PWUD in contact with harm-reduction services has increased over the years with low-threshold services, and it reached more than 39 000 people in 2017. According to the latest available data, the rates of HIV, AIDS, HBV, and HCV among PWUD have remained stable in recent years (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

### **C - Denmark**

According to the latest available statistics, cannabis users constitute the primary newcomers for drug treatment in Denmark, followed by Iceland, where more than a third of all addiction patients were cannabis users, and finally Finland, where 33% of newcomers to drug treatment were cannabis users (Stenius, 2019). On the other hand, the number of first-time clients who seek treatment as a primary result of heroin use has declined over the past decade. Moreover, injecting becomes less common among them. However, there was a substantial increase in the number of primary cocaine clients entering treatment for the first time since 2015 (European Monitoring Centre for Drugs and Drug Addiction., 2019).

Annually about 6000-8000 people who are in treatment have cannabis as their primary drug problem, which constitutes 79% of those who are in treatment for the first time (based on 2014 data). Since the prevalence is high among young people, the mean age was 26 in treatment for cannabis-related problems for the same year. Moreover, about 43% of people treated in psychiatry with a drug problem as a primary diagnosis reported cannabis as their central problem drug (Stenius, 2019). Expenditure of local governments for drug treatments reached EUR 120.9 million in 2014 in the EU, increasing to EUR 124 million in 2015 and reaching EUR 130 million in 2017. The dedicated budget for treatments and social integration programs, including drug consumption rooms, was EUR 4.7 million in 2015 (European Monitoring Centre for Drugs and Drug Addiction., 2019).

The number of newly diagnosed HIV cases is relatively low and has remained stable over recent years (European Monitoring Centre for Drugs and Drug Addic-

tion., 2019). The drug-induced mortality rate among adults (aged 15-64) was estimated at 55 deaths per million, and the toxicological results show that the principal drug was heroin in those deaths. The number of drug-related deaths was 254 in 2017 in Denmark, which was below the 2016 rate. However, it is still above the European average (European Monitoring Centre for Drugs and Drug Addiction., 2019).

### 5.2.3 Social costs

#### **A - Portugal**

Decriminalization reduces the costs regarding CJS expenditures, such as for law enforcement, lawyers, and courts; however, the costs of treatment and prevention have increased during the same period (Hughes & Stevens, 2012). The reduction in the social cost of drugs was 12% in the first 5-year period, and 18% after ten years of decriminalization, most of which has been attributed to a direct and indirect cost reduction in the legal system associated with the fewer imprisoned individuals and indirect health costs such as drug-related deaths in Portugal (Domoslawski & Siemaszko, 2011; Eastwood et al., 2016; Gonçalves et al., 2015; Greenwald, 2009; Pinto Coelho, 2010). The number of drug offenses dropped from approximately 14 000 cases per year in 2000 to an average of 5000 to 5500 per year after decriminalization. Moreover, the imprisonment rate for drug-related offenses also fell from 44% in 1999 to 21% in 2008 and 24% in 2013 (Eastwood et al., 2016; Russoniello, 2012).

The openness and visibility of drug consumption in public areas has decreased in Portugal following decriminalization, due to efforts by street social workers, who have closely monitored and controlled users as a part of their harm reduction efforts (Domoslawski & Siemaszko, 2011).

It is expected that since there is no change in the governance of drug sales in Portugal, there should be no reason to expect a change in drug prices. Moreover, as a principle of the policy change, an increase in law enforcement activities targeted at the seller would be expected to increase the price of drugs (Laqueur, 2015). The implementation shows that with some exceptions, the retail prices of cocaine and opiates did not decrease following decriminalization. Moreover, the number of heroin and cocaine seizures have decreased. Therefore, drug decriminalization seems to have caused no harm through lower illicit drug prices, which would lead to higher drug usage and dependence (Félix & Portugal, 2017; Félix, Portugal, & Tavares, 2017).

Decriminalization in Portugal reduced the rate of ordinary crimes; at least they remain stable, especially petty thefts, which PWUD commit to obtain money for their next dose. Nevertheless, the introduction of methadone treatment obviates the need to commit crime, since PWUD does not have to steal as they can receive methadone when they need it (Domoslawski & Siemaszko, 2011; Pombo & da Costa, 2016). On the other hand, a contradictory result shows that total crime rose roughly 7 percent

between 2003 and 2009, with the violent crime rate being flat. This small increase in overall crime in Portugal during the last decade mirrors a similarly slight rise in total crime in Spain and Italy (Laqueur, 2015).

An increase in homicide rates in the same period (2001-2011) was observed, but it fell to previous levels in subsequent years. This fluctuation was attributed to the shift in law enforcement strategies. It is claimed that prioritizing high-level suppliers disrupted organized crime groups, and it created an opportunity for a more violent replacement; nevertheless, continuing efforts are being made to reduce homicide rates in the long run (Stevens et al., 2019).

Decriminalization in Portugal has also impacted on drug offenses related to trafficking. Although there was no reduction in penalties for drug dealing as a result of legislative changes, courts were more likely to give more lenient sentences. While there was no significant change in arrests for trafficking, the number of people who were convicted and imprisoned for trafficking violations has fallen nearly 50% since 2001 (Laqueur, 2015). According to the latest available data, the number of supply-related offenses in Portugal has decreased, while a rapid increase can be observed in use/possession since 2014 (The European Monitoring Centre for Drugs and Drug Addiction, 2019).

## **B - The Czech Republic**

Drug seizures in the Czech Republic have increased more than fourfold between 2013 and 2017, with an increased proportion for cannabis (around 60%). While offenses related to using and possession have been decreasing since 2014, supply-side offenses have increased over the same period. The results indicate that law enforcement prioritizes disrupting supply (Zeman, Štefunková, & Trávníčková, 2017). It has been argued that the attitudes of law enforcement diverge from the liberal perspective of society, which led to them embracing a more repressive and punitive approach (Filipková, 2015). The price of cannabis, cocaine, MDMA, and opioids is lower than the European average (European Monitoring Centre for Drugs and Drug Addiction, 2019a).

## **C - Denmark**

In Denmark, law enforcement engagement on drug issues has been particularly criticized for being too harsh and for making the policy more repressive (Egnell et al., 2019). Legal 'prohibition zones' in which drug use was prohibited have been expanded on via third-party policing practices, such as combining with unofficial private prohibition zones. For example, nightlife venues established a virtual database to monitor restricted customers; however, it was criticized for having gone beyond the expected boundaries of regulations and violating personal privacy and freedom. It was claimed that public authorities directed this collaboration through administrative power, such as via the threat of police and licensing sanctions (Søgaard, Houborg, & Pedersen, 2017). Some strategies were criticized for misrepresenting

the facts that were used to persuade the public. For instance, the closure of Pusher Street and open drug sale scenes in Christiania was introduced as a success story of the zero-tolerance policy. Nevertheless, it has not affected cannabis use or drug dealing overall; it may even have led to the dispersal of drug dealing across Copenhagen (Frank, 2008).

After the new policy, the number of criminal cases for drug offenses increased up to 2006, which was attributed to police reforms. It then stabilized through to 2010. A sharp increase was seen from 2010 to 2014, followed by another decreasing trend up to 2016. However, 2017 saw a new increasing trend. Cannabis constitutes the main substances (65%) for drug violations according to police registered offenses, followed by amphetamine (15%), heroin and cocaine (5%), and finally ecstasy (2%) (Egnell et al., 2019). Drug offenses constitute around 20% of primary crimes among the prison population (Egnell et al., 2019).

It was also noted that the group who were more likely to be punished for possession of drugs for personal use were also the same people who used drugs extensively. Put differently, it is claimed that criminalization is more likely to affect disadvantaged groups who are isolated from society in social and economic terms (Egnell et al., 2019). Finally, increasing police efforts to suppress the supply results in lower quality cannabis, where THC levels range from 7% to 41%, with a 27% being the average (Egnell et al., 2019).

# 6 Discussion and conclusion

This report aims to summarize the current state of the decriminalization policy and to give model examples. The existing research shows that variations between implementation models is broad, which prevents us from making comparative analyses across all countries that have adopted a decriminalization policy. We limited the models to the European context, since the structural and social settings are similar to some extent, and more importantly, the outcomes are more comparable, as they use some common indicators for reporting to the EMCDDA.

## 6.1 Models

Countries have developed decriminalization models according to their priorities and their social and administrative settings. Although each model seems to be unique, the categorization aims to provide a framework and to give an estimate about potential outcomes. Hence, the way the issue has emerged in each country has varied. It is therefore crucial to keep in mind that each design focuses on particular needs, which has led to different results. For instance, the rate of infectious diseases in Portugal was seen as the primary rationale for driver of policy development, and the model was tailored to reach/treat PWUD and to stop the spread of infectious diseases. Based on those indicators, the model successfully produced the desired outcomes. On the other hand, Denmark has shifted from a more liberal policy to a more restrictive model, as drug use underwent a re-conceptualization of its moral framework during the 2000s. The strategy aimed to assert that drug use would not be tolerated, and if it is preferred, then it should have some consequences. Indeed, the choice of policy has had consequences, such as a steady increase in drug offenses in the last decade.

The primary conclusion of our model analysis is, therefore, that while policy expectations define the means, it is context that mainly shapes the ends. Thus, the considerable contextual variation between countries complicates policy adaptation and comparison. There is no best way of setting a threshold level or applying the level of fines. Societies and as well as drug trends change simultaneously. This necessitates flexible models that continuously follow developments and fit to changing expectations.

The second issue is the importance of the paradigm shift in policy design. The general expectation is that a decriminalization policy should aim to alter the government approach in how it seeks to manage drug issues. It has been considered a criminal justice issue for many decades, and it has been acknowledged that the system is not able to produce the best or sought-after results. However, the power politics of government institutions may play a role in policy design. The security and



judicial power in government may affect the decision-making process. It may be perceived as losing control or authority on this matter. However, the issues should be discussed beyond the power politics of government institutions. The loosening of the role of law enforcement may be a crucial prerequisite for transition; however, the ongoing influence of the CJS has the potential to remove gains in the long run. Thus, intervening on drug issues within a health framework will produce better outcomes.

## 6.2 Outcomes

As mentioned above, decision-makers design the policy in advance to reach specific outcomes, and they mostly rely upon the success of the implementation. Decriminalization policy is generally utilized to reduce public health risks, overdose deaths, and the costs of prohibition. However, the complexities around drug policy affect society in several areas, which were comprehensively discussed above. Coherent policy design is needed to produce the expected outcomes at the macro level. For instance, if the aim is to prevent overdose deaths, more resources should also be devoted to harm reduction services. A simple change in the status in law in terms of personal drug use or possession is not an adequate response to reduce the number of overdose deaths.

The decriminalization policy also brings new challenges to governments. More interest groups have been involved in the policy process, with increased public discussion relating to cannabis legalization or cannabis social clubs. When commercial interests come into play, it is especially challenging for governments to develop flexible models to keep the issue within the health track. While most of the current problems have emerged because of the marginalization of PWUD, suppressing these requests has the potential to weaken state legitimacy and to stigmatize PWUD. The contemporary approach also necessitates new services to reduce the risks and consequences of drug use. The EU embraces the idea that morbidity and mortality are avoidable drug-related health issues within its borders. The discussions of open drug scenes, drug testing in recreational settings, and drug consumption rooms will continue until an optimum solution is found for the inclusion of isolated PDU and occasional consumers.

## 6.3 Country comparisons

Based on the latest available EMCCDA data, country comparison figures were created (see the appendices), including for Finland. The results show that the lifetime use of cannabis and other illicit drugs other than cannabis among students (aged 16-17) is higher in the Czech Republic, but it has been falling since the 2000s. While illicit drug use among students has been falling in Portugal since 2010, cannabis use

seems to have been stable in the same period. Finland has the lowest prevalence rate for both drug types, and it has been stable since the 2000s. The main shift has been observed in Denmark; the prevalence of both drug types has been falling since the year 2000, but it is still above the rate of Finland. On alcohol use, while the Czech Republic and Denmark rank at a higher level and show a similar trend, it has been falling and following a similar path to that of Finland and Portugal. This is one of the rare outcomes on which Finland and Denmark differed.

Contrary to the situation among school-aged students, cannabis use in the previous year and amphetamine use in the previous year among those aged 15-34 were at a relatively high level in Finland. In addition, the use of ecstasy in the previous year seems to be clearly higher in Finland than in other countries.

Of the three model countries and Finland, the highest rates of overdose deaths were recorded in Denmark and Finland, where the drug issue is still being evaluated as part of the criminal justice settings. While there is no such difference in HIV rates among countries, Portugal showed a great achievement in reaching this long-term goal. HIV rates have been falling steadily following the implementation of its decriminalization policy.

The availability of cannabis, perceived by students to be either ‘fairly easy’ or ‘very easy,’ was highest in the Czech Republic, followed by Denmark, with a falling trend in both countries over an extended period. While the availability of cannabis seems to have been stable in Portugal and Finland since the 2000s, Finland had the lowest availability among the four. On the other hand, the number of drug offenses in these countries reveals a different picture on outcomes. It seems that law enforcement prioritizes drug trafficking offenses in the Czech Republic, and their arrest rates have steadily increased since 2011, which was the beginning of the decriminalization policy. As expected, the number of offenses related to personal use has also fallen in this period. In Denmark, both types of offenses have followed a similar path; they have decreased up to 2016, but later, there was a spike in numbers, their results thus constituting the highest rates among the four. Finally, drug supply offenses have been stable in Portugal since the 2000s; the number of offenses related to drug use have steadily increased since 2011.

Overall, results confirm that the highest level of law enforcement involvement in drug issues affects the availability of cannabis but with higher social costs. However, it is also not a coincidence that these countries also have the highest rates of overdose. The stricter the drug policy, the slightly lower the rates of drug use; however, the system is not able to respond as well to the adverse consequences of drug use, such as overdose rates.

## 6.4 Conclusion

One reason for compiling this report was to provide a more robust research base for policy discussions around decriminalization in Finland. We reviewed different existing decriminalization models from different global regions, as well as their outcomes and policy implications.

Based on our review, it can be concluded that research on decriminalization is still somewhat scarce, and often focused on societies that are, in many respects, different from Finland. Thus, more research from various contexts and with versatile research settings is still needed to provide more ground for policy considerations. Of the most recent policy developments, the decriminalization model being adopted in Norway (Norges offentlige utredninger, 2019) will be very interesting and relevant from the Finnish viewpoint and should be followed carefully. However, since the context was clearly seen to matter strongly throughout this report, it cannot be stressed enough that every country must find the model that best fits its aims, values, and local circumstances.

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## Appendix 1

### Drug threshold levels for different countries (includes both de facto and de jure decriminalization)

Drug	Amount/quantity	Country
Cannabis		
	100 g	Australia (South)
	50 g	Australia (Northern Territory)
	25 g	Australia (Capital Territory)
	30 g	Australia (Western)
	3 g	Belgium
	20 g	Colombia
	10 g	Czech Republic
	20 g	Ecuador
	6-15 (varies among states)	Germany
	56.7 g (2 ounces)	Jamaica
	5 g	Mexico
	5 g	Netherlands
	10 g	Paraguay
	8 g	Peru
	25 g	Portugal
	6 g	Russian Federation
	200 (100)	Spain
	10 g	Switzerland
	28.3 g (1 ounce)	California and Washington DC the USA
Cannabis Plant		
	1 non-hydroponic plant	Australia (South)
	-	Australia (Northern Territory)
	2 non-hydroponic plants	Australia (Capital Territory)
	2 non-hydroponic plants	Australia (Western)
	1 plant	Belgium
	5 plants	Czech Republic
	not a criminal offense but no limit (!)	Spain
Hashish		
	5 g	Czech Republic
	25 g (resin)	Spain
	5 g (resin)	Portugal
	2.5 g (oil)	Portugal

Heroin		
	1.5 g	Czech Republic
	3 g	Spain
	20 g	Colombia
	0.1 g	Ecuador
	2 g	Paraguay
	1 g	Peru
	1 g	Portugal
	2 g (morphine)	Portugal
	10 g (opium)	Portugal
Ecstasy		
	4 tablets of 0.4 g powder	Czech Republic
	2.4 g	Spain
	1 g	Portugal
Methamphetamine		
	1.5 g	Czech Republic
Cocaine		
	1 g	Czech Republic
	100 g	Colombia
	1 g	Ecuador
	1-3 g (varies among states)	Germany
	2 g	Paraguay
	2 g (cocaine) 5 g (cocaine past)	Peru
	7.5 g	Spain
	2 g	Portugal
LSD		
	5 paper tabs, tablets or crystals	Czech Republic
	0.1	Portugal
Psilocybin mushrooms		
	40 fruiting bodies	Czech Republic

## Appendix 2

Figures describing the prevalence of drug use, health issues and crime statistics in Portugal, the Czech Republic, Denmark, and Finland

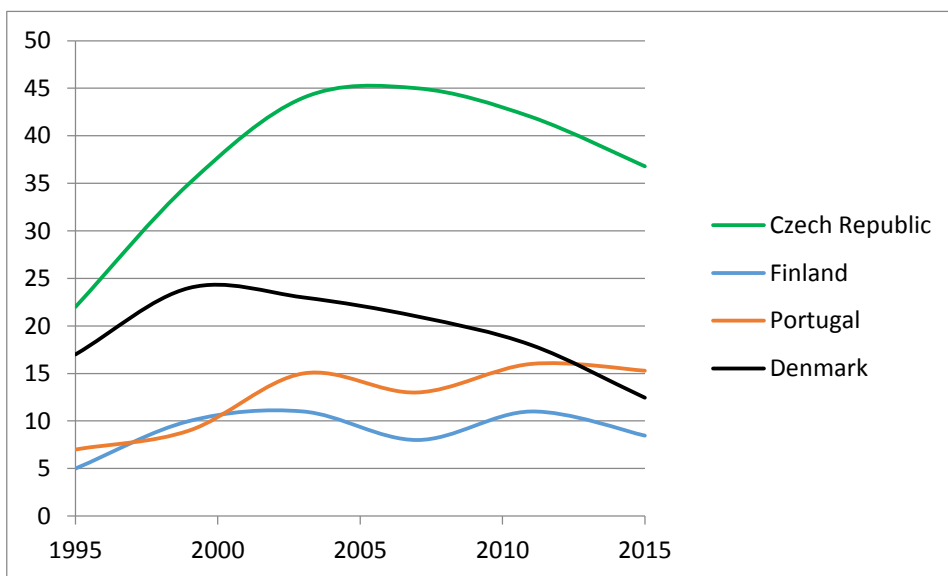


Figure 1. Lifetime use of marijuana or hashish. ESPAD 1995-2015, %

Note: The missing values of 2007 for Denmark were replaced with an average of 2003-2011

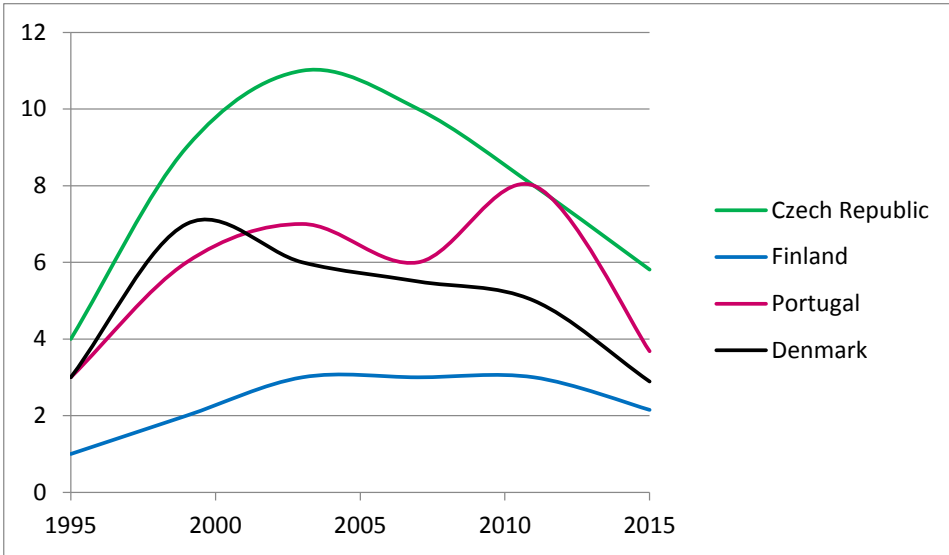


Figure 2. Lifetime use of illicit drugs other than marijuana or hashish. ESPAD 1995-2015, %  
 Note: The missing values of 2007 for Denmark were replaced with an average of 2003-2011

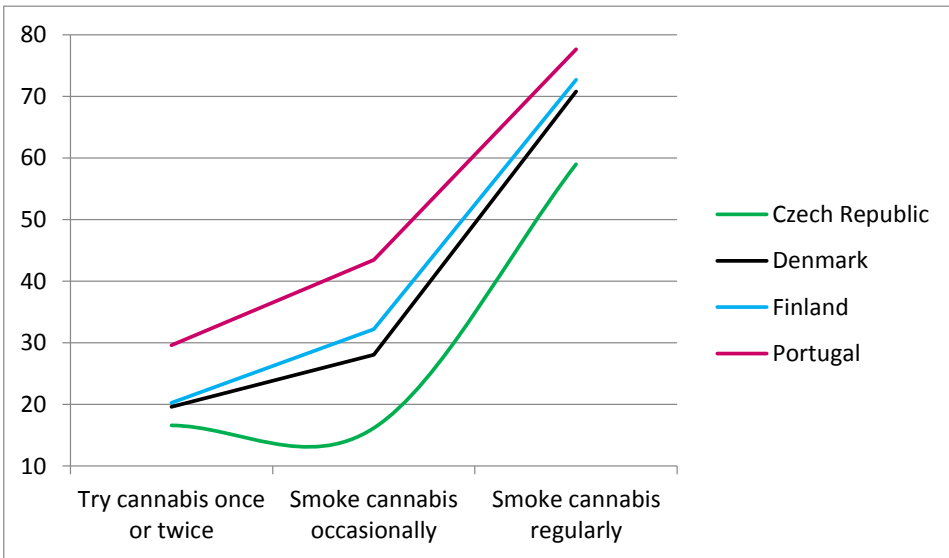


Figure 3. Perceived risk from the use of Cannabis. Percentages are answering 'great risk' that people harm themselves if they do any of the following. All students. ESPAD 2015  
 Note: The missing values were replaced with the average of previous and subsequent years

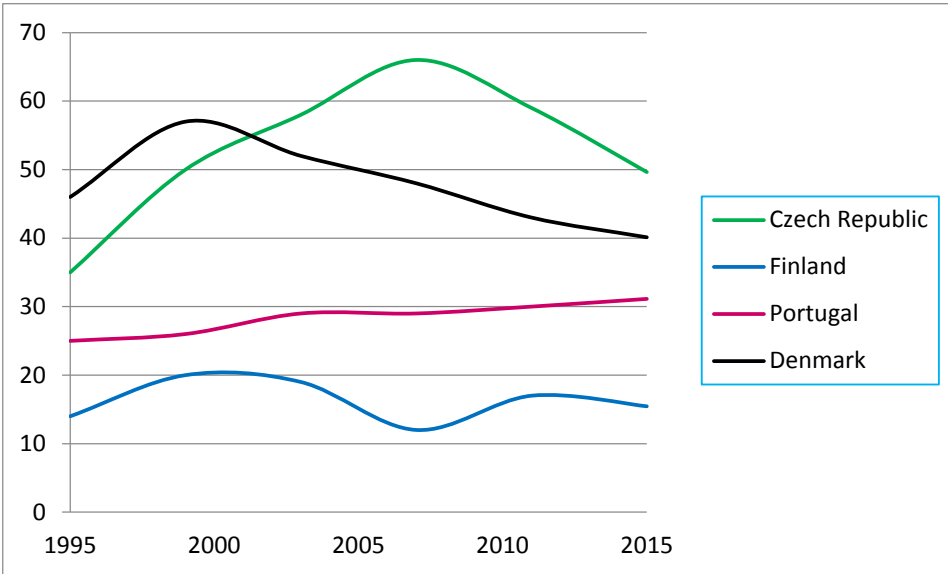


Figure 4. Perceived availability of cannabis. Students responding that cannabis was ‘fairly easy’ or ‘very easy’ to obtain. ESPAD 1995-2015, %

Note: The missing values of 2007 for Denmark were replaced with an average of 2003-2011

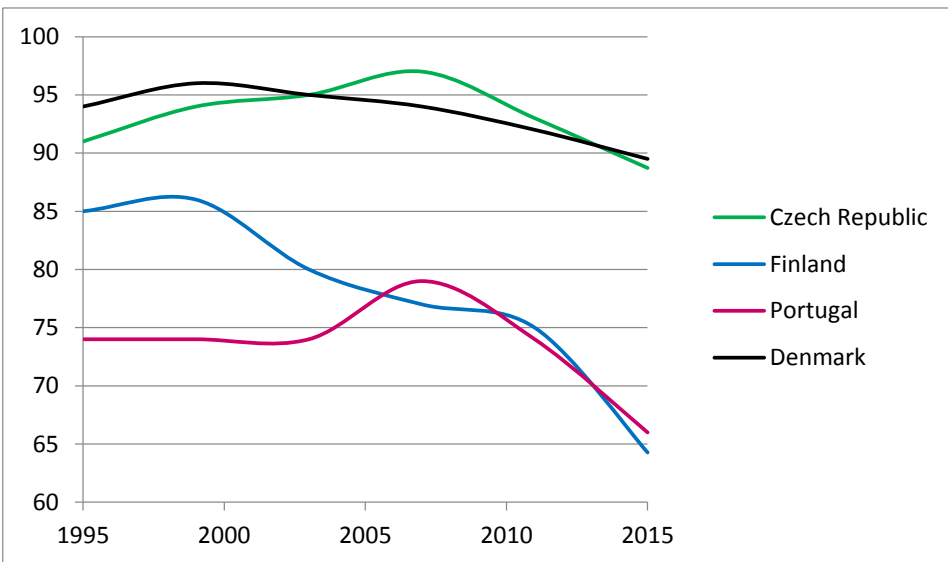


Figure 5. Use of any alcoholic beverage during the last 12 months. ESPAD 1995-2015, %

Note: The missing values of 2007 for Denmark were replaced with an average of 2003-2011

### Young adults (15–34 years old)

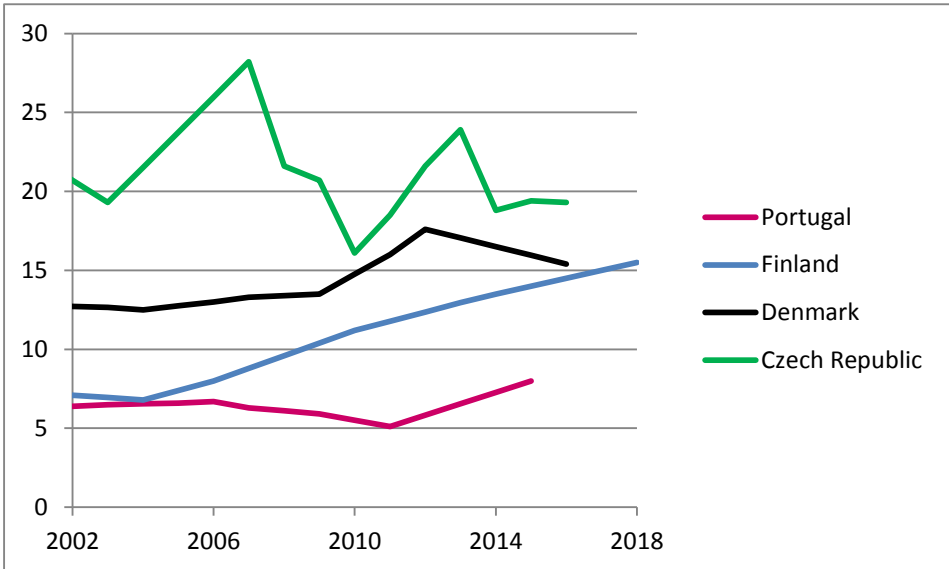


Figure 6. Use of cannabis in the previous year among young people aged 15–34, % (EMCDDA and the Finnish Drug Survey 2018)

Note: The missing values were replaced with the average of previous and subsequent years

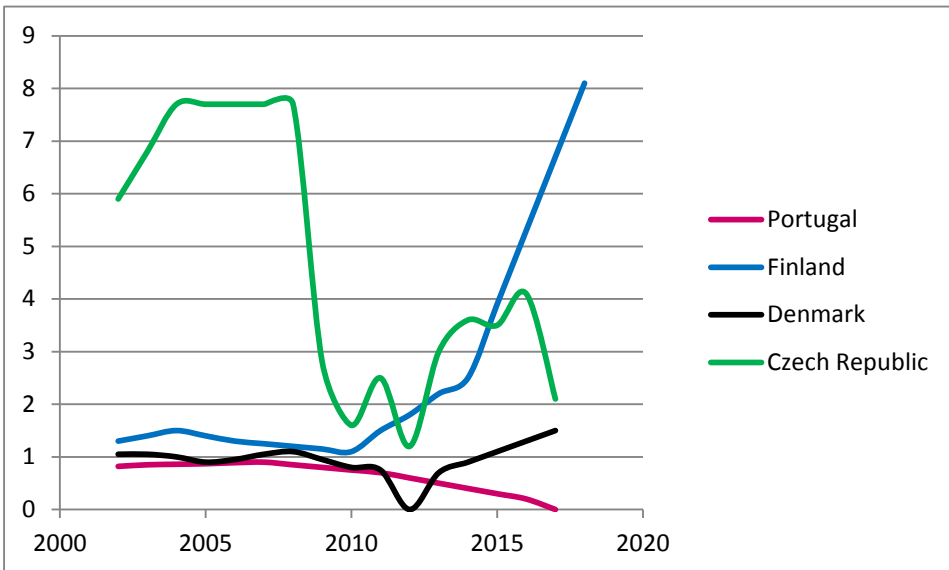


Figure 7. Use of ecstasy in the previous year among young people aged 15–34, % (EMCDDA and the Finnish Drug Survey 2018)

Note: The missing values were replaced with the average of previous and subsequent years



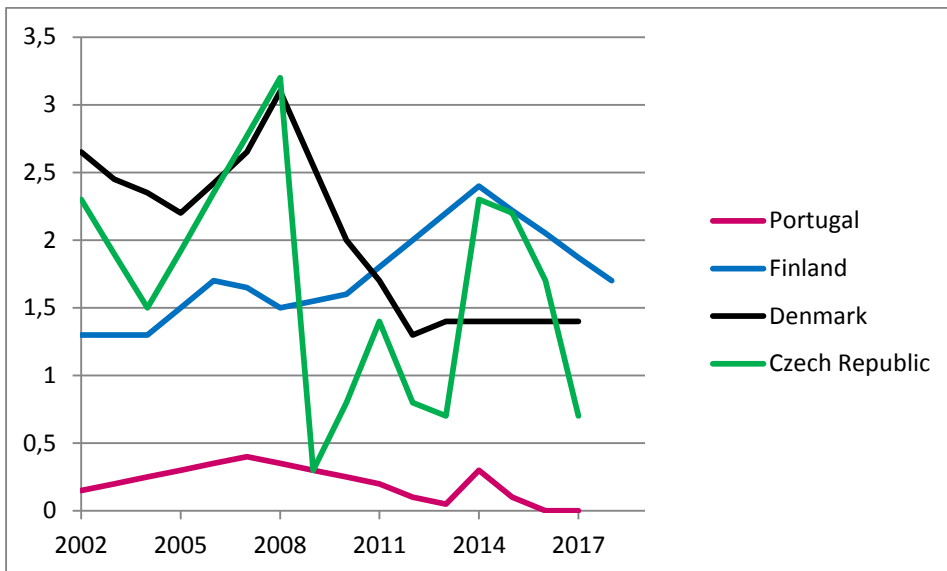


Figure 8. Use of amphetamines in the previous year among young people aged 15–34, % (EMCDDA and the Finnish Drug Survey 2018)

Note: The missing values were replaced with the average of previous and subsequent years

## Health issues

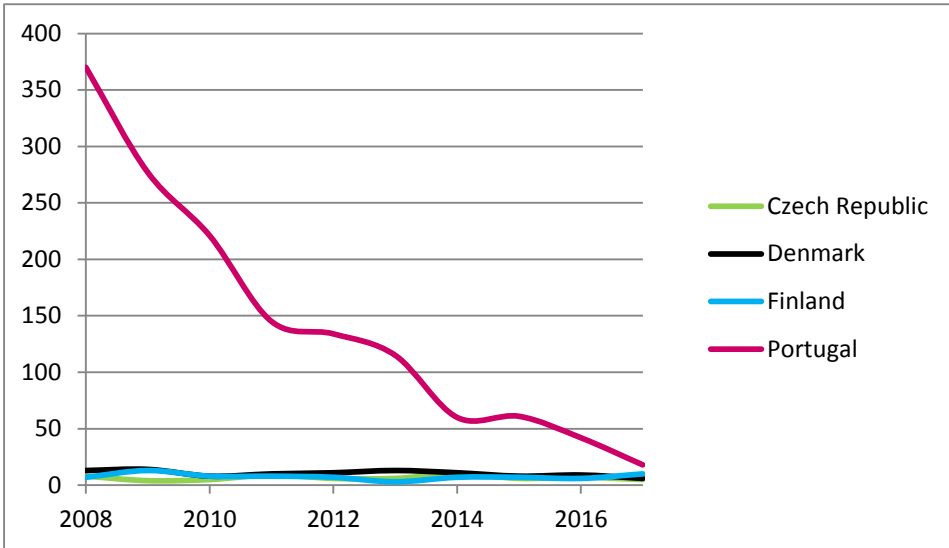


Figure 9. Infectious diseases, Number of Cases of HIV (EMCDDA Data) per year

Note: The missing values were replaced with the average of previous and subsequent years

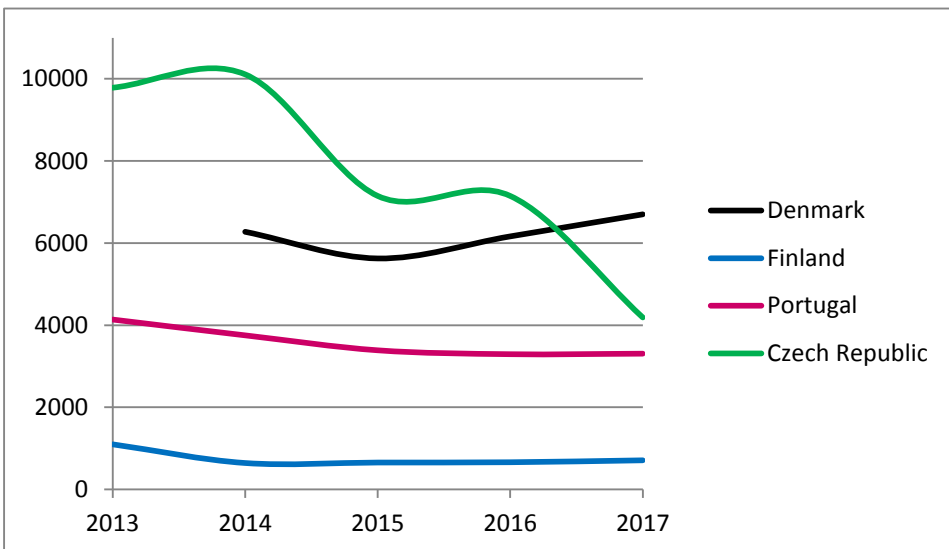


Figure 10. Treatment demand, number of PDUs, all entrants and all drugs (EMCDDA Data)

Note: The missing values of 2015 and 2016 for the Czech Republic replaced with an average of 2014 and 2017 The missing values of 2016 for Denmark were replaced with an average of 2015 and 2017

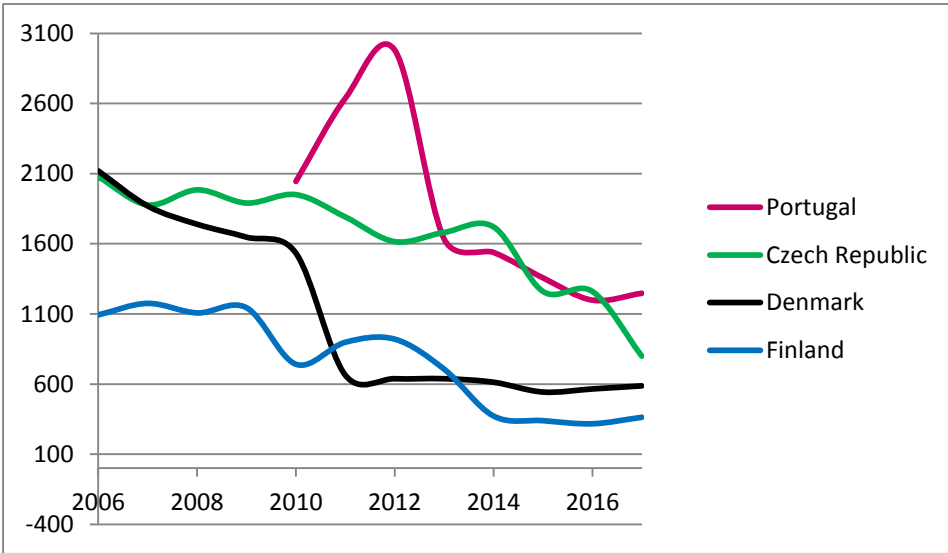


Figure 11. All treatment demand (including newer and previously treated) for opioids, EMCDDA Data, Note: For the Check Republic, 2016 and 2015 is the average value- For Denmark, 2012, 2013 and 2016 is the average

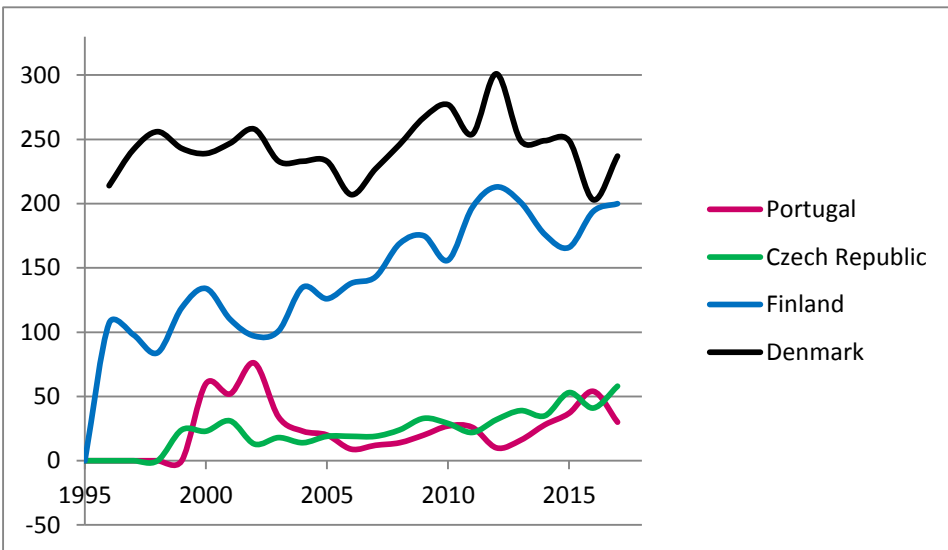


Figure 12. Number of overdose deaths, EMCDDA data Note: The missing values of 2002-2004 for Denmark were replaced with an average of 2001 and 2005

## Crime statistics

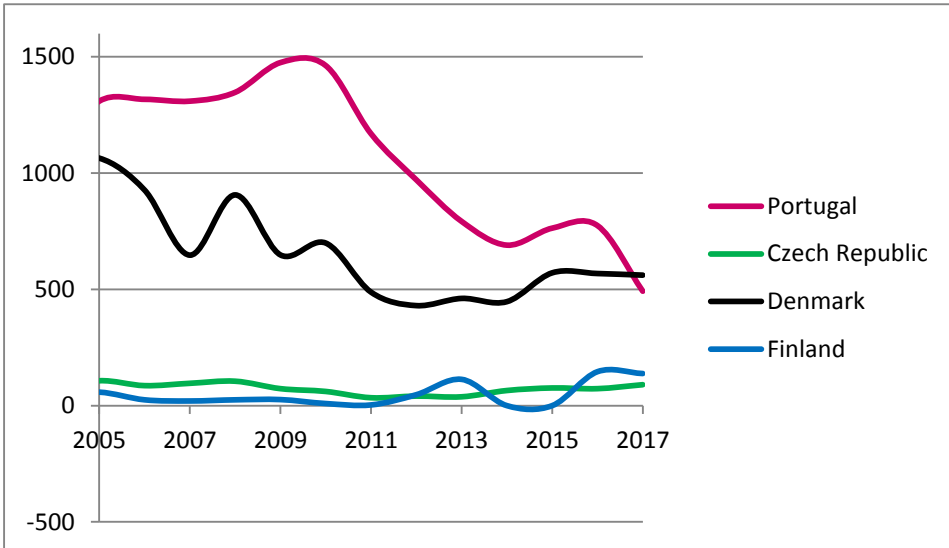


Figure 13. Number of Heroin Seizures (EMCDDA Data)

Note: The missing values were replaced with the average of previous and subsequent years

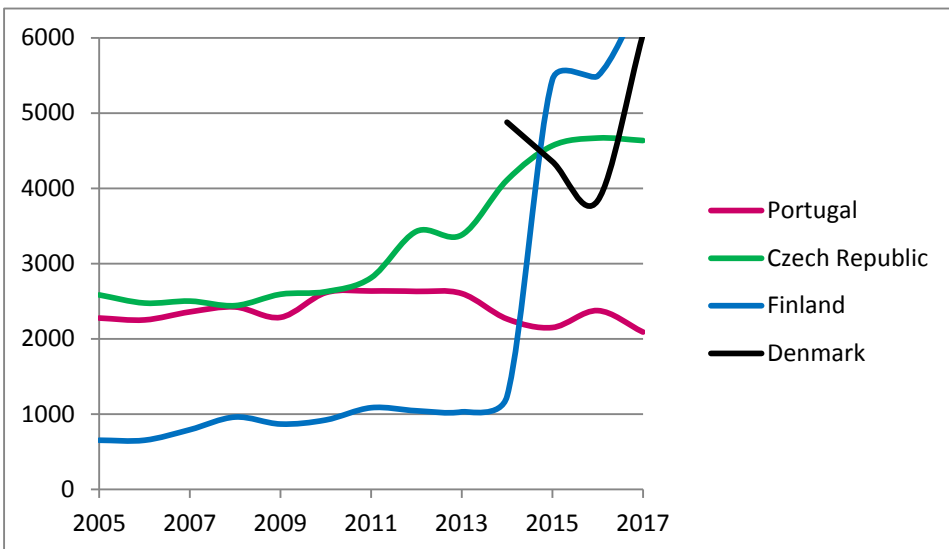


Figure 14. Drug law offenses, number of offences (supply) (EMCDDA Data)

Note: The missing values of 2015 for Denmark were replaced with an average of 2014 and 2016

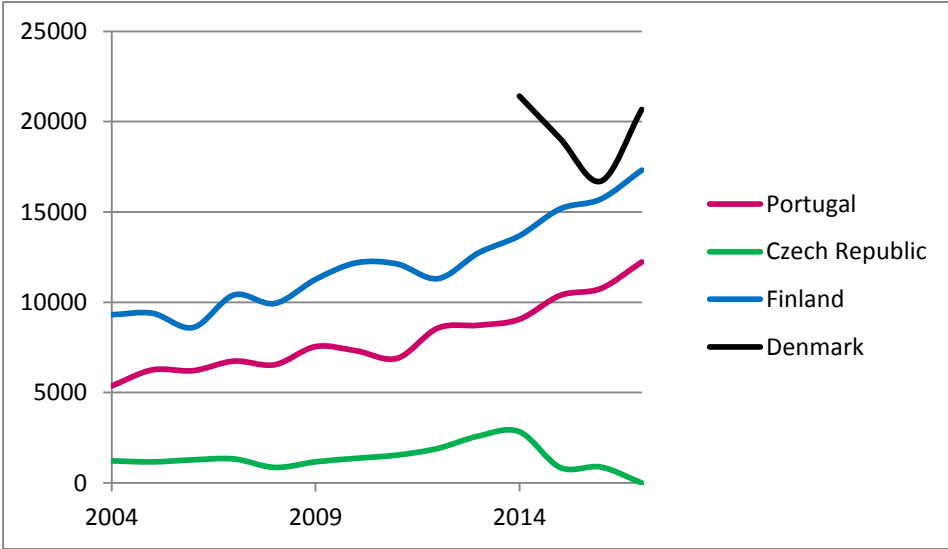


Figure 15. Drug law offences (use) (EMCDDA Data)

Note: The missing values of 2015 for Denmark were replaced with an average of 2014 and 2016